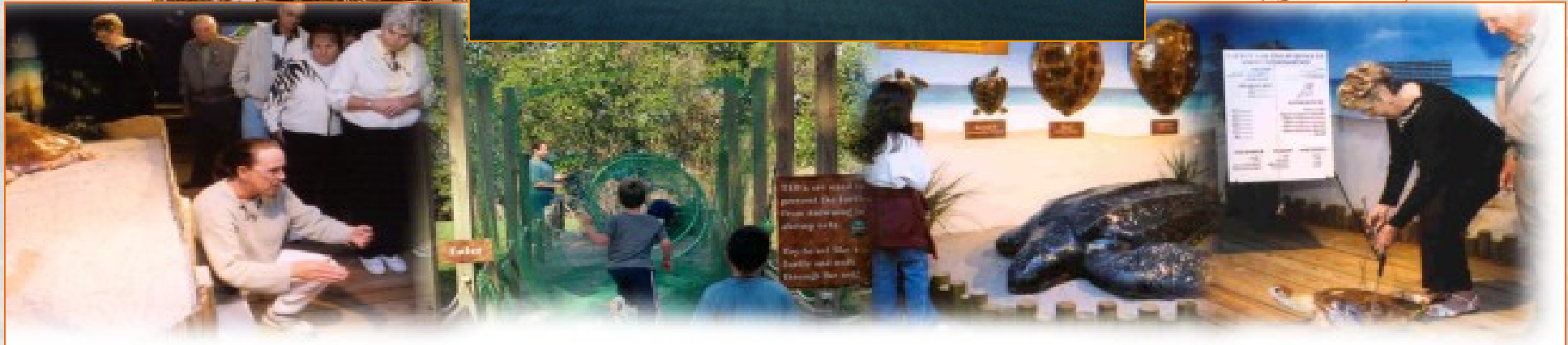
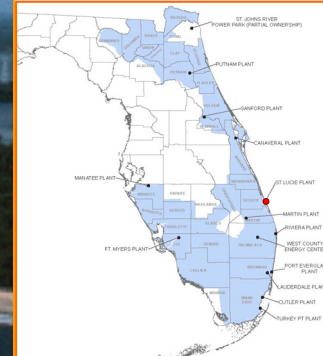


ST. LUCIE

UPRATE PROJECT



SITE CERTIFICATION APPLICATION

DECEMBER 2007



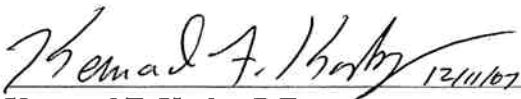
**SITE CERTIFICATION APPLICATION
ST. LUCIE UPRATE PROJECT**

Submitted by:

**Florida Power & Light Company
700 Universe Boulevard
Juno Beach, Florida 33408**

December 2007

0738-7685

12/11/07

**Kennard F. Kosky, P.E.
Professional Registered Engineer No. 14996**

**Golder Associates Inc.*
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500
*Board of Professional Engineers
Certificate of Authorization No. 00001670**



APPLICANT INFORMATION

Please supply the following information:

Applicant's Official Name **Florida Power & Light Company (FPL)**

Address **700 Universe Boulevard, Juno Beach, FL 33408**

Address of Official Headquarters **700 Universe Boulevard, Juno Beach, FL 33408**

Business Entity (corporation, partnership, co-operative) **Corporation**

Names, owners, etc. **Florida Power and Light Company (an investor-owned electric utility)**

Name and Title of Chief Executive Officer **Armando J. Olivera, President**

Name, Address, and Phone Number of Official Representative responsible for obtaining certification
Barbara Linkiewicz, Environmental Licensing Manager, New Generation Projects, Environmental Services, 700 Universe Boulevard, Juno Beach, FL 33408 Phone: (561) 691-7518 Fax: (561) 691-7049

Site Location (county) **6501 South A1A, Jensen Beach, FL 34957**

Nearest Incorporated City **Port St. Lucie, FL (about 2.6 miles southwest of containment structures)**

Latitude and Longitude **27°20'55.3" 81°14' 46.7" (between containment structures)**

UTMs: Northerly **3,025.28 km N**

Easterly **574.55 km E (Zone 17)**

Section, Township, Range **Section 16, Township 36 South, Range 41 East**

Location of any directly associated transmission facilities (counties) **None associated with Project**

Name Plate Generating Capacity **Two existing 840 MW (nominal net) nuclear electric generating units [uprates of 103 MW (nominal) per unit].**

Capacity of Proposed Additions and Ultimate Site Capacity (where applicable): **Not Applicable**

Remarks (additional information that will help identify the applicant):

Project Name: FPL St. Lucie Uprate Project

LEGAL DESCRIPTION
CERTIFIED SITE, ST. LUCIE PLANT

Commencing at the point of curvature of a curve at station 374+18.40 per Florida Department of Transportation right of way Map Section no. 9405-107, of State Road A-1-A, St. Lucie County Florida, with a revision date of 8-8-56; thence S60°54'09"W, a distance of 50.00 feet to the west right of way line of State Road A-1-A; thence along said west right of way line S29°05'51"E, a distance of 6.86 feet to the point of beginning of this description; thence continuing along said westerly right of way line, proceed a distance of 887.96 feet to a point;

Thence departing said westerly right of way of State Road A-1-A, proceed for the following eight (8) courses:

Thence North 60°38'44" east, for a distance of 1456.34 feet;
Thence South 66°47'51" east, for a distance of 99.36 feet;
Thence South 30°03'12" east, for a distance of 64.12 feet;
Thence South 07°08'11" west, for a distance of 233.71 feet;
Thence South 23°43'38" east, for a distance of 222.22 feet;
Thence South 60°38'44" west, for a distance of 283.09 feet;
Thence North 28°10'57" west, for a distance of 288.49 feet;
Thence South 61°08'54" west, for a distance of 1080.74 feet, to a point on the aforementioned west right of way line of State Road A-1-A; thence South 29°05'51" east, along said west right of way line, for a distance of 2100.59 feet;

Thence departing said westerly right of way of State Road A-1-A, proceed for the following eight (8) courses:

Thence North 60°50'06" east, for a distance of 784.66 feet;
Thence North 47°14'45" east, for a distance of 100.05 feet;
Thence North 60°15'57" east, for a distance of 360.31 feet;
Thence South 24°26'04" east, for a distance of 377.19 feet;
Thence South 40°10'10" west, for a distance of 105.10 feet;
Thence South 61°43'55" west, for a distance of 978.85 feet;
Thence North 29°21'06" west, for a distance of 40.99 feet;
Thence South 60°59'17" west, for a distance of 84.28 feet, to a point on the centerline of a 100 foot right of way for the aforementioned State Road A-1-A;

Thence departing said centerline proceed for the following twenty-five (25) courses:

Thence South 60°59'17" west, for a distance of 399.26 feet;
Thence South 51°25'23" west, for a distance of 50.00 feet;
Thence South 60°55'21" west, for a distance of 1070.94 feet to a point of curvature of a curve concave to the northeasterly having a radius of 475.00 feet;
Thence westerly and northwesterly along the arc of said curve, through a central angle of 90°01'22", for a distance of 746.32 feet;
Thence North 29°03'17" west, for an arc length of 729.93 feet;
Thence North 26°33'47" west, for a distance of 110.00 feet;
Thence North 28°48'31" west, for a distance of 1003.93 feet;
Thence South 60°56'00" west, for a distance of 411.70 feet;
Thence North 29°03'13" west, for a distance of 360.59 feet;
Thence North 61°01'42" east, for a distance of 308.34 feet;
Thence North 28°58'18" west, for a distance of 132.28 feet;
Thence North 29°49'11" east, for a distance of 87.86 feet;
Thence North 16°00'17" east, for a distance of 304.83 feet;
Thence North 60°46'23" east, for a distance of 136.91 feet;
Thence North 28°25'27" west, for a distance of 89.91 feet;
Thence North 16°25'00" west, for a distance of 37.63 feet;
Thence North 16°05'16" east, for a distance of 125.32 feet;
Thence North 61°17'44" east, for a distance of 250.28 feet;
Thence North 24°24'34" west, for a distance of 145.78 feet;
Thence North 25°43'11" east, for a distance of 71.69 feet;
Thence North 18°31'49" east, for a distance of 81.65 feet;
Thence North 00°02'32" west, for a distance of 152.80 feet;
Thence North 58°30'53" east, for a distance of 311.58 feet;
Thence South 29°57'51" east, for a distance of 105.71 feet;
Thence North 60°02'09" east, for a distance of 742.24 feet to the point of beginning of this description.

Said lands lying and being in St. Lucie County, and containing 177.02 acres more or less.

TABLE OF CONTENTS

1.0	NEED FOR POWER AND THE PROPOSED FACILITIES.....	1-1
1.1	Introduction – The Project.....	1-1
1.2	The Applicant.....	1-2
1.3	Overview of the Project.....	1-2
1.4	Need for the Project.....	1-4
1.5	Summary of Public Outreach Program.....	1-4
2.0	SITE AND VICINITY CHARACTERISTICS.....	2-1
2.1	Site and Associated Facilities Delineation	2-1
2.1.1	Location.....	2-1
2.1.2	Existing Site Uses.....	2-1
2.1.3	Adjacent Properties	2-3
2.1.4	Uses within St. Lucie Units 1 and 2	2-3
2.1.5	100-Year Flood Zone	2-4
2.2	Socio-Political Environment	2-4
2.2.1	Governmental Jurisdictions.....	2-4
2.2.2	Zoning and Land Use Plans.....	2-4
2.2.3	Demography and Ongoing Land Use.....	2-6
2.2.4	Easements, Title, Agency Works	2-7
2.2.5	Regional Scenic, Cultural, and Natural Landmarks	2-7
2.2.6	Archaeological and Historic Sites	2-8
2.2.7	Socioeconomics and Public Services	2-8
2.2.8	Area Public Service and Utilities	2-10
2.3	Bio-Physical Environment	2-14
2.3.1	Geohydrology.....	2-14
2.3.2	Subsurface Hydrology.....	2-18
2.3.3	Site Water Budget and Area Users.....	2-20
2.3.4	Surficial Hydrology.....	2-21
2.3.5	Vegetation/Land Use.....	2-25
2.3.6	Ecology	2-26
2.3.7	Meteorological and Ambient Air Quality	2-38
2.3.8	Noise	2-44
2.3.9	Other Environmental Features.....	2-48

TABLE OF CONTENTS (continued)

3.0	THE PLANT AND DIRECTLY ASSOCIATED FACILITIES	3-1
3.1	Background	3-1
3.2	Site Layout	3-2
3.3	Fuel.....	3-2
3.4	Air Emissions Controls	3-3
	3.4.1 Air Emission Types and Resources.....	3-3
	3.4.2 Air Emission Controls.....	3-3
	3.4.3 Control Technology Description and Best Available Control Technology.....	3-4
	3.4.4 Design Data for Control Equipment.....	3-4
	3.4.5 Design Philosophy.....	3-4
3.5	Plant Water Use.....	3-4
	3.5.1 Circulating Water Heat Rejection System.....	3-5
	3.5.2 Domestic/Sanitary Wastewater	3-7
	3.5.3 Potable Water Systems.....	3-8
	3.5.4 Process Water Systems.....	3-8
3.6	Chemical and Biocide Waste	3-8
	3.6.1 Cooling System Water Chemical Treatment.....	3-9
	3.6.2 Steam Cycle Water Treatment	3-9
	3.6.3 Sanitary Wastewater Treatment	3-9
	3.6.4 Makeup Water Demineralization	3-9
	3.6.5 Chemical Cleaning	3-9
	3.6.6 Miscellaneous Drains	3-9
3.7	Solid and Hazardous Waste.....	3-10
	3.7.1 Solid Waste	3-10
	3.7.2 Hazardous Waste.....	3-10
3.8	Site Drainage	3-10
3.9	Materials Handling.....	3-10
	3.9.1 Construction Materials and Equipment.....	3-10
	3.9.2 Roads.....	3-11
4.0	ENVIRONMENTAL EFFECTS OF SITE PREPARATION CONSTRUCTION	4-1
4.1	Land Impacts	4-1

TABLE OF CONTENTS (continued)

4.1.1	General Construction Impacts	4-1
4.1.2	Roads.....	4-2
4.1.3	Flood Zones.....	4-2
4.1.4	Topography and Soils.....	4-2
4.2	Impact on Surface Water Bodies and Uses	4-3
4.2.1	Impact Assessment.....	4-3
4.2.2	Measuring and Monitoring Program	4-3
4.3	Groundwater Impacts	4-3
4.3.1	Impact Assessment.....	4-3
4.3.2	Measuring and Monitoring Program	4-3
4.4	Ecological Impacts	4-3
4.4.1	Impact Assessment.....	4-3
4.4.2	Measuring and Monitoring Programs.....	4-4
4.5	Air Impacts.....	4-4
4.5.1	Air Emissions	4-4
4.5.2	Control Measures	4-5
4.6	Impact on Human Populations	4-5
4.6.1	Construction Workforce.....	4-5
4.6.2	Construction Traffic	4-6
4.6.3	Housing	4-7
4.6.4	Education.....	4-8
4.6.5	Construction Noise Impacts	4-8
4.7	Impacts on Landmarks and Sensitive Areas.....	4-9
4.8	Impacts on Archaeological and Historic Sites.....	4-9
4.9	Special Features.....	4-9
4.10	Benefits of Construction.....	4-9
4.11	Variances.....	4-10
5.0	EFFECTS OF PLANT OPERATION.....	5-1
5.1	Effects of the Operation of the Heat Dissipation System.....	5-1
5.1.1	Temperature Effect on Receiving Body of Water.....	5-1
5.1.2	Effects on Aquatic Life	5-3
5.1.3	Biological Effects of Modified Circulation.....	5-4

TABLE OF CONTENTS (continued)

5.1.4	Effects of Offstream Cooling	5-4
5.1.5	Measurement Program	5-4
5.2	Effects of Chemical and Biocide Discharge.....	5-4
5.2.1	Industrial Wastewater Discharges	5-4
5.2.2	Cooling Tower Blowdown	5-5
5.3	Impacts on Water Supplies.....	5-5
5.3.1	Surface Water.....	5-5
5.3.2	Groundwater.....	5-5
5.3.3	Drinking Water.....	5-5
5.3.4	Leachate and Runoff	5-5
5.3.5	Measurement Programs.....	5-6
5.4	Solid/Hazardous Waste Disposal Impacts.....	5-6
5.4.1	Solid Waste	5-6
5.4.2	Hazardous Wastes	5-6
5.5	Sanitary and Other Waste Discharges	5-6
5.6	Air Quality Impacts	5-6
5.6.1	Impact Assessment.....	5-6
5.6.2	Monitoring Programs	5-7
5.7	Noise Impacts.....	5-7
5.7.1	Impacts	5-7
5.8	Changes to Non-Aquatic Species Population.....	5-8
5.8.1	Impacts	5-8
5.8.2	Monitoring.....	5-8
5.9	Other Plant Operation Effects	5-8
5.9.1	Operations Traffic	5-8
5.10	Archaeological Sites.....	5-9
5.11	Resources Committed.....	5-9
5.12	Variances.....	5-9
6.0	TRANSMISSION LINES AND LINEAR FACILITIES.....	6-1
7.0	ECONOMIC AND SOCIAL EFFECTS OF PLANT CONSTRUCTION AND OPERATION	7-1
7.1	Socio-economic Benefits.....	7-1

TABLE OF CONTENTS
(continued)

7.1.1	Direct Socio-Economic Benefits	7-1
7.1.2	Indirect Economic Benefits	7-2
7.1.3	Other Economic Benefits	7-3
7.1.4	Recreational and Environmental Values	7-3
7.1.5	Onsite Enhancements	7-3
7.1.6	Other Environmental Benefits.....	7-3
7.1.7	Summary of Benefits.....	7-4
7.2	Socio-Economic Costs	7-4
7.2.1	Temporary External Costs.....	7-4
7.2.2	Long-Term External Costs	7-5
8.0	SITE AND DESIGN ALTERNATIVES	8-1
9.0	COORDINATION	9-1
10.0	APPENDICES.....	10-1
10.1	Federal Permit Applications and Approvals	
10.1.1	316 Demonstration	
10.1.2	NPDES Application/Permits	
10.1.3	Hazardous Waste Disposal Application Permit	
10.1.4	Federal Permits	
10.1.5	Air Construction/PSD Application/Permit	
10.1.6	Coastal Zone	
10.1.7	Other Federal Approvals	
10.2	St. Lucie County Zoning Code	
10.3	St. Lucie County Comprehensive Plan	
10.4.0	Existing Permits: Easements and Conditions of Certification	
10.4.1	Existing Permits: Air and Water	
10.4.2	Existing Permits: Construction and Maintenance	
10.4.3	Existing Permits: Fish and Wildlife	
10.5	Monitoring Programs	
10.6	Thermal Discharge Modeling Report	
10.7	Petition to Determine Need	

TABLE OF CONTENTS (continued)

LIST OF TABLES

Table 2.2.7-1	Average Monthly Employment, St. Lucie County, 2006
Table 2.2.7-2	Housing Units by Occupancy Type, St. Lucie County, 2006
Table 2.2.8-1	St. Lucie Plant Traffic Volumes
Table 2.2.8-2	Beach Access Sites within 5-Mile Radius
Table 2.3.3-1	Mean Monthly Temperature, Precipitation and Pan Evaporation
Table 2.3.3-2	SFWMD Water Use Permits Within 5-Mile Radius of Site
Table 2.3.6-1	Threatened, Endangered, and Plant and Animal Species of Special Concern Known to Occur in St. Lucie County, Florida
Table 2.3.7-1	Monthly and Annual Average Temperatures Measured at Palm Beach International Airport
Table 2.3.7-2	Monthly and Annual Average Precipitation and Relative Humidity Measured at Palm Beach International Airport
Table 2.3.7-3	Seasonal and Annual Average Wind Speeds at Palm Beach International Airport
Table 2.3.7-4	Seasonal and Annual Average Atmospheric Stability Classes at Palm Beach International Airport
Table 2.3.7-5	Seasonal and Annual Average Morning and Afternoon Mixing Heights at Palm Beach International Airport
Table 2.3.7-6	National and State AAQS, Allowable PSD Increments, and Significant Impact Levels
Table 2.3.7-7	Summary of Maximum SO ₂ , PM ₁₀ , O ₃ , NO ₂ , and CO Concentrations Observed from Representative Monitoring Stations, 2004 through 2006
Table 2.3.8-1	Baseline Ambient Sound Pressure Levels at the St. Lucie Plant Site for the Boundary Sites
Table 2.3.8-2	Baseline Ambient Sound Pressure Levels at the St. Lucie Plant Site for Far Field Sites
Table 5.1.1-1	Predicted Mixing Zone for St. Lucie Plant Y-Port Diffuser
Table 5.1.1-2	Predicted Mixing Zone for St. Lucie Plant Multiport Diffuser
Table 5.6.1-1	St. Lucie Plant Fuel Usage and Air Emissions for 2006
Table 5.9.1-1	St. Lucie Plant Traffic Volumes
Table 7.1.1.1	FPL St. Lucie Plant Employee Data (Permanent and Temporary)

TABLE OF CONTENTS (continued)

LIST OF FIGURES

Figure 1.1.0-1	Location Map
Figure 1.2.0-1	Service Territory
Figure 2.1.1-1	Site Location Map
Figure 2.1.1-2	St. Lucie Units 1 and 2 Site Layout/Certification Boundary
Figure 2.1.2-1	Cooling Water Intake and Discharge System
Figure 2.1.3-1	Site Aerial Photograph
Figure 2.1.5-1	100 Year Flood Zone
Figure 2.2.1-1	Governmental Jurisdictions (Within 1, 2, 3, 4, and 5-Mile Radii)
Figure 2.2.2-1	Future Land Use
Figure 2.2.2-2	Zoning Map
Figure 2.2.3-1	Existing Land Use, 1 and 5-Mile Radii
Figure 2.2.8-1	Major Roads
Figure 2.3.1-1	Generalized Geology and Hydrogeology for St. Lucie County
Figure 2.3.1-2	Study Area Showing Lines of Hydrogeologic Sections
Figure 2.3.1-3	Hydrogeological Cross Section North of Site
Figure 2.3.3-1	Water Use Permits Within 5 Miles of the Plant
Figure 2.3.4-1	Operating Temperatures at the St. Lucie Plant
Figure 2.3.4-2	Circulating Water System Plan (View 1) at the St. Lucie Plant
Figure 2.3.4-3	Circulating Water System Discharge Plan (View 2) at the St. Lucie Plant
Figure 2.3.4-4	Circulating Water System Y-Port Profile at St. Lucie Plant (Intake also shown)
Figure 2.3.4-5	Centerline Location of 17°F Isotherm for St. Lucie Plant Y-Port Diffuser
Figure 2.3.4-6	Temperature Rise as a Function of Horizontal Distance for St. Lucie Plant Y-Port Diffuser
Figure 2.3.4-7	Circulating Water System Multiport Profile at the St. Lucie Plant
Figure 2.3.4-8	Circulating Water System, Multiport Diffuser Detail
Figure 2.3.4-9	Temperature Rise as a Function of Horizontal Distance for St. Lucie Plant Multiport Diffuser
Figure 2.3.4-10	Centerline Location of 17°F Isotherm for St. Lucie Plant Multiport Diffuser
Figure 2.3.5-1	Habitat Classification Map
Figure 2.3.7-1	Annual Wind Rose for Palm Beach International Airport, 2001 to 2005
Figure 2.3.7-2a	Winter Wind Rose for Palm Beach International Airport, 2001 to 2005

TABLE OF CONTENTS
(continued)

Figure 2.3.7-2b	Spring Wind Rose for Palm Beach International Airport, 2001 to 2005
Figure 2.3.7-2c	Summer Wind Rose for Palm Beach International Airport, 2001 to 2005
Figure 2.3.7-2d	Autumn Wind Rose for Palm Beach International Airport, 2001 to 2005
Figure 2.3.7-3	Annual Wind Rose for FPL St. Lucie, 10-m Meteorological Tower, 4/1/05 – 3/31/06
Figure 2.3.8-1	Noise Monitoring Locations
Figure 3.2.0-1	Site Layout
Figure 3.5.0-1	St. Lucie Plant Water Use Diagram
Figure 4.1.1-1	Construction Laydown and Parking Areas
Figure 5.1.1-1	Temperature Rise as a Function of Horizontal Distance for St. Lucie Plant Y-Port Diffuser
Figure 5.1.1-2	Predicted Centerline Location of 17°F Isotherm for St. Lucie Plant Y-Port Diffuser
Figure 5.1.1-3	Temperature Rise as a Function of Horizontal Distance for St. Lucie Plant Multiport Diffuser
Figure 5.1.1-4	Predicted Centerline Location of 17°F Isotherm for St. Lucie Plant Multiport Diffuser

LIST OF ACRONYMS AND ABBREVIATIONS

AADT	Average Annual Daily Traffic
AAQS	Ambient Air Quality Standards
AECWS	Auxiliary Equipment Cooling Water System
ANSI	American National Standard Institute
BACT	Best Available Control Technology
BEA	Bureau of Economic Analysis
CAA	Clean Air Act
cfs	cubic foot per second
CO	carbon monoxide
CO ₂	carbon dioxide
CWS	Circulating Water System
dB	decibel
dBA	A-weighting decibel
EMT	Emergency Medical Technician
EPA	Environmental Protection Agency
ESL	Environmentally Significant Lands
ET	Evapotranspiration
°F	degrees Fahrenheit
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FESOP	Federally Enforceable State Operating Permit
FFWCC	Florida Fish and Wildlife Conservation Commission
FLUCFCS	Florida Land Use, Cover and Forms Classification System
FNAI	Florida Natural Area Inventory
FPL	Florida Power & Light Company
FPSC	Florida Public Service Commission
FR	Federal Register
F.S.	Florida Statutes
FSAR	Final Safety Analysis Report
ft	foot
ft ² /day	square foot
ft-bgs	feet below ground surface
fps	feet per second
gpm	gallons per minute
Hz	hertz
ICWS	Intake Cooling Water System
IWFP	Industrial Wastewater Facility Permit
kg	kilogram
km	kilometer
kV	kilovolt
kW	kilowatt
LFA	Lower Floridan Aquifer
LOS	Level of Service
m	meter

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

mg/L	milligrams per liter
MGD	million gallons per day
mi ²	square mile
mm	millimeter
MMBtu/hr	million British units per hour
MSL	Mean Sea Level
MW	megawatt
MW(e)	megawatt (electric)
MW(t)	megawatt (thermal)
NAICS	North American Industry Classification System
NGVD	National Geodetic Vertical Datum
NMFS	National Marine Fisheries Service
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NP	National Park
NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission
NWS	National Weather Service
O ₃	ozone
Pb	lead
PM	particulate matter
PM ₁₀	particulate matter with aerodynamic size less than 10 microns
ppm	parts per million
ppt	parts per thousand
PPSA	Power Plant Siting Act
PSD	prevention of significant deterioration
RO	reverse osmosis
RO/MB	reverse osmosis/mixed bed
SCA	Site Certification Application
SFWMD	South Florida Water Management District
SO ₂	sulfur dioxide
SPL	sound pressure level
STSSN	Sea Turtle Stranding and Salvage Network
TDS	total dissolved solids
TPY	tons per year
T/U	Transportation/Utilities
U	Utilities
UFA	Upper Floridan Aquifer
UF/BEBR	University of Florida/Bureau of Economics and Business Records
µg/m ³	micrograms per cubic meter
µm	micrometers
µPa	micropascal
µS/cm	microsiemens per centimeter
USAEC	U.S. Atomic Energy Commission
VOC	volatile organic compounds

1.0 NEED FOR POWER AND THE PROPOSED FACILITIES

This chapter of the Site Certification Application (SCA) introduces Florida Power & Light Company (FPL or the Company), discusses the additional generating capacity needed to supply electricity to FPL's customers starting in 2011, and describes the St. Lucie Uprate Project (the Project) identified by FPL to meet that need.

1.1 Introduction – The Project

FPL's St. Lucie Plant is located in St. Lucie County on Hutchinson Island on an FPL-owned 1,130-acre site. The plant site is bordered by the Atlantic Ocean to the east and the Indian River Lagoon to the west. Located on the site are two nuclear powered units (see Figure 1.1.0-1). The maximum net electrical output for each unit is currently about 840 megawatts (MW). The two existing St. Lucie Units 1 and 2 have been in operation since 1976 and 1983, respectively. FPL has determined that the two existing units can be modified or "uprated" to increase the electrical output of the St. Lucie Plant in a cost-effective and environmentally beneficial manner. The Project will involve changes to several existing main components within the existing facilities to increase their capability to produce steam for the generation of electricity. However, no new or expanded facilities are required as part of the Project.

FPL is seeking approval of the Project under the Florida Electrical Power Plant Siting Act (PPSA), Chapter 403, Part II, Florida Statutes (F.S.) because the Project involves an increase in the steam electric generating capacity of the St. Lucie Units 1 and 2. The PPSA provides a centralized review process for new electrical generating facilities in Florida, involving a balancing of "the increasing demand for electrical power plants with the broad interests of the public." The Florida Public Service Commission (FPSC) is the sole forum for the determination of need for a proposed facility. The Florida Department of Environmental Protection (FDEP) acts as the coordinator for the remainder of the site certification process, with input from various state, regional, and local agencies, along with interested citizens. Ultimate disposition of the SCA is by either the Governor and Cabinet sitting as the Siting Board or the Secretary of the FDEP.

This SCA is filed with the FDEP pursuant to Chapter 403, Part II, F.S., and Rule 62-17 of the Florida Administrative Code (F.A.C.). The SCA describes the Project and addresses its environmental and socioeconomic aspects by presenting information on the existing natural and human environment, the



facilities to be modified and operated at the St. Lucie Plant, and the impacts of those modified facilities on those environments.

1.2 The Applicant

FPL, the principal subsidiary of FPL Group, Inc., is the largest electric utility in Florida. FPL serves more than 8.6 million people (approximately 4.4 million customer accounts) along the eastern seaboard and the southern and southwestern portions of Florida. FPL serves customers in all or parts of 35 Florida counties (see Figure 1.2.0-1).

FPL's existing generating resources are located at 14 power plant sites distributed geographically around the service territory and also include partial ownership of two units located in Jacksonville and one unit in Georgia. The current generating facilities consist of nuclear steam units, coal units, combined cycle units, fossil steam units, combustion turbines, and diesel units. This diverse mix of generating technologies and fuels provides operating reliability, flexibility, and the opportunity to minimize fuel costs, while meeting the needs of FPL customers for reliable electric service.

FPL's bulk transmission system is composed of 6,620 circuit miles of transmission lines. Integration of the generation, transmission, and distribution system is achieved through FPL's 542 substations.

1.3 Overview of the Project

FPL must add generating resources in the future to provide continued reliable and cost-effective service to its customers and to meet future load growth. FPL has determined that increasing the electrical output of the existing St. Lucie Units 1 and 2 is the most cost-effective option to meet the demand for electrical energy while enhancing fuel diversity and minimizing environmental impacts, including the avoidance of greenhouse gas (GHG) emissions.

FPL's St. Lucie Units 1 and 2 are pressurized water nuclear reactors. Each unit consists of a primary and secondary system. The primary system that resides within a containment building serves to cool the reactor core and comprises a nuclear reactor pressure vessel and steam generators. The primary system coolant carries the heat from the reactor core to steam generators. There it transfers the heat energy to the secondary systems. The heat from the reactor is converted to steam in the steam generators, which is then used in the turbine/generator to produce electricity. The output of each



electrical generator is routed to the main transformer where it is converted to 230 kilovolts (kV) for transmission over FPL's existing electrical transmission system.

The Project will increase the electrical output from both Units 1 and 2 without changing the footprint of the existing plant. The increase in the output of the plant will be accomplished by modifications to the existing plant equipment and will require no new construction. The two units will require modifications to the turbine-generators and attendant support and control systems. In addition, the existing low- pressure turbines are not capable of handling the uprate steam flows. Therefore, the low-pressure turbine internals will need to be modified along with upgrades to various pumps. All turbine modifications will incorporate state-of-the-art technology that will provide greater efficiency in the turbines, resulting in fuel savings over the long term.

The Project will also require an increase in reactor power or thermal megawatts [MW(t)]. The increased reactor power will manifest itself in a higher reactor coolant exit temperature and the heat transfer through the steam generators will increase.

The Project will allow each unit to increase gross power by about 11 percent. Net electrical generation per unit is expected to increase from about 840 MW to about 943 MW. The net increase will be 103 MW per unit for a two-unit total of 206 MW.

No significant environmental impacts have been identified from the Project, as discussed in the remainder of this SCA. The uprated plant is expected to operate within the existing permit limits. Further, nuclear generation is non-GHG emitting and the Project will avoid approximately 0.6 million tons per year of carbon dioxide (CO₂) that would be emitted from a comparable natural gas-fired plant.

The power uprates at the St. Lucie Plant will be implemented in 2011 and 2012. FPL plans to perform the physical work associated with the Project work at the time of normally scheduled refueling outages in 2010, 2011, and 2012. The estimated cost of the uprate at the St. Lucie Plant is approximately \$651 million.

The St. Lucie Plant has received re-licensing approval from the Nuclear Regulatory Commission (NRC) for Unit 1 through 2036 and Unit 2 through 2043. In order to increase reactor power, a separate license amendment will also have to be issued by the NRC for each unit. Detailed

engineering analyses will be required for the uprate effort. The license amendment requests and NRC reviews will examine all essential safety, technical, and environmental aspects of the Project.

The Project will provide the most cost-effective, reliable, self-build resource to meet FPL customers' incremental capacity needs starting in 2011, while providing additional relief to the on-going system concern of maintaining a balance between electrical demand and generation in the Southeastern Florida region, enhanced fuel diversity, and lower system CO₂ emissions.

The Project also provides positive economic benefits including increased employment and local expenditures for equipment and services.

1.4 Need for the Project

On September 17, 2007, FPL submitted a separate Petition to Determine Need for Expansion of Electrical Power Plants, including the St. Lucie Plant, to the FPSC pursuant to Section 403.519, F.S. That Petition, along with supporting documentation, addressed the manner in which the Project, along with a similar, but separate uprate project at FPL's Turkey Point nuclear units, will meet the need for electric system reliability and integrity and the need for adequate electricity at reasonable cost, whether the Project is the most cost-effective alternative available, and whether there is energy conservation available to mitigate the need for all or a portion of the Project. That Petition is contained in Appendix 10.7.

On December 10, 2007, the FPSC held a hearing on FPL's Petition to Determine Need and approved the Petition. The FPSC is expected to issue a final order determining the need for the Project shortly; once the order is issued, it will be distributed as a supplement to this SCA.

1.5 Summary of Public Outreach Program

Representatives of FPL have been involved with the local community for many years, including providing ongoing communication about the Company's activities and plans. The goal of the outreach program is to build shared understanding between FPL, governmental organizations, and other stakeholders about plans for the St. Lucie Plant and surrounding area. This process includes various outreach activities focused on a wide variety of individuals and groups that have, or may

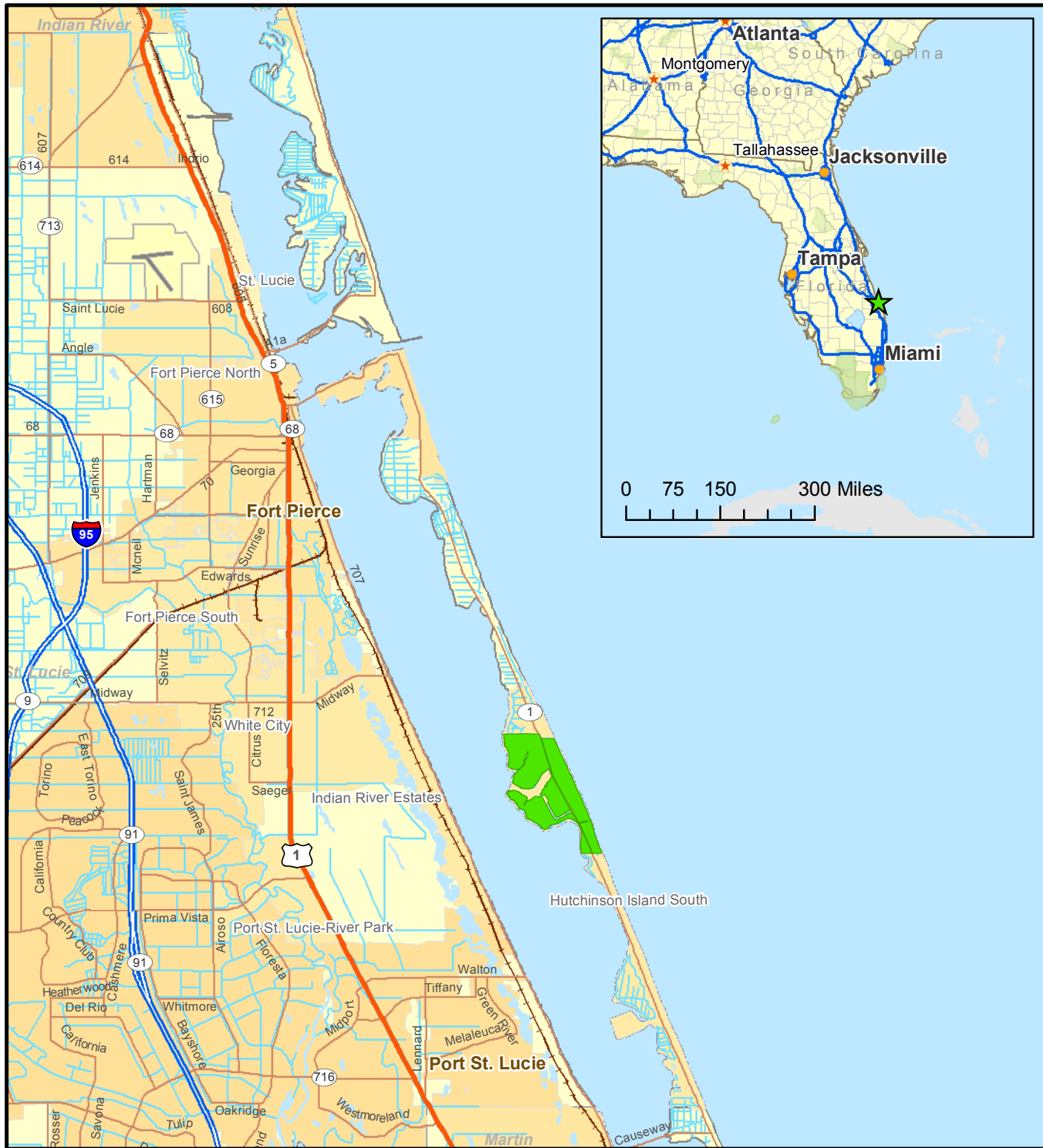


have, an interest in the Project. These outreach activities involve FPL employees, surrounding community governmental officials and residents.

Primary activities for accomplishing these outreach goals include continuing dialogue through one-on-one discussions, group meetings, and other opportunities as may be of interest to the community. Activities will be focused on listening to people's needs, issues, and concerns. FPL's goal is to be the first and best source of information about the Project.

FPL is committed to staying involved with the community and providing ongoing communications about the Company's activities, plans, and projects.





LEGEND

FPL St. Lucie Plant Property

REFERENCE

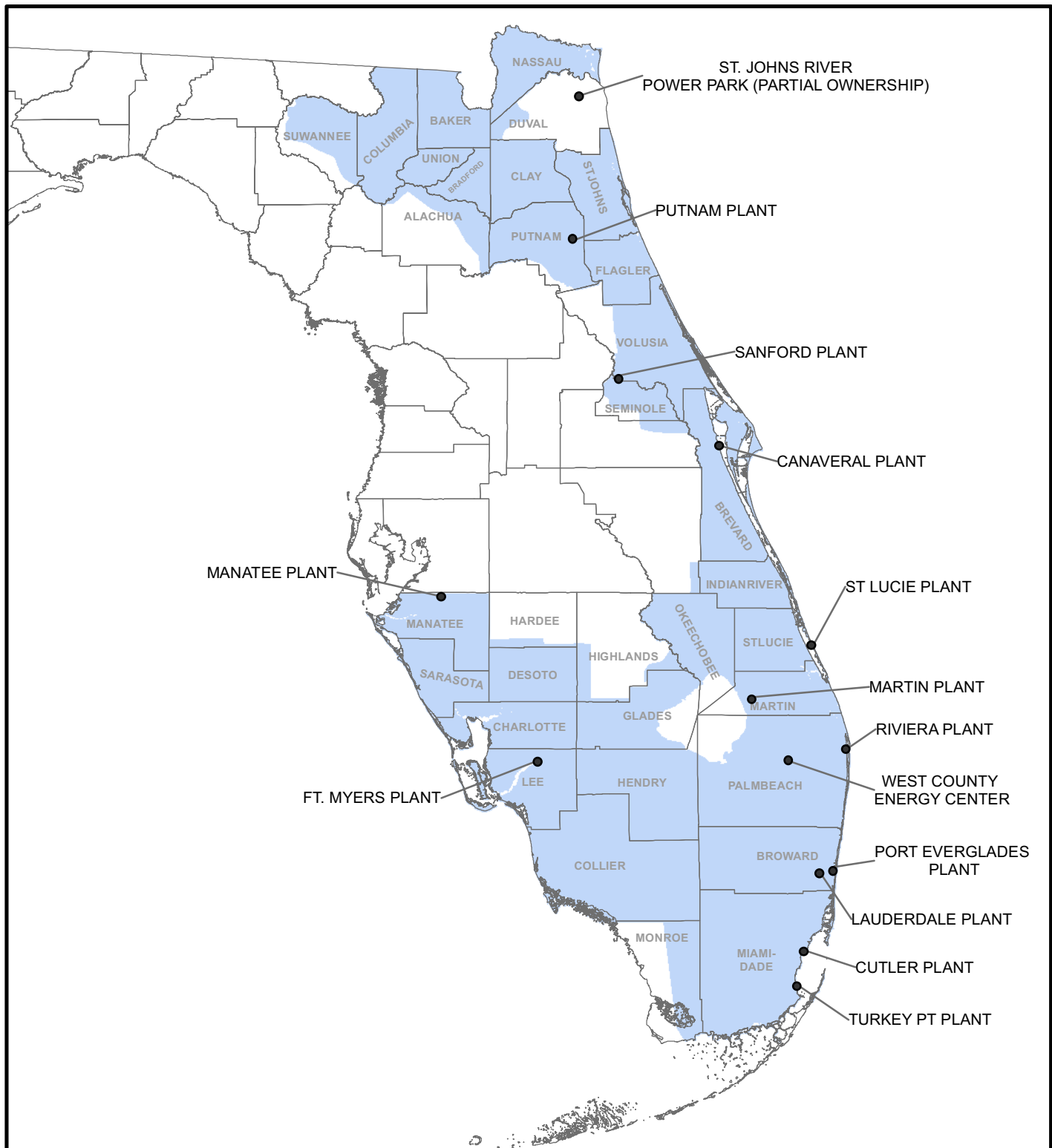
- ESRI Media Kit Data and Maps, 2005.
- St. Lucie Plant Location, St. Lucie County Property Appraiser, 2007

0 1.5 3 6 Miles



PROJECT		ST. LUCIE UPRATE PROJECT	
TITLE		LOCATION MAP	
		PROJECT No. 073-87685	SCALE AS SHOWN
		DESIGN KK 11/28/07	REV. 0
		GIS RL 11/28/07	FIGURE 1.1.0-1
		CHECK SM 11/28/07	
		REVIEW KK 11/28/07	

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\ST_LUCIE\MAP DOCUMENTS\SCA\07387685A05_Service_Territory



LEGEND

- FPL Power Plants
- FPL Service Territory

REFERENCE

1. Power plant locations, & service area, FPL, 2007

0 37.5 75 150 Miles



PROJECT		ST. LUCIE UPRATE PROJECT	
TITLE		SERVICE TERRITORY	
	PROJECT No. 073-87685		SCALE AS SHOWN
	DESIGN	KK 11/28/07	REV. 0
	GIS	RL 11/28/07	
	CHECK	SM 11/28/07	
	REVIEW	KK 11/28/07	

FIGURE 1.2.0-1

2.0 SITE AND VICINITY CHARACTERISTICS

2.1 Site and Associated Facilities Delineation

2.1.1 Location

FPL's St. Lucie Plant is located on Hutchinson Island in unincorporated St. Lucie County, Florida. The St. Lucie Plant consists of approximately 1,130 acres of land on the widest section of Hutchinson Island in an area previously degraded by mosquito control projects. The St. Lucie Plant is comprised of two nuclear units, St. Lucie Unit 1 and St. Lucie Unit 2, intake and discharge canals, percolation ponds, switchyard, transmission facilities, and other associated facilities. The St. Lucie Plant is bordered by the Atlantic Ocean to the east and the Indian River Lagoon to the west. State Road A1A traverses north and south providing access to the St. Lucie Plant.

The St. Lucie Plant is located in Sections 16 and 17, Township 36 South, Range 41 East (Figure 2.1.1-1). Port St. Lucie is approximately 2.5 miles southwest, and Fort Pierce is approximately 4 miles northwest. The boundary for site certification is about 177 acres (Certified Site or Site) as depicted in Figure 2.1.1-2.

2.1.2 Existing Site Uses

With the exception of the changes to the existing power generation facilities, none of the other existing facilities at the St. Lucie Plant will change as a result of the Project.

St. Lucie Units 1 and 2 are pressurized water reactors, each having two steam generators. St. Lucie Unit 1 was permitted prior to the effective date of the Power Plant Siting Act (PPSA) and St. Lucie Unit 2 was certified under the PPSA in 1976. Each unit is currently licensed to operate at an output of 2,700 megawatts (thermal) [MW(t)], with a corresponding gross electrical output of approximately 890 megawatts (electric) [MW(e)]. Discounting onsite electrical power usage, each reactor unit has a current net capacity of about 840 MW(e), for a combined plant capacity of about 1,680 MW(e) (net summer rating) (FPL, 2001). St. Lucie Units 1 and 2 have a two-loop, three-stage heat-transfer design. The heat from the reactors is transferred in the loops in order to generate energy that can be safely extracted to produce electricity (FPL, 2001).

The prominent structures, enclosed facilities, and equipment associated with St. Lucie Units 1 and 2 include the containment building, the turbine generator building, the auxiliary building, and the fuel handling building. The containment building is where the nuclear steam supply system, including the reactor, steam generators, reactor cooling pumps, and related equipment are located. The turbine generator and associated main condensers are enclosed in the turbine generator building. In the auxiliary building are the waste management facilities, engineered safety features components, and other facilities. The fuel handling building contains the spent fuel storage pool and storage facilities for new fuel (FPL, 2001).

Prominent features beyond the power block area include the intake and discharge canals, switchyard, spent-fuel storage facilities, technical and administrative support facilities, and public education facilities (Energy Encounter Exhibit and the Marine Education Facility) (FPL, 2001). Public education facilities are discussed in Subsection 2.3.9 (Other Environmental Features).

St. Lucie Units 1 and 2 withdraw saltwater from the Atlantic Ocean for non-contact cooling purposes and receives freshwater from a municipal water source for potable and service water use (Figure 2.1.2-1).

St. Lucie Units 1 and 2 operate a once-through cooling system that uses water from the Atlantic Ocean to remove heat from the main (turbine) condensers via the Circulating Water System (CWS), and to remove heat from other auxiliary equipment via Auxiliary Equipment Cooling Water System (AECWS) [i.e., the Intake Cooling Water System (ICWS)]. The majority of the cooling water is used for the CWS.

The three cooling water intake structures for St. Lucie Units 1 and 2 are located approximately 1,200 feet (ft) offshore where the water is approximately 23 ft deep. Two of the structures were installed prior to startup of St. Lucie Unit 1 in 1976. The third intake structure, which is larger than the initial two, was installed in 1983. The intake structures have a large concrete base with a vertical cylindrical opening in the center and a concrete velocity cap supported by columns extending approximately 6 ft from the base. Water passes through the intake structures and into submerged pipelines (two 12-ft and one 16-ft in diameter) that deliver water to the intake canal.

The intake canal is a trapezoidal channel approximately 5,000 ft long, 200 ft wide, and 30 ft maximum depth at normal water levels. The intake canal conveys cooling water to the intake

structures at a velocity of about 0.3 to 0.5 feet per second (fps) during normal operation. The intakes are equipped with travelling screens. Three net barriers were installed in the canal to reduce the loss of marine life.

The discharge canal is a trapezoidal channel approximately 2,200 ft long, 200 ft wide, and 30 ft deep at normal water levels. The discharge canal transports the heated cooling water beneath the beach and dune system to two discharge pipes at its eastern terminus in the Atlantic Ocean. One of the pipes, completed in 1975 to serve St. Lucie Unit 1, is 12 ft in diameter and extends approximately 1,500 ft offshore, terminating in a two-port “Y” diffuser. The other pipe, installed in 1981 for two-unit operation, is 16 ft in diameter, extends approximately 3,400 ft offshore, and features a multiport diffuser (FPL, 2001). Other important environmental features at the FPL St. Lucie Plant include the sea turtle protection program, FPL’s Energy Encounter educational center, the fish tag-and-release program, and two county parks, as discussed in Subsection 2.3.9.

2.1.3 Adjacent Properties

St. Lucie Units 1 and 2 are located on the northern portion of the St. Lucie Plant property. The Indian River Lagoon is approximately 0.5 mile to the west and the Atlantic Ocean is approximately 0.5 mile to the east.

Land uses surrounding St. Lucie Units 1 and 2 are predominately undeveloped land and water:

- North: Big Mud Creek;
- East: State Road A1A and the Atlantic Ocean;
- South: Herman’s Bay; and
- West: the Indian River Lagoon.

An aerial photograph of the St. Lucie Plant is shown in Figure 2.1.3-1.

2.1.4 Uses within St. Lucie Units 1 and 2

Figure 2.1.2-1 provides the site layout for the facilities that support the operation of St. Lucie Units 1 and 2 and the adjacent facilities. St. Lucie Units 1 and 2 are surrounded by mangroves and wetlands. The St. Lucie Plant property is about 1,130 acres, including the St. Lucie Units 1 and 2 areas and the

area for associated facilities to the west including the transmission switchyard. The Site area is approximately 177 acres (see Figure 2.1.1-2).

2.1.5 100-Year Flood Zone

According to the Federal Emergency Management Agency (FEMA) flood maps, St. Lucie Units 1 and 2 are located within Zone AE. AE is an area subject to a 1 percent or greater annual chance of flooding in any given year (Figure 2.1.5-1). During the original construction, the structural features of the Site (e.g., power block) were raised to 18 ft above mean sea level (msl) and above the 100-year floodplain. The St. Lucie Units 1 and 2 power blocks are located on a concrete berm with wave steps to mitigate flood and wave impacts.

2.2 Socio-Political Environment

2.2.1 Governmental Jurisdictions

St. Lucie Units 1 and 2 are located in unincorporated southeast St. Lucie County, Florida. Fort Pierce and Port St. Lucie are the only municipalities located within 5 miles. Fort Pierce is approximately 4 miles northwest and Port St. Lucie is approximately 2.5 miles southwest (Figure 2.2.1-1).

There is one estuary (Indian River Lagoon), one state park (Savannas Preserve State Park), one aquatic preserve (Jensen Beach Aquatic Preserve), one scenic highway (Indian River Lagoon-Treasure Coast Scenic Highway), county lands within 5 miles of St. Lucie Units 1 and 2. These properties are discussed in Subsections 2.2.5 and 2.2.8.6.

2.2.2 Zoning and Land Use Plans

2.2.2.1 Future Land Use

St. Lucie Units 1 and 2 are located in unincorporated St. Lucie County, Florida. The County has adopted a comprehensive plan, which is updated on a periodic basis. The County Comprehensive Plan incorporates a map that depicts the future land use categories of all property falling within the unincorporated portions of the County.

The St. Lucie Plant has a Future Land Use category of Transportation/Utilities (T/U) according to the St. Lucie County Future Land Use Map (Figure 2.2.2-1). The T/U category is described in the St. Lucie County Comprehensive Plan Future Land Use Element Future Land Use Section (B)(L) as follows (Appendix 10.3):

The purpose of this district is to recognize the Transportation or Utility use of property. This designation may be applied as appropriate subject to review of the specific application and intended use of the property.

The Transportation/Utilities (T/U) land use designation has been applied principally to four areas:

1. *St. Lucie County International Airport;*
2. *The St. Lucie County Landfill;*
3. *The St. Lucie Power Plant site located on Hutchinson Island; and*
4. *The FPL Midway switching station along Midway Road.*

The existing St. Lucie Units 1 and 2 are expressly recognized as a permitted use in this land use category, and the proposed Project is thus an allowed use under the Transportation/Utilities Future Land Use designation.

2.2.2.2 Zoning

The St. Lucie County Land Development Code (Code) has been adopted to implement the policies and objectives of the St. Lucie County Comprehensive Plan and to regulate land development within the unincorporated portions of St. Lucie County. The Code incorporates a zoning map that depicts the zoning categories of lands within unincorporated St. Lucie County. The St. Lucie Plant is zoned as Utilities (U) (Figure 2.2.2-2 and Appendix 10.2).

The purpose of the U category as described in the Code, Chapter 3 (W) is as follows:

The purpose of this district is to provide and protect an environment suitable for utilities, transportation, and communication facilities, together with such other uses as may be compatible with utility, transportation, and communication facility surroundings.

Electric generation plants are identified as a conditional use in the Utilities zoning district.

The purpose of a Conditional Use in the Code Chapter 11, Section 11.07.01 is as follows:

The purpose of this section is to provide for uses that are generally compatible with the use characteristics of a zoning district, but which require individual review of their location, design, intensity, configuration, and public facility impact in order to determine the appropriateness of the use on any particular site in the district and their compatibility with adjacent uses. Conditional uses may require the imposition of additional conditions to make the uses compatible in their specific contexts.

Under the County's Land Development Code, the existing St. Lucie Units 1 and 2 are considered legally conforming conditional uses, since they existed on the effective date of that Code and are otherwise permitted as a conditional use in the Utilities zoning district. The Project does not require further review under the County's Land Development Code since the Project does not represent a change or adjustment to the existing conditional use status of the St. Lucie Plant. St. Lucie County's growth management department has confirmed this conclusion by letter (see Appendix 10.2).

2.2.3 Demography and Ongoing Land Use

St. Lucie County has been estimated to have 240,039 residents in 2005, a 24.6-percent increase from 2000 According to the Florida Statistical Abstract 2006 [University of Florida / Bureau of Economic and Business Records (UF/BEBR), 2006]. The median population projections for all of St. Lucie County depict continued growth, with an estimated population of 389,000 in 2025. Census counts and population estimates for these two municipalities are listed below:

Municipality	Census 2000	2005 Estimates	Percentage Change
Fort Pierce	37,516	38,569	2.81
Port St. Lucie	88,769	129,135	45.47

UF/BEBR 2006 Statistical Abstract Table 1.25

Existing land use patterns within 1- and 5-mile radii of St. Lucie Units 1 and 2 are depicted in Figure 2.2.3-1. The predominant existing land uses within the vicinity of St. Lucie Units 1 and 2 are wetlands and mangrove swamps. This pattern of land use is anticipated to remain the same for the current planning period as reflected in the County's Future Land Use Map (see Figure 2.2.2-1). The surrounding Future Land Use designation on the County's Future Land Use Map is

Residential/Conservation. The closest residential development is located approximately 1.4 miles south of St. Lucie Units 1 and 2.

2.2.4 Easements, Title, Agency Works

No easements, titles, or agency works are required for the St. Lucie Units 1 and 2 Project. Existing easements for the St. Lucie Plant are contained in Appendix 10.4.

2.2.5 Regional Scenic, Cultural, and Natural Landmarks

The Indian River Lagoon is located approximately 0.5 mile west of St. Lucie Units 1 and 2. The Indian River Lagoon is part of the National Estuary Program (NEP) (see Figure 2.2.1-1). The Indian River Lagoon NEP was established in 1990 and its watershed area is approximately 3,600 square kilometers. The Indian River Lagoon has over 12 major habitat types, including submerged aquatic vegetation, shellfish growing areas, mangroves, and ocean inlets.

The Savannas Preserve State Park is located approximately 2 miles west of St. Lucie Units 1 and 2. The Savannas Preserve State Park is approximately 7,200 acres and is located west of the Indian River Lagoon. The park offers a variety of activities such as bicycling, canoeing, fishing, horse trails, picnicking, a visitor center, and wildlife viewing to St. Lucie County residents and visitors.

The Jensen Beach Aquatic Preserve is located approximately 0.5 mile west of St. Lucie Units 1 and 2. The Jensen Beach Aquatic Preserve is part of the Indian River-Vero Beach to Fort Pierce Aquatic Preserve in southeast Florida's Indian River Lagoon, which extends from the southern corporate limits of Fort Pierce in St. Lucie County southward through Martin County to Jupiter Inlet in Palm Beach County. The Jensen Beach Aquatic Preserve is approximately 37 miles long and encompasses approximately 22,000 acres of surface water area. Recreational uses include fishing, boating, and swimming. Agriculture and residential communities use connecting canals for drainage. Mangroves, leatherferns, sawgrass, tidal marshes, and floodplain forests make up the primary plant communities along the Lagoon. The aquatic preserve contains many aquatic species, including fishes, sea turtles, birds, alligators, and manatees (FDEP, 2007).

The Indian River Lagoon-Treasure Coast Scenic Highway (State Road A1A) is located approximately 0.2 mile east of St. Lucie Units 1 and 2. It is a 42-mile-corridor that offers a number

of tourist and environmental education centers along the highway. The scenic thoroughfare offers views of the sandy, coastal dunes along the Atlantic Ocean and mangrove-covered banks of the Indian River Lagoon.

St. Lucie County has an Environmentally Significant Lands (ESL) program, which was established in 1991 pursuant to County Comprehensive Plan directives requiring an increase in the acreage of native upland habitat to be preserved in St. Lucie County. The goal of the program is “designed to purchase lands with the intent of preserving ecologically unique communities, protecting and restoring both upland and wetland ecosystems to their natural state, preserve endangered and threatened species, and maintain a natural flood protection thereby providing water quality, while providing compatible public use” (St. Lucie County, 2007a). There are 11 ESL properties (Savannas Reserve, Ocean Bay, Walton Scrub Homestead, Dollman Tract, Blind Creek, Middle Cove, Impoundment 5, Project 10B, Herman’s Bay Beach Access, John Brook Park, and the North Fork of the St. Lucie River) within five miles of St. Lucie Units 1 and 2.

St. Lucie County also maintains and operates nine parks (Savannas Recreation Area, Frederick Douglas Memorial Park, Walton Rocks Beach Park, Vitolo Family Park, Sandhill Crane Park, Collins Park, Palm Lake Park, Port St. Lucie Rotary Park, and Blind Creek Park) within five miles of St. Lucie Units 1 and 2. The parks offer a variety of recreational activities to residents and visitors of St. Lucie County including, but not limited to, picnics, beach access, and hiking.

2.2.6 Archaeological and Historic Sites

The National Register of Historic Places lists no historic places, and there are no known archaeological or historic sites on the Site (FPL, 2001).

2.2.7 Socioeconomics and Public Services

2.2.7.1 Labor Force

The total labor force in St. Lucie County for 2005 was 107,489, with employment of 102,527. Unemployment in 2005 was 4,962 or 4.6 percent in St. Lucie County. For the state of Florida, the unemployment rate was 3.8 percent and the United States unemployment rate was 5.1 percent (UF/BEHR, 2006).

Average monthly private-sector employment by major industry groups in St. Lucie County for December 2006 is depicted in Table 2.2.7-1. The service-providing industry group had the most employment in St. Lucie County, with about 27 percent of the total employment among all the major industry groups. The construction industry provided about 6,793 jobs.

Employment projections for construction trade workers in Florida have been estimated through the year 2013. Statewide, construction employment is estimated to increase from 401,875 in 2005 to 483,692 in 2013 (UF/BEBR, 2006).

2.2.7.2 General Income

St. Lucie County had an annual per capita personal income of \$25,861 for 2005, compared to state of Florida and U.S. annual per capita personal income of \$34,001 and \$34,471, respectively [U.S. Department of Commerce, Bureau of Economic Analysis (BEA), and Regional Economic Information; 2005]. This income level ranked 36th out of the 67 counties in Florida.

The median household income in St. Lucie County was \$37,388 in 2003. Compared to the 2000 median household income, this income level is a 3.4 percent increase. Florida had a median household income of \$38,985 in 2003, which was an increase of 0.5 percent from 2000 (UF/BEBR, 2006). The average wage and salary earnings in St. Lucie County in 2005 were \$30,447, approximately 19 percent lower than the statewide average of \$36,583 (BEA 2005).

2.2.7.3 Housing

Table 2.2.7-2 identifies the total number of housing units in St. Lucie County by occupancy type according to the U.S. Census Bureau. The average house purchase-price in St. Lucie County in 2005 was \$217,542 (UF/BEBR, 2006).

A total of 161 licensed lodgings existed in 2006, representing 9,066 lodging units in St. Lucie County. This includes 5,242 apartment building units, 66 rooming house units, 793 rental condominiums, and 143 transient apartment building units (UF/BEBR, 2006).

2.2.8 Area Public Service and Utilities

2.2.8.1 Education

Primary public education in Florida is operated on a countywide basis. Each county's respective school district establishes educational policies and staffing requirements. St. Lucie County had a total student membership in preschool through twelfth grade of 38,786 in the fall of 2006 (Florida Department of Children and Families, 2007). St. Lucie County schools employed approximately 1,924 teachers in the fall of 2005 (Florida Department of Education, 2007a).

There are 41 public schools and 24 private schools (includes non-religious, religious, military, and uncategorized schools) within St. Lucie County (Florida Department of Education, 2007b). There are four schools within five miles of St. Lucie Units 1 and 2, Port St. Lucie High School, located approximately 3 miles to the west, Weatherbee Elementary School approximately 5 miles to the northwest, Savanna Ridge Elementary School approximately 4.2 miles to the northwest, and Village Green Elementary School approximately 4.7 miles to the southwest (St. Lucie County School District, 2007).

2.2.8.2 Transportation

Access to the St. Lucie Plant is from State Road A1A (Figure 2.2.8-1). State Road A1A is a Florida State Road that runs mostly along the Atlantic Coast, with sections extending from Key West at the southern tip of Florida, to Callahan, just south of Georgia. State Road A1A provides access to the Atlantic Ocean for residents and visitors of St. Lucie County. Portions of State Road A1A are designated as a scenic highway. The portion that runs through St. Lucie County is referred to as the Indian River Lagoon-Treasure Coast Scenic Highway.

State Road A1A is the only access road to the St. Lucie Plant and there are no signalized intersections located within a 5-mile radius of the existing facility. State Road A1A/Ocean Drive is a state-maintained, northbound-southbound uninterrupted flow two-way arterial.

The Florida Traffic Information 2006 DVD-ROM distributed by the Florida Department of Transportation (FDOT, 2006) was used to obtain the Average Annual Daily Traffic (AADT) volumes at two adjacent count stations. The FDOT count stations used to collect data were station numbers 940116 and 940719. Count station number 940116 is situated on State Road A1A south of

Blue Heron Boulevard in Fort Pierce. Count station number 940719 is located on State Road A1A south of the St. Lucie Plant.

Using the FDOT Quality/Level of Service (LOS) Manual Generalized Tables, the LOS was determined for the segment of the State Road A1A adjacent to the St. Lucie Plant. The AADT volumes for State Road A1A are presented in Table 2-2.8-1, and were determined to be LOS B or better.

2.2.8.3 Medical Facilities

St. Lucie County has three hospitals, which contain over 600 licensed beds. Emergency medical transportation is provided within St. Lucie County by emergency medical technicians (EMTs), which are stationed at most of the County's fire stations (St. Lucie County, 2007b). There are 313 licensed doctors of medicine and osteopathy, 65 dentists, 109 dental hygienists, 231 dental radiographers, 511 health practitioners, 3,349 registered and practical nurses, 53 opticians, and 328 pharmacists and pharmacist interns in St. Lucie County (UF/BEHR, 2006).

Lawnwood Regional Medical Center and St. Lucie Medical Center are the primary health care providers in the county. Lawnwood Regional Medical Center is located approximately 16 miles west of St. Lucie Units 1 and 2 and St. Lucie Medical Center is approximately 20 miles west. Lawnwood Regional Medical Center is the largest medical center in St. Lucie County with 345 beds, offering a wide variety of medical/surgical treatments and specialty services ranging from open heart surgery to inpatient rehabilitation (Florida Smart, 2007).

FPL maintains a medical clinic at the St. Lucie Plant for onsite personnel.

2.2.8.4 Firefighting Facilities

The St. Lucie County Fire District provides fire and rescue service to St. Lucie Plant. The Fire District protects over 240,000 people living in an area of 614 square miles and operates out of 15 stations that serve all the communities. The Fire District also provides service to the municipalities of Port St. Lucie, St. Lucie Village, and Fort Pierce (St. Lucie County Fire District, 2007).



The St. Lucie County Fire District has 15 stations housing 11 engines, 5 quints, 17 rescue ambulances, 14 brush units, 3 tanker trucks, a hazardous materials unit, and a confined-space rescue unit as well as numerous support units.

The closest fire station to St. Lucie Units 1 and 2 is Station 8, at 7583 South Ocean Drive, which is approximately 1.5 miles to the south (St. Lucie County GIS Department, 2007).

FPL maintains a trained fire-fighting brigade at the St. Lucie Plant. In addition, FPL performs mutual aid training with St. Lucie County Fire District.

2.2.8.5 Police Protection

The St. Lucie County Sheriff's Office serves a population of over 240,000 people (UF/BEBR, 2006). The St. Lucie County Sheriff's Office provides law enforcement in the vicinity of the St. Lucie Plant (St. Lucie County Sheriff's Department, 2007).

FPL maintains a security force including contracted security personnel at the St. Lucie Plant.

2.2.8.6 Recreation Facilities

The St. Lucie County Department of Parks and Recreation offers numerous recreational facilities and programs for area residents and visitors. There are 38 parks, 14 boat ramps, 23 ball fields, 12 beachfront parks and 19 beach access sites (St. Lucie County Parks and Recreation Department, 2007). There are 11 beach access sites within five miles of St. Lucie Units 1 and 2 (see Table 2.2.8-2).

FPL's Walton Rocks Beach and Blind Creek Parks, and beach access are the closest areas for recreation near St. Lucie Units 1 and 2 (St. Lucie County GIS Department, 2007).

2.2.8.7 Electricity and Gas

FPL and Fort Pierce Utilities Authority provide electricity to St. Lucie County's businesses and residents. Florida City Gas is the primary natural gas provider to the county.

2.2.8.8 Water Supply Facilities

St. Lucie Units 1 and 2 acquire water from the Fort Pierce through the Fort Pierce Utilities Authority. Current plant usage averages 4 million gallons per month (approximately 131,500 gallons per day)

for St. Lucie Units 1 and 2. This water supply is the raw water source for the St. Lucie Plant process water treatment facility, which provides demineralized water for makeup to various plant systems, including the primary and secondary reactor cooling loops and the spent fuel pool. The municipal water supply is also the source for potable, sanitary, and fire protection systems (FPL, 2001).

Southern Hutchinson Island, between Fort Pierce Inlet and the Martin County line, is within Development Planning Area 6 as designated by St. Lucie County Utilities (SLCU) and Fort Pierce Utility Authority (FPUA). The Henry A. Gahn Water Treatment Plant (WTP) serves this area. It is operated by FPUA and includes two treatment plants: a reverse osmosis plant and a lime softening plant. It is located within the Fort Pierce and provides water to the City, North Hutchinson Island, South Hutchinson Island as far as the St. Lucie Plant, and to five developments in the St. Lucie County service area. It has adequate capacity to serve the current load of 6.9 MGD. Hutchinson Island south of the St. Lucie Plant is designated as sub-area 6A, because it is being serviced through bulk water agreements between FPUA and Martin County Utilities. The Henry A. Gahn WTP will undergo an expansion by 2015 to a capacity of 25.3 MGD, which is expected to be sufficient to meet projected growth until 2025 (Metcalf and Eddy, February, 2007, "Conceptual Master Plan of Water and Wastewater Utility Integration, St. Lucie County, Phase II).

2.2.8.9 Sewage Treatment Facilities

The South Hutchinson Island Water Reclamation Facility is owned and operated by SLCU and is located in the southern part of South Hutchinson Island. Prior to completion in 1997, the area was serviced by various package plants. Along with the construction of the new plant, lift stations were upgraded or replaced as needed and force mains were installed to connect the lift stations to the new water reclamation facility. The South Hutchinson Island wastewater collection system consists of approximately 12 miles of PVC force main between the Fort Pierce city limits and the Martin County/St. Lucie County line to the south. The treatment plant was designed to sustain predicted Hutchinson Island build-out population. (Metcalf and Eddy, February, 2007, "Conceptual Master Plan of Water and Wastewater Utility Integration, St. Lucie County, Phase II).

The St. Lucie Plant is connected to the regional wastewater system. FPL maintains several septic systems, on the Plant property but none within the area being certified.

2.2.8.10 Solid Waste Disposal

The St. Lucie County Solid Waste Department is responsible for solid waste collection, transport, and disposal in unincorporated portions of the county. The St. Lucie County Solid Waste Baling and Recycling Facility is a 331-acre site that receives and processes solid waste products from residents and commercial products from residential and commercial properties in St. Lucie County. The facility is located at 6120 Glades Cutoff Road in Fort Pierce. The St. Lucie Plant disposes of garbage, trash, yard trash, tires, and construction and demolition debris.

A licensed solid waste disposal contractor collects and disposes of all facility specific solid waste. Wood and metal is recycled at offsite facilities.

2.3 Bio-Physical Environment

2.3.1 Geohydrology

The geology and hydrogeology in the St. Lucie Plant and vicinity have been previously studied with the results presented in several publications. The general geology and hydrogeology of St. Lucie County was presented in “Hydrogeology, Water Quality, and Distribution and Sources of Salinity in the Floridan Aquifer System, Martin and St. Lucie Counties, Florida” (Reese, 2004). Other sources of information include the Final Environmental Statements for both Unit 1 and Unit 2, published by the Nuclear Regulatory Commission (NRC). Additional information is available from the Upper East Coast Water Supply Plan documents published by the South Florida Water Management District (SFWMD).

The information presented in this section draws upon these sources and provides a brief summary of the geohydrologic baseline information.

2.3.1.1 Geologic Description of the St. Lucie Plant Vicinity

The generalized geology and hydrogeology for St. Lucie County, including the St. Lucie Plant, are shown in Figures 2.3.1-1 through 2.3.1-3.

Topography

The general topography of Hutchinson Island is of the bar and swale type. The St. Lucie Plant property was predominantly flat and water covered with dense vegetation typical of coastal mangrove

swamps. During construction of St. Lucie Unit 1, the area (approximately 200 acres) was filled in to 18 ft above msl. Approximately another 100 acres were impacted by construction of the intake and discharge canals. The remaining approximately 830 acres of the property was left in its original state.

Physiography

St. Lucie County is located in the Atlantic Coastal Lowlands of Florida. The principal physiographic features within St. Lucie County (starting at the coast and moving west) are the Atlantic Coastal Ridge, the Ten-Mile Ridge, and the Green Ridge. The area is characterized by flat, low elevations of less than 25 ft above msl and is swampy and poorly drained. The Atlantic Coastal Ridge parallels the St. Lucie County coastline and is approximately 1 to 2 miles wide. Ten-Mile Ridge and Green Ridge are difficult to distinguish from the ground, but can be seen on topographic maps as up to approximately 10 ft higher than the surrounding elevations, making the ridges 25 to 35 ft above msl. These features are likely relict beach ridges or offshore bars.

The St. Lucie Plant is located on a barrier island on the eastern edge of the Atlantic Coastal Lowlands. Hutchinson Island is typical of the offshore sandbars that line the southern U.S. Atlantic coastline. It is made up of an eastern sandbar that rises to about 15 ft and a swale on the inland side that extends about 1 mile westward. Beneath the land surface, there is a peat layer 4 to 6 ft thick. Below this layer is the Anastasia Formation, a sedimentary rock formation composed of clay lenses, sandy limestone, and silty fine to medium sand with fragmented shells. This highly permeable stratum extends 35 to 90 ft below msl. Underlying this stratum there is a semi-permeable zone, The Hawthorn Formation, consisting of slightly clayey and very fine silt which extends 600 ft below msl.

Regional Geology

According to Reese (2004) and Bearden (1972), St. Lucie County is underlain by several tens of feet of surficial soils, followed by several hundred feet of The Hawthorn Group, followed by several hundred feet of limestone. In the vicinity of the St. Lucie Plant, the generalized geological profile, in descending order from land surface, consists of:

- Holocene and Pleistocene Deposits – Low-lying portions of the modern Florida peninsula were submerged during the Pleistocene series of sea level transgressions, which are believed to have been as much as 60 ft above the present sea level. The Holocene and Pleistocene deposits of east-central Florida, where present, generally consist of marine and non-marine white to

brown, fine to medium-grained, unconsolidated quartz sands containing beds of sandy coquina (Brown, 1962). In St. Lucie County, these deposits are the Pamlico Sands. These sands are generally less than several feet thick throughout St. Lucie County (Bearden, 1972).

- Pliocene or Upper Miocene Deposits – Unconsolidated beds of fine sand, shells, and thin discontinuous layers of sandy limestone of the Pliocene/Late-Miocene Age overlie the Hawthorn Formation and underlie the Holocene and Pleistocene deposits. Consolidated coquina occurs in central areas of St. Lucie County. These deposits are referred to as the Anastasia Formation in St. Lucie County and can be found as fairly pure sand in some areas of the County. The most productive parts of the shallow aquifer in St. Lucie County are in the Anastasia Formation. More permeable coarse sand and shell occur at depths of between 40 and 100 feet below ground surface (ft-bgs) in western St. Lucie County (Bearden, 1972).
- Miocene Deposits (The Hawthorn Formation) – Miocene sediments (where present) represent the Hawthorn Formation, the upper confining layer for the Floridan aquifer in peninsular Florida. In general, the Hawthorn Formation consists of siliciclastic and carbonaceous sandy clays or marls, and clayey sands interbedded with thin discontinuous layers of phosphatic sands, limestones, and dolomites. The limestone and dolomite layers are thicker and more prevalent near the base of the Hawthorn Formation (Leve, 1966). The Hawthorn Formation is commonly identified by the presence or absence of phosphate, which is differentially distributed throughout the sediments. The St. Lucie County area typically has one of the thickest occurrences of the Hawthorn Formation, reaching over 650 ft (Scott, 1988). The Hawthorn Formation is considered a regional confining unit, providing a barrier to direct recharge of the Floridan aquifer and retarding the upward movement of water to the surficial aquifer.
- Miocene, Oligocene, and Eocene Deposits (the Floridan aquifer) – The Floridan aquifer in St. Lucie County is comprised of Miocene (Tampa Limestone), Oligocene (Suwannee Limestone), upper Eocene (Ocala Limestone), and middle Eocene (Avon Park and Lake City Limestone) sediments (Bearden, 1972). The Suwannee Limestone consists of a white to cream, poorly to well indurated, fossiliferous, vuggy to moldic limestone (grainstone and packstone). The dolomitized parts of the Suwannee Limestone are gray, tan, light brown to moderate brown, moderately to well indurated, finely to coarsely crystalline dolostone with limited occurrences of fossiliferous (molds and casts) beds. Silicified limestone is common in Suwannee Limestone (SFLWWW.usgs.gov). The Ocala Limestone is generally characterized as a tan to buff, soft, granular to massive, porous crystalline marine limestone (lower portion) to a white to cream weathered chalky massive marine limestone in borings (upper portion) (Randazzo and Jones, 1997). The Avon Park Limestone is generally white to brown, interbedded lignitic, chalky to granular limestone and gray to tan, massive to finely crystalline dolomite (Brown, 1962). The aquifer lies approximately 700 ft-bgs in St. Lucie County.

2.3.1.2 Detailed Lithologic Description

The St. Lucie Plant is located on Hutchinson Island on the east coast of peninsular Florida southeast of Fort Pierce. Subsurface investigations were conducted during 1966 and 1967 in conjunction with the Final Safety Analysis Report (FSAR) (FPL, 2007b) studies for St. Lucie Unit 1. The activities performed at that time included literature studies, surface mapping, aerial photographic studies, geophysical studies, and 78 borings. Further investigations were performed in 1973 and 1974 including aerial photo studies, additional literature review, seven borings, and 50 miles of continuous seismic reflection survey. All of the geologic and seismologic data obtained are presented in the FSAR.

The original surficial deposits at the St. Lucie Plant were excavated to a depth of 60 ft and backfilled with Category I or II fill. The fill is underlain by the Anastasia formation, a sequence of partially cemented sand and sandy limestone, which extend to an average elevation of about 145 ft. The Anastasia is underlain to an elevation of about 600 to 700 ft by the partially cemented and indurated sands, clays, and sandy limestones of The Hawthorn Formation. Underlying these surface strata are about 13,000 ft of Jurassic through Tertiary Formations, primarily carbonate rocks. These formations have a relatively gentle slope to the southeast.

2.3.1.3 Bearing Strength

The St. Lucie property grade was established at an elevation of 18 ft above msl. Foundations for all Seismic Category I and all non-seismic buildings within the St. Lucie Plant were founded on selected engineered fill. Class I fill to be used to support Seismic category I structures was composed of clean sand and gravel with a maximum of 12 percent fines and compacted at proper moisture content to 98-percent Modified Proctor density. Class II fill to be used for non-seismic structures was silty sand and gravel or clayey sand and gravel with a maximum of 40-percent fines, compacted at proper moisture content to 95-percent Modified Proctor density. All compaction operations were closely monitored with field tests in accordance with the NRC-approved Quality Assurance Manual established for the construction. Bearing capacities were determined for the Class I structures utilizing the Terzaghi and Peck Bearing Capacity Equations. The ultimate bearing capacity for the containment structure was calculated to be 466,900 pounds per square foot.

2.3.2 Subsurface Hydrology

2.3.2.1 Subsurface Hydrologic Data for the Aquifers

The principal water-bearing units in St. Lucie County consist of the surficial and Floridan aquifer systems. The two aquifers are separated by an intermediate confining unit with lower permeability sediments.

The surficial aquifer system is made up of the Pleistocene and Miocene deposits overlying the Hawthorn Formation. The surficial aquifer usually consists of discontinuous shell beds (marls), clay, quartz sand, silt, coquina, calcareous sandstone, and sandy-shelly limestone (Reese, 2004). These deposits crop out in the shallow ditches and streams around Lake Okeechobee. These materials vary in thickness, composition, and yield, but constitute most of the potable water supply in St. Lucie County (Reese, 2004). Average yields are typically 40 gallons per minute (gpm).

The intermediate confining unit extends from the base of the surficial aquifer to the top of the Floridan aquifer system. The lithology of the confining unit is variable and includes fine-grained sediments, such as clay, marl, micritic limestone, and silt. The upper contact for the confining units ranges from less than 80 ft below National Geodetic Vertical Datum of 1929 (NGVD) to greater than 200 ft below NGVD and is estimated to be 120 to 130 ft below msl at the St. Lucie Plant.

Municipalities and agriculture are the largest users of the Floridan aquifer water in St. Lucie County (Reese, 2004). The Floridan aquifer in St. Lucie County is comprised of Miocene (Tampa Limestone), Oligocene (Suwannee Limestone), upper Eocene (Ocala Limestone), and middle Eocene (Avon Park and Lake City Limestone) sediments. The top of the Floridan aquifer in the area of the St. Lucie Plant is approximately 850 ft below msl. The depth to the top of the Floridan aquifer increases to the southeast, where it reaches approximately 925 ft below msl in Martin County (Lane et al., 1972). In general, regional groundwater flow in the upper Floridan aquifer in St. Lucie County is from west to east-northeast. Water quality is usually better in the shallow water table aquifers than in the deeper Floridan aquifer.

In east-central Florida, the Upper Floridan Aquifer (UFA) and the Lower Floridan Aquifer (LFA) are separated by the middle semi-confining unit (MSCU) of the Avon Park Formation. In St. Lucie County, according to Sepulveda (2002), the base of the UFA or the top of the MSCU is at an elevation of 1,100 ft below msl; the base of the MSCU or the top of the LFA is at an elevation

1,550 ft below msl. The LFA hydrogeologic unit includes the lower strata of the Avon Park Formation, the Oldsmar Formation, and the upper strata of the Cedar Keys Formation. The base of the LFA is between 3,300 and 3,500 ft below msl. Based on the calibrated model developed by Sepulveda (2002), the transmissivity of the UFA, in the area of the St. Lucie Plant, should be between 50,000 and 100,000 square feet per day (ft^2/day); and the transmissivity of the LFA is between 300,000 to 500,000 ft^2/day . The potentiometric surface elevation in both aquifers is approximately 45 ft below msl. The upward vertical leakage between the LFA and the UFA is less than 1 inch per year.

The Floridan aquifer contains highly mineralized water in this area that is unsuitable for drinking water without treatment. Water quality decreases with depth and down the regional dip to the south and southeast.

In the area of the St. Lucie Plant, chloride concentrations in the UFA are estimated to be between 800 milligrams per liter (mg/L) and 1,000 mg/L [total dissolved solids (TDS) concentrations between 1,500 and 2,000 mg/L]. Water in the LFA has significantly higher TDS. Based on information from Sepulveda (2002), the chloride concentrations in the LFA are greater than 5,000 mg/L; and the corresponding TDS concentrations are greater than 10,000 mg/L.

Other sources of groundwater in addition to the Floridan aquifer include secondary artesian aquifers within the confining beds of the Hawthorn Formation and the surficial aquifer within the Pleistocene and Miocene deposits overlying the Hawthorn Formation.

2.3.2.2 Karst Hydrogeology

Karst terrains develop in areas underlain by carbonate rocks such as limestone. They often have drainage systems that are reflected on the surface as sinkholes, springs, disappearing streams, or even caves (<http://www.dep.state.fl.us/geology/geologictopics/sinkhole.htm>).

According to Map Series No. 110, Sinkhole Type, Development, and Distribution in Florida (William C. Sinclair and J.W. Stewart, USGS; 1985), the St. Lucie Plant is located in Area II, where the cover is reported to be 30- to 200-ft thick. In these areas, sinkholes are reported to be few, shallow, of small diameter, and to develop gradually. Furthermore, there were no indicators of karst geology, such as voids or loss of circulation, encountered in the borings drilled at the St. Lucie Plant. Therefore, karst geology is not anticipated to be an issue with the Project.

2.3.3 Site Water Budget and Area Users

2.3.3.1 Water Budget

Climate and Meteorology

The St. Lucie Plant is located in central peninsular Florida, which has a climate characterized as mild subtropical. Temperatures in the vicinity, measured in Fort Pierce range from an average low of about 52.1 degrees Fahrenheit (°F) in January, to an average high of about 89.5°F in August, with an annual average of about 73.8°F.

Mean total annual rainfall at Fort Pierce is about 53.88 inches. As shown in Table 2.3.3-1, the mean monthly rainfall ranges from 2.18 inches in December to 8.21 inches in September. Generally, the period of the year with the heaviest rainfall in southeast Florida is from June to October.

Mean total yearly pan evaporation at Station Fort Pierce East, as shown in Table 2.3.3-1, is 97.6 inches. Mean monthly totals range from 5.2 to 10.3 inches. Keller et al. (1998) has estimated that evapotranspiration (ET) in Central Florida is approximately 60 percent of measured pan evaporation. Estimated monthly ET using that relationship is also shown in Table 2.3.3-1.

Groundwater Resources

The two major aquifers in St. Lucie County are recharged by separate sources. The surficial aquifer, from the ground surface to approximately 130 ft below msl, is supplied by rainfall, canals, lakes, reservoirs, irrigation water, and probably some upward leakage from the Floridan aquifer (Reese, 2004). Recharge to the Floridan (artesian) aquifer system, 700 to greater than 1,600 ft below msl, occurs to the west and north of St. Lucie County in central Florida (Reese, 2004). However, recharge to the UFA due to lateral inflow from adjacent areas (around Okeechobee County) probably is small because UFA gradients are relatively flat and transmissivities of the UFA are relatively low (Bradner, 1994). Model simulations indicate that recharge rates are low, ranging from 0.2 to 1.0 inch per year (Reese, 2004). The top of the Lower Floridan aquifer is found at approximately 1,400 ft below msl at the St. Lucie Plant. Water levels in this aquifer are typically 3 to 4 ft higher than water levels in the UFA, and this aquifer has much higher salinity (Reese, 2004).

Groundwater/Surface Water Interactions

There is a hydrologic interaction between the surficial aquifer system and the Atlantic Ocean to the east, and the Indian River Lagoon to the west. The surficial aquifer tends to float above the saline

water beneath. Depth to saline water depends primarily on recent rainfall and evaporation rates. There are no significant users of the surficial aquifer on Hutchinson Island. The Floridan aquifer is confined by more than 500 ft of low-permeability sediments. Therefore, there is very little interaction between the Floridan and surficial aquifers. The upward recharge of the surficial aquifer from the Floridan aquifer is likely less than 1 inch per year.

2.3.3.2 Area Users

Surface water and groundwater use in the vicinity of the St. Lucie Plant is regulated by SFWMD. Information gathered from SFWMD was used to prepare the following summary of water uses near the St. Lucie Plant.

Table 2.3.3-2 presents the SFWMD-permitted surface and groundwater uses within 5 miles of the St. Lucie Plant, most of which are for agricultural irrigation and industrial purposes. Sources of water used for these purposes include the C-23 Canal, the surficial aquifer, and the Floridan aquifer. The permit data were obtained from the SFWMD website. Water use permits located within five miles of the St. Lucie Plant are shown in Figure 2.3.3-1.

As mentioned previously, the St. Lucie Plant is located within the SFWMD's Upper East Coast planning area. The main uses of water in this planning area are for agricultural purposes (approximately 213 MGD in 2000). Additional uses include public water supply (36.5 MGD), domestic self supply (17.0 MGD), commercial and industrial self supply (3.3 MGD), recreational self supply (12.8 MGD), and thermoelectric power generation self supply (9.8 MGD) (SFWMD Upper East Coast Water Supply Plan, 2004).

2.3.4 Surficial Hydrology

Surface water drainage in St. Lucie County is primarily influenced by precipitation, temperature, soil composition, topography, land use, and drainage structures. In Florida, where the ground surface tends to be relatively flat, surface water is typically absorbed by the soils and much of the water recharges the surficial aquifer. In areas where soil has poor absorptive tendencies, water remains on the surface until it evaporates or flows off. A fair amount of surface water is transpired by vegetation or evaporated, reducing the total amount of water available for runoff or groundwater recharge. Because of the low relief over much of the area, drainage divides are often difficult to define.

The St. Lucie Plant is located on Hutchinson Island, between the Indian River Lagoon on the west and the Atlantic Ocean on the east. The marine environment in the vicinity of the St. Lucie Plant is comprised of three distinctly different water masses: the Indian River Lagoon, the continental shelf waters, and the Florida Current.

2.3.4.1 Indian River Lagoon

The Indian River Lagoon is a linear lagoonal system that comprises more than a third of Florida's east coast. The system extends approximately 156 miles from Ponce de Leon Inlet near New Smyrna Beach to Jupiter Inlet in Palm Beach County. The portion of the lagoon in the St. Lucie Plant vicinity is known as the Indian River, in particular, the South Indian River, which extends from north of Fort Pierce Inlet to Jupiter Inlet. Tidal action and flushing between the Fort Pierce and St. Lucie Inlets is most pronounced within three to five miles of either inlet.

The Indian River water mass is a uniformly shallow lagoonal estuary bounded on the west by the Florida mainland and on the east by Atlantic barrier islands. To the west of Hutchinson Island in the St. Lucie Plant vicinity, the Indian River is a shallow body of oceanic water (3 to 6 ft deep) approximately 1.33 miles wide through which the Intracoastal Waterway was dredged, running north-south to a depth of 10 ft. Big Mud Creek was a shallow arm of Indian River (less than 3 ft deep) which extends nearly across Hutchinson Island immediately north of the St. Lucie Plant. It was dredged to a depth of approximately 55 ft during plant construction for barge access and fill material.

Tidal exchange in the Indian River is minimal due to small diurnal range (1 ft) and the constricted entrances to the Indian River as well as its shallow nature. The St. Lucie Plant and Big Mud Creek are midway between Fort Pierce Inlet and St. Lucie Inlet and, therefore, in the region of least tidal exchange. No major streams enter the Indian River in the area and fresh water runoff is primarily associated with seasonal heavy rainfall. The salinity of the Indian River varies greatly over short periods of time. Salinity at Fort Pierce Inlet has been reported to range between 15 and 35 parts per thousand (ppt), while at St. Lucie Inlet the range was from <1 to 35 ppt (Briel, 1974). Generally, during summer months, warmer waters are found at the surface and temperatures increase with distance from the moderating influence of the inlets. The reverse situation exists during the winter months. Temperatures in the southern portion of the Indian River have been reported to range between 57.2 and 87.8°F (Briel, 1974).

2.3.4.2 Atlantic Ocean

The continental shelf water mass includes an inner shelf between the beach and the 120-ft isobath approximately 12 miles east of the St. Lucie Plant, and an outer shelf from the 120-ft contour to the 600-ft isobath approximately 8 miles further offshore. Continental shelf waters adjacent to Hutchinson Island originate north of Cape Canaveral, especially during the winter. Additional contributions are derived locally from the Indian River and the Florida Current systems. The northern water mass flows southward as a wind-driven coastal counter-current.

Worth and Hollinger reported salinities of 33 to 38 ppt for inner shelf Hutchinson Island waters less than 33 ft deep. Highest salinities occur in the summer, when southeasterly winds tend to minimize the inflow from the north. The reverse occurs during winter. The water temperature range is greatest near shore and diminishes with increasing depth to the shelf break (about 20 miles off-shore). Anderson, *et al.* (1960), reported that the shelf waters off Hutchinson Island ranged from a winter low of 68.0°F to a summer high of 84.2°F.

The Florida Current is a major component of the Gulf Stream. It flows northward at a velocity of 4 to 6 fps in a narrow channel between the continental U.S. on the west and the Bahamian-Caribbean Archipelago on the east. The western wall of the Florida Current is usually near the 600-ft isobath some 20 miles seaward of the St. Lucie Plant. Water temperatures in the western portion of the Florida Current ranged from a winter low of 78.8°F to a summer high of 86.0°F, while salinities ranged between 36.0 and 36.1 ppt (Wennekens, 1959).

Intake water temperatures measured hourly at the plant for the period from August 2005 through September 2007 are presented in Figure 2.3.4-1. These temperatures ranged between a low of 59.8°F and a high of 88.4°F.

2.3.4.3 Existing St Lucie Plant Effects

The effects of the existing St. Lucie Plant on surface waters occur exclusively within the inner continental shelf water mass. These effects are a result of the St. Lucie Plant's Heat Dissipation System including the CWS, which provides once-through non-contact condenser cooling water, and the AECWS, which provides once-through non-contact cooling water for auxiliary equipment (Figure 2.3.4-2).

Each plant intake structure consists of four bays, each containing one coarse screen, one traveling screen, and one CWS pump. Each of these structures also contains three AECWS (ICWS) pumps, two of which are normally operated and one is a spare. Water is pumped from these intake structures through the unit's condensers and auxiliary equipment heat exchangers to the discharge canal.

The design flow rates for each unit are calculated as follows:

	Unit 1 (gpm)	Unit 2 (gpm)
Flow rate for each CWS pump	121,000	122,650
Flow rate for each AECWS (ICWS) pump	14,500	14,500
Flow rate for 4 CWS pumps	484,000	490,600
Flow rate for 2 AECWS (ICWS) Pumps	29,000	29,000
Total flow rate	513,000	519,600
Total 2-unit flow rate = 1,032,600 gpm = 1,487 MGD = 2,301 cubic feet per second (cfs).		

The discharge canal ends in two headwall structures, each of which connects to a discharge pipeline. Each discharge pipeline connects to a submerged diffuser.

The northernmost discharge pipeline is a 12-ft-diameter pipeline that extends offshore to an ocean discharge structure consisting of a short transition section and a Y-type 45-degree two-port diffuser discharging horizontally (see Figures 2.3.4-3 and 2.3.4-4). Each port has a diameter of 7.5 ft. Although the ocean depth at the discharge structure location was originally about 18 ft below mean low water, the area has been excavated to a depth of 40 ft below mean low water so that the centerline of the discharge port is at an elevation of 34 ft below mean low water. At the design discharge flow rate, the exit velocity from each port is about 13 fps, resulting in a predicted mixing zone (defined by 17°F above ambient isotherm) extending approximately 63 ft horizontally from each port, and approximately 0.8 ft vertically (see Figures 2.3.4-5 and 2.3.4-6). Details of the mathematical thermal discharge modeling performed to estimate the size of the existing thermal plume are presented in Appendix 10.6.

The second (southernmost) discharge line extends offshore approximately 1,959 ft to the first of 58 ports (see Figure 2.3.4-7). The multiport section is approximately 1,368 ft long, so that the furthest port is approximately 3,327 ft offshore. Each port is mounted in a 14-ft-high vertical riser

with a 4-ft-inside diameter (see Figure 2.3.4-8). The ports have a 17 ¾-inch (1.48 ft) inside diameter and are oriented in an offshore direction at a horizontal angle alternating 25 degrees left and right from the long axis of the diffuser. Therefore, ports discharging water to the same side of the diffuser are 48 ft apart and direct the flow of the jet away from the shore. Jet velocity exiting each port is about 11.5 fps, resulting in a mixing zone (defined by the 17°F above ambient isotherm) extending about 12.4 ft horizontally from each port and essentially horizontal (see Figures 2.3.4-9 and 2.3.4-10). Details of the mathematical thermal discharge modeling performed to estimate the size of the existing thermal plume are presented in Appendix 10.6.

Hourly discharge temperatures at the plant for the period from August 2005 through September 2007 are presented in Figure 2.3.4-1. These temperatures ranged between a low of 75.0°F and a high of 111.1°F.

2.3.5 Vegetation/Land Use

The Florida Land Use, Cover and Forms Classification System (FLUCFCS) Level III codes were utilized to describe the existing vegetative communities and land use at the St. Lucie Plant and the surrounding environment (FDOT, 1999). Figure 2.3.5-1 illustrates vegetative communities and land use at the St. Lucie Plant and vicinity.

Existing land use and land cover within the Project boundary includes electric power facilities (FLUCFCS 831), roads (FLUCFCS 814), canals (FLUCFCS 510), evaporation/percolation ponds (FLUCFCS 160), and emergent aquatic vegetation (FLUCFCS 644) associated with ponds.

The land use and vegetative communities adjacent to the St. Lucie Plant include mangrove swamp (FLUCFCS 612), coastal scrub (FLUCFCS 322), tropical hardwoods (FLUCFCS 426), upland hardwood forests (FLUCFCS 420), Brazilian pepper (FLUCFCS 422), cabbage palm (FLUCFCS 428), embayments (not opening directly into the Atlantic Ocean) (FLUCFCS 542), saltwater marshes (FLUCFCS 642), wet prairies (FLUCFCS 643), swimming beaches (FLUCFCS 181), Indian River Lagoon (541), and the Atlantic Ocean (FLUCFCS 571).

Each of these communities is discussed in detail in Subsection 2.3.6.1.

2.3.6 Ecology

The St. Lucie Plant was built at the widest section of Hutchinson Island in an area previously degraded by mosquito control projects (Ecological Associates, Inc., 2001). East of State Road A1A, a relatively broad sandy beach is backed by a ridge of dunes (see Figure 2.3.5-1) that reach a maximum elevation of about 15 ft above msl. Between the dunes and State Road A1A, the principal feature is a series of mangrove-dominated mosquito impoundments interspersed with islands of natural coastal strand vegetation. St. Lucie Units 1 and 2 are located on the west side of State Road A1A in a relatively flat area of the island. West of the St. Lucie Units 1 and 2, the land gradually slopes downward to a mangrove fringe bordering the intertidal shoreline of the Indian River Lagoon (FPL, 2001).

2.3.6.1 Species-Environmental Relationships

The following subsections include descriptions of flora and fauna at the St. Lucie Plant and vicinity. There are no designated critical terrestrial habitats for endangered species in the vicinity of the Certified Site.

Vegetative Communities/Land Use – Site

831 – Electric Power Facilities

The St. Lucie Plant is comprised of the existing electric power facility and associated infrastructure. There are no designated critical terrestrial or aquatic habitats within the Certified Site.

510 – Canals

The intake and discharge canals for the St. Lucie Plant were described in Subsection 2.3.4.3. The banks of the canals are actively maintained.

160 – Evaporation / Percolation Ponds

There are four evaporation / percolation ponds within the St. Lucie Plant; the two ponds on the southern area of the Plant contain emergent aquatic vegetation communities (FLUCFCS 644).

Vegetative Communities Adjacent to the Site

Hutchinson Island is a typical Florida barrier island, separated from the mainland by the Indian River Lagoon and bordered by the Atlantic Ocean on the east. From the dunes westward, the Island is generally characterized by a mangrove community (FLUCFCF 612). The mangrove habitat has been

considerably altered from its former natural state. In the 1930s and 1940s, the mangrove swamp was impacted by trenching, diking, and flooding with seawater as part of a Work Project Administration mosquito control program. Many trees were killed by hydrologic alterations, particularly the black mangrove (*Avicennia nitida*). Since that time there has been partial restoration, particularly of red mangrove (*Rhizophora mangle*), which tends to grow in lower, wetter portions of mangrove forests. Some black and white mangrove (*Laguncularia racemosa*), coinvine (*Dalbergia ecastophyllum*), and giant leather fern (*Acrostichum danceifolium*) have since been established at higher elevations. Mangrove swamps suffered freeze damage in 1989, and revegetation has not occurred in all areas. Currently the mangrove areas are either inundated or intertidal and function as mud flat habitats for wildlife (FPL, 2001).

Other natural habitats typical of Hutchison Island include swimming beaches (FLUCFCS 181), coastal scrub (FLUFCS 322) and tropical hardwood hammock (FLUCFCS 426), each discussed further below. Other communities include upland hardwood forests (FLUCFCS 420), upland forest lands with a crown canopy of mostly hardwood tree species, such as live oak (*Quercus virginiana*), red maple (*Acer rubrum*), gumbo limbo (*Bursera simaruba*), and cocoplum (*Chrysobalanus icaco*). North of the St. Lucie Plant, a community that is predominantly composed of cabbage palm (*Sabal palmetto*) (FLUCFCS 428) and Brazilian pepper (*Schinus terebinthifolius*) (FLUCFCS 422) is found.

The majority of the St. Lucie Plant vicinity habitats are relatively unaltered compared to developed areas north and south of the plant. Most habitats are found within surrounding county parks operated by St. Lucie County (*i.e.*, Walton Rocks Park, Blind Creek Pass Park, Frederick Douglas Park, and John Brooks Beach Access).

Wetland communities adjacent to the St. Lucie Plant were classified during a field reconnaissance conducted in October 2007 and are discussed below (see Figure 2.3.5-1.)

181 – Swimming Beach

Swimming beaches are present east of the St. Lucie Plant. Several St. Lucie County public parks in the area provide access to the beaches. The beach and dune habitat consists of a narrow band along the Atlantic Ocean shoreline that is subject to significant wave erosion. The seaward side of the dunes currently has no vegetation. Vegetation on the inland side of the dunes includes sea oats (*Uniola paniculata*), sea grape (*Coccoloba uvifera*), marsh hay cordgrass (*Spartina patens*),

Australian pine (*Casuarina equisetifolia*), sea oxeye (*Borrchia frutescens*), east coast dune sunflower (*Helianthus debilis*), marsh elder (*Iva frutescens*), bay bean (*Canavalia rosea*), and railroad vine (*Ipomoea pescaprae*) (FPL, 2001).

322 – Coastal Scrub

Coastal scrub habitat composes a narrow band of vegetation west of the beach and dune habitats. Canopy species present include white mangrove (*Laguncularia racemosa*), Brazilian pepper (*Schinus terebinthifolius*), Australian pine (*Casuarina equisetifolia*), and sea grape (*Coccoloba uvifera*). Understory species include indigo (*Indigofera sp.*), shoreline seapurslane (*Sesuvium portulacastrum*), knotroof bristlegrass (*Setaria geniculata*), groundsel tree (*Baccharis halimifolia*), saltgrass (*Distichlis spicata*), nickerbean (*Caesalpinia bonduc*), softrush (*Juncus sp.*), frogfruit (*Phyllanthus nodiflora*), hurricanegrass (*Fimbristylis cymosa*), coinvine, railroad vine, east coast dune sunflower, marsh elder, and sea oats.

426 – Tropical Hardwoods

Tropical hardwood hammocks were observed adjacent to the coastal scrub habitats, west of beaches and dunes along the shorelines. Canopy species observed include cabbage palm, Brazilian pepper, sea grape, Australian pine, and cabbage palm. Understory species observed included saw palmetto (*Serenoa repens*), beach naupaka (*Scaevola sericea*), Spanish bayonet (*Yucca aloifolia*), balloon vine (*Cardiospermum halicacabum*), marshhay cordgrass, and railroad vine. Other species that have been reported in these habitats include gumbo-limbo (*Bursera simaruba*), paradise tree (*Simarouba glauca*), white and Spanish stoppers (*Eugenia axillaris* and *E. foetida*), wild lime (*Zanthoxylum fagara*), white indigo berry (*Randia aculeata*), mastic (*Mastichodendron foetidissimum*), and snow berry (*Chiocococca alba*). The occurrence of tropical hammocks this far north on the Atlantic coast and with a distinct assemblage of tropical species is unusual (FPL, 2001).

612/541/542 – Mangrove Swamp/Embayments

Mangrove swamps are the dominant habitat surrounding the St. Lucie Plant. Canopy species include red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), buttonwood (*Conocarpus erectus*), white mangrove, Brazilian pepper, Australian pine, and sea grape. Understory species include creeping ox-eye (*Wedelia trilobata*), lateflowering thoroughwort (*Eupatorium serotinum*), vasey grass (*Paspalum urvillei*), beach naupaka, marsh elder, sea oxeye, knotroof bristlegrass, and railroad vine. Mangrove swamps fringe embayments not opening into the Atlantic

Ocean (FLUCFCS 542) east of the Site, and Big Mud Creek, an embayment that flows directly into the Indian River Lagoon (FLUCFCS 541), located north of the Site.

642 – Saltwater Marshes

Saltwater marshes fringe the southern boundary of the St. Lucie Plant. Species observed include marshhay cordgrass, coinvine, and saltgrass. Other typical plant species include other cordgrasses (*Spartina spp.*), needlerush (*Juncus roemerianus*), salt jointgrass (*Paspalum vaginatum*), and sea oxeye.

643 – Wet Prairies

A wet prairie habitat is present southwest of the St. Lucie Plant, amid a mangrove swamp and saltwater marsh. Typical plant species include maidencane (*Panicum hemitomon*), fireflag (*Thalia geniculata*), spikerush (*Eleocharis spp.*), bulrush (*Scirpus spp.*), pickerelweed, arrowheads, cattail, and various sedges.

814 – Roads and Highways

State Road A1A crosses the intake and discharge canals at the eastern portion of the St. Lucie Plant.

Terrestrial Fauna – Site and Adjacent Areas

The Site does not provide suitable wildlife habitat. The beach, dunes, mangrove swamp, coastal scrub, and tropical hammock habitats in the surrounding area are important in that they represent quality coastal ecosystems that have historically been reduced by development, and they support a variety of animal species. FPL has reported 24 mammals on Hutchinson Island, of which the Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), and beach mouse (*Peromyscus polionotus*) were most common. Nearly 160 bird species were reported to use Hutchinson Island, at least during part of their life cycles. Abundant resident species were typified by water associated birds such as great egret (*Ardea alba*), American coot (*Fulica americana*), ring-billed gull (*Larus delawarensis*), and fish crow (*Corvus ossifragus*). Many migratory species pass through the area such as warblers [e.g., black and white warbler (*Mniotilta varia*)], spotted sandpiper (*Actitis macularia*), and Forster's tern (*Sterna forsteri*) (FPL, 2001).

During the field reconnaissance conducted in October 2007, several common bird species were also observed within the mangrove swamps and adjacent areas. These included red-bellied woodpecker (*Melanerpes carolinus*), osprey (*Pandion haliaetus*), white ibis (*Eudocimus albus*), great blue heron

(*Ardea herodias*), great egret, and American coot. Additionally, numerous crab burrows were observed within mucky soils of the mangrove swamps.

Aquatic Systems

The aquatic systems at the St. Lucie Plant and vicinity consist of the cooling water intake and discharge canals (FLUCFCS 510), the Atlantic Ocean (FLUCFCS 571), and the Indian River Lagoon (FLUCFCS 541) (see Figure 2.3.5-1).

Recent and ongoing aquatic assessments and historical documents contain useful information on the marine/estuarine communities in the vicinity of the St. Lucie Plant. This information has been supplemented with information from state and federal resource agency websites.

Cooling Water Intake and Discharge Canals (FLUCFCS 510)

The condenser cooling water system for the St. Lucie Plant is a once-through system with an intake and discharge in the Atlantic Ocean (see Figure 2.1.2-1).

Atlantic Ocean (FLUCFCS 571)

Water for cooling is withdrawn from the Atlantic Ocean; heated cooling water is discharged offshore into the Atlantic Ocean. Diving surveys conducted during and prior to the construction of the intake and discharge pipes indicated that the bottom sediment were coarse sand and shell fragments. The benthos was observed to be diverse, but the report indicated that it did not include a significant number of commercially valuable species [U.S. Atomic Energy Commission (USAEC), 1974]. Although submerged coquinoid rock formations parallel much of Hutchinson Island, the nearshore area potentially affected by plant operations is devoid of reef structures, grass beds, and rock outcroppings (Gallagher and Hollinger, 1977). The estuarine and oceanic environments surrounding Hutchinson Island are in an ecological transition zone, or ecotone, that exhibits characteristics of both sub-tropical and tropical conditions (Ecological Associates, Inc., 2001).

Operational monitoring for Unit 1 and pre-operational monitoring programs for Unit 2 were conducted in the late 1970s and early 1980s to assess potential aquatic impacts associated with the operation of the St. Lucie Plant, and were required by the Plant's NRC Environmental Protection Plan and the EPA NPDES permit. The objective of the studies was to assess the effects of plant construction and operation on the major biotic communities in the nearshore marine environment. These studies included phytoplankton, zooplankton, aquatic macrophytes, periphyton,

macroinvertebrates (shellfish), fish, and sea turtles. Monitoring commenced in 1976 coincident with Unit 1 startup; monitoring was no longer required after 1983, as it was demonstrated that Unit 1 operations were not having a substantial, persistent, or widespread effect on aquatic resources (ABI, 1984). The following sections summarize these data.

In summary, the 8-year study (ABI, 1984) concluded that fish and shellfish were not accumulating in the intake canal and very few sport or commercial fish were entrapped. This biological study also concluded that the St. Lucie Plant was not affecting ichthyoplankton numbers in the vicinity of the Plant, and the number entrained into the intake canal was a very small portion of the population occurring in the offshore environment. Very small numbers of shellfish were collected during this 8 year study and no spatial pattern was discerned. Thus it was concluded that the nearshore area in the vicinity of the St. Lucie Plant did not appear to provide suitable or preferred habitat for these shellfish species. Although catch records by year and station showed considerable year-to-year variation in the number of fish inhabiting the near-shore waters adjacent to the St. Lucie Plant, an overall analysis of the data showed no significant variations that could be attributable to the plant (Ecological Associates Inc., 2001).

Phytoplankton – Phytoplankton collected in previous studies near the St. Lucie Plant was observed in variable densities but were similar from location to location. The community was dominated by diatoms, the most common of which were the genera *Nitzschia*, *Bellerochea*, and *Chaetoceros*, and the species *Thalassionema nitzschioides* and *Skeletonema costatum*. The composition of the phytoplankton communities was typical of those described for other near-shore areas along the eastern seaboard of the United States.

Zooplankton – The zooplankton community in the vicinity of the St. Lucie Plant was characterized primarily by neritic holoplanktonic species (species that spend their entire life cycle in the water column). Copepods dominated the collections with the genera *Arcatia*, *Paracalamis*, *Oithona*, *Temora*, *Undinula*, *Corycaeus*, *Euterpina*, and *Labidocera* being common. Zooplankton density appeared to be broadly correlated with phytoplankton density.

Macroinvertebrates – Three sub-tidal micro-habitants have been identified off-shore of the St. Lucie Plant: shallow beach terrace, offshore shoal, and a deeper trough in between the two. Sediment composition differed among these zones. The biological composition of macroinvertebrate

communities is largely influenced by sediment composition. Because of the sediment heterogeneity, the trough supports the most abundant fauna. It was characterized by high diversity and relatively rapid turnover of less abundant and more transient species. In the intertidal zone, the worm reef community provided a distinct habitat for macroinvertebrates.

The intertidal coquina-rock formation that protrudes through the sand at Walton Rocks, just south of the Plant, provides attachment sites for encrusting, tube-building polychaete worms, which form extensive colonies. The “worm rock” communities support a rich and diverse association of invertebrates, algae, and fishes.

Baseline studies identified 127 species of arthropods and nearly 300 species of mollusks in the aquatic environment near the Plant. The diverse makeup of these groups, and to some extent their seasonal variability, was attributed to the transitional temperate, sub-tropical, and tropical mix of climate and water masses in the general vicinity of Hutchinson Island. Some estuarine affinities were also noted and attributed to water mass intrusions from the Indian River Lagoon by way of St. Lucie Inlet and prevailing northerly coastal currents. Among species of direct commercial value, the calico scallop was the only mollusk recorded. Arthropods of potential commercial value included penaeid shrimp and the blue crab. However, these species were generally collected in small numbers and infrequently.

Fisheries – Oceanic ichthyoplankton (fish eggs, larvae and juveniles) are most diverse and abundant near reefs and other hard-bottom areas; the areas adjacent to the St. Lucie Plant do not provide suitable habitat and low ichthyoplankton densities were observed. The most common ichthyoplankton were herrings and anchovies.

The fish communities offshore are traditional assemblages of temperate and tropical forms. Multi-year fisheries assessments were carried out in association with startup and operations of St. Lucie Units 1 and 2. Bottom trawls were used for several years, but produced few fish in their catch, demonstrating low densities of bottom dwelling fish communities near the Plant. Beach seine catches consisted primarily of Cuban and longnose anchovies (*Anchoa cubana* and *Anchoa nasuta*). Notable species in the offshore catches were: Atlantic bumper (*Chloroscombrus chrysurus*), Spanish mackerel (*Scomberomorus maculatus*), Atlantic croaker (*Micropogonias undulatus*), spot

(*Leiostomus xanthurus*), and bluefish (*Pomatomus saltatrix*). Catches were higher in fall and winter than spring and summer. Temporal and spatial distributions of the species were highly variable.

St. Lucie County is the northernmost county on Florida's east coast that has an extensive winter sport fishery. Ladyfish (*Elops saurus*), snook, and various billfish species were common in recreational catches. Pre-operational studies revealed that the three most important commercially valuable fish in local ocean fisheries (bluefish, Spanish mackerel, and king mackerel) occur farther offshore than where the intake and discharge lines now terminate (*i.e.*, trough habitat). These species are only seasonally abundant during migrations in spring and fall (FPL, 2001).

Over the past 21 months (January 2006 through September 2007) Golder has been conducting a bi-weekly biological sampling (fish and shellfish) of the Atlantic Ocean in the vicinity of the plant. These studies show that Atlantic Ocean trawl collections in the vicinity of the intakes were dominated by anchovies (comprised primarily of *Anchoa hepsetus* and *A. lamproteania*) representing 90 percent of the catch, and Spanish sardines (*Sardinella aurita*) at 4 percent of the catch.

Indian River Lagoon (FLUCFCS 541)

Hutchinson Island is separated from the mainland by the Indian River Lagoon, a long shallow, tidally-influenced estuary. Its geographic location along the transition zones between warm-temperate, sub-tropical, and tropical climate combined with its large size and diverse physical characteristics make it an estuary of high biological productivity. The Indian River Lagoon is characterized as having one of the most diverse assemblages of plants and animals of any estuarine system in the United States. Mangrove shorelines, expansive beds of seagrasses, and attached and drift algae provide nursery area habitat for a variety of fish and shellfish, many of which are important components of local sport and commercial fisheries. Nearly 400 species of fish have been recorded from the lagoon system (Gilmore, 1995), as well as 260 species of mollusks and 479 species of shrimp and crabs. Because of its biological significance, the Indian River Lagoon has been designated as an Aquatic Preserve by the State of Florida and as an "estuary of significance" by the U.S. Environmental Protection Agency (EPA). It is now part of the NEP. Marine mammals such as manatees (*Trichechus manatus*) and reptiles also rely on the lagoon habitat.

Fisheries – The Harbor Branch Oceanographic Institution (Harbor Branch) and the Smithsonian Marine Station are both located in Fort Pierce and have completed extensive research in the Indian

River Lagoon. The Smithsonian Marine Station specializes in studying the marine biodiversity and ecosystems of Florida, with a focus on the Indian River Lagoon and offshore environments. From 1971 to 1981, Harbor Branch (co-funded by FPL) conducted over 2,000 collections in the Indian River Lagoon, its freshwater tributaries, and nearshore reefs in an effort to qualitatively assess the estuarine faunal diversity. The results of these collections were summarized in *Fishes of the Indian River Lagoon and Adjacent Waters* (Gilmore, *et al.*, 1981). These studies were primarily carried out to develop a list of fishes in Indian River Lagoon habitats, and this study provided regional descriptions and checklists of fishes in this region.

Several institutions and agencies are currently conducting, or have conducted, ecological studies in the vicinity of the St. Lucie Plant. The FFWCC's Fisheries Independent Monitoring Program (FIMP) has sampled numerous sites along the lagoon shoreline in the vicinity of the St. Lucie Plant. The FIMP was initiated in 1985 to monitor the relative abundance of fishery resources in Florida's major estuarine, coastal, and reef systems. Large fish are the target of this study and generally only fish that are 100 millimeters (mm) or greater standard length are captured. The most dominant species in the southern Indian River Lagoon collections are pinfish (*Lagodon rhomboides*), Irish pompano (*Diapterus auratus*), white mullet (*Mugil curema*), and Atlantic threadfin herring (*Opisthonema oglinum*) (Golder, 2005).

Recent surveys conducted in the Indian River Lagoon and Big Mud Creek in the vicinity of the plant showed that the collections were dominated by pinfish (*L. rhomboides*), representing over 60 percent of the catch. The next most abundant groups were mojarras (*Gerridae*) and grunts (*Haemulidae*)

Macroinvertebrates – Recent shellfish collections in the Indian River Lagoon were dominated by commercial shrimp (*Penaeidae*) and blue crabs (*Callinectes sapidus* and *congeners*), representing 77 and 22 percent, respectively, of the trawl catch.

Plant Communities – The Indian River Lagoon in the vicinity of the plant has been designated the Jensen Beach to Jupiter Inlet Aquatic Preserve. This region supports seagrass beds, mangroves, drift algae, and salt marshes, which serve as important spawning or nursery grounds for commercially important species. The most prevalent seagrass species are Manatee grass (*Syringodium filiforme*), shoal grass (*Halodule wrightii*), and turtle grass (*Thalassia testudinum*).

2.3.6.2 Threatened and Endangered Species – Flora and Fauna

A list of threatened, endangered, or state species of special concern that have been observed in St. Lucie County, on or near the St. Lucie Plant, or could potentially occur in the vicinity of the Plant, is provided in Table 2.3.6-1. Many of the species listed in this table are very unlikely to occur on Hutchinson Island, such as the American alligator (*Alligator mississippiensis*), due to the high-salinity waters of the Atlantic Ocean or the Indian River Lagoon. The red-cockaded woodpecker (*Picoides borealis*) requires mature pine or pine-oak woods and would be very unlikely to occur in the beach-dune or mangrove habitats of Hutchinson Island. The most common occurrences of threatened or endangered species near the St. Lucie Plant are several species of sea turtles that nest on Hutchinson Island beaches.

According to FNAI (2007) the Hutchinson Island area supports potential habitat for several threatened and endangered plant species (Table 2.3.6-1). These include the fragrant prickly apple (*Harrisia fragrans*), large-flowered rosemary (*Conradina grandiflora*), and sand-dune spurge (*Chamaesyce cumulicola*). Johnson's seagrass (*Halophila johnsonii*) is a submerged seagrass with long, delicate stems embedded in coastal sediments. The preferred habitat is tidal deltas inside inlets, sandy shoals, and mouths of canals. Two protected plant species were recently reported by FPL (2001): inkberry (*Scaevola plumieri*) and common prickly pear (*Opuntia stricta*).

A number of the protected bird species listed in Table 2.3.6-1 have been observed on Hutchinson Island, including the least tern (*Sterna antillarum*), black skimmer (*Rynchops niger*), brown pelican (*Pelicanus occidentalis*), bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus*), wood stork (*Mycteria americana*), little blue heron (*Egretta caerulea*), snowy egret (*Egretta thula*), reddish egret (*Egretta rufescens*), and tricolored heron (*Egretta tricolor*) (NRC, 1982). The latter five species all nest in mangroves. The least tern, a state threatened species, and the black skimmer, a state species of special concern, nest on the canal berms and building rooftops within the St. Lucie Plant property. The American oystercatcher (*Haematopus palliatus*), a state species of special concern, also nests on the canal berms. The brown pelican, white ibis (*Eudocimus albus*), little blue heron, and the southeastern american kestrel (*Falco sparverius paulus*) were observed in recent surveys at St. Lucie Plant.

Previous surveys indicated gopher tortoises (*Gopherus polyphemus*), a state-listed threatened species, occupy active burrows on the St. Lucie Plant Property. Burrows are located in the area east of the

State Road A1A in the vicinity of the intake and discharge canals in areas of soft soils that are not subject to flooding. Though none have been sighted, eastern indigo snakes (*Drymarchon corias couperi*) have been observed on Hutchinson Island and commonly inhabit gopher tortoise burrows. Two state species of special concern, the gopher frog (*Rana capito*) and the Florida mouse (*Peromyscus floridanus*), are also known to use gopher burrows.

Five species of sea turtles have been reported on Hutchinson Island. The federally threatened loggerhead sea turtle (*Caretta caretta*) has historically been most common. The endangered green sea turtle (*Chelonia mydas mydas*) also nests on Hutchinson Island, but these nests are less abundant than those of the loggerhead. Juveniles of both species use the area near the St. Lucie plant as a developmental area. The endangered leatherback sea turtle (*Dermochelys coriacea*) infrequently nests on Hutchinson Island. Nest numbers have shown an upward trend in the last 20 years though they have varied widely. The endangered Kemp's ridley sea turtle (*Lepidochelys kempi*) and hawksbill sea turtle (*Eretmochelys imbricata*) do not nest on Hutchinson Island and have only infrequently been reported in the area.

FNAI identified potential habitat for three mammal species, the southeastern beach mouse (*Peromyscus polionotus niveiventris*), the Florida mouse (*Peromyscus floridanus*), and Sherman's squirrel (*Sciurus niger shermani*). The southeastern beach mouse habitats consist of primary, secondary, and occasionally tertiary sand dunes with a moderate cover of grasses and forbs, including bitter panicum (*Panicum amarum*), beach dropseed (*Sporobolus virginicus*), and sea oats. Adjacent coastal palmetto flats and scrub are important habitats for this mouse during and after hurricanes (FNAI, 2004). The Florida manatee (*Trichechus manatus*), an endangered marine mammal, has been observed in the vicinity of the St. Lucie Plant.

Sea Turtle Protection Program

The FPL St. Lucie Plant conducts sea turtle protection activities to comply with state and federal laws and permits (FPL, 2006). These activities include nesting surveys, intake canal monitoring and turtle relocation, participation in the Sea Turtle Stranding and Salvage Network (STSSN), and conducting public service turtle walks during the nesting season.

Sea turtles entrapped in the intake canal are removed using tangle nets (daytime only), dip nets, and diver-assisted hand capture. All sea turtles removed from the canal are identified, weighed, tagged,

photographed, and checked for condition. Healthy sea turtles are returned to the ocean the same day of capture. Sick or injured sea turtles may be held for observation or transported to an approved rehabilitation facility. The FFWCC is contacted and provides instructions to FPL.

Historically, loggerheads are the most abundant sea turtle species in the intake canal. Recent data show a trend of increase in capture for loggerheads and green sea turtles. This increase has been attributed to the natural variations on the occurrence of sea turtles in the vicinity of the St. Lucie Plant.

The NRC requested a formal re-initiation of a Section 7 consultation under the Endangered Species Act from the National Marine Fisheries Service (NMFS) on July 8, 2005, after a small-tooth sawfish (*Pristis pectinata*) was taken on May 16, 2005. Sea turtles were then added to the re-initiation after the St. Lucie Plant exceeded the NMFS incidental take limit of one percent of entrained green and loggerhead turtles.

2.3.6.3 Pre-Existing Stresses

Water withdrawn for cooling from the Atlantic Ocean through an intake canal and offshore intakes, causes the impingement and entrainment of aquatic organisms. Heated water discharged to the Atlantic Ocean through discharge pipes is also a pre-existing stress.

2.3.6.4 Measurement Programs

Terrestrial ecological resources were evaluated through a combination of literature review, previous site reconnaissance, and ongoing studies. Vegetative communities, wildlife utilization, and potential for threatened and endangered wildlife occurrence were addressed from the literature and a site visit conducted in October 2007.

Aquatic ecological resources were evaluated through a combination of literature review, ongoing field studies, and historical studies. Wetland communities were classified during a field reconnaissance in October 2007. The most comprehensive sources of information on the aquatic resources of the St. Lucie Plant are:

- Survey of Aquatic Environments Potentially Affected by the Operation of the St. Lucie Power Plant, Hutchinson Island, Florida (Ecological Associates, Inc., 2001);

- Final Environmental Statement related to the operation of St. Lucie Plant, Unit No. 2, (NRC, 1983); and
- Final Environmental Statement related to the St. Lucie Plant Unit No. 1 [U.S. Atomic Energy Commission (USAEC), 1973].

2.3.7 Meteorological and Ambient Air Quality

2.3.7.1 Meteorology

Meteorological data collected at existing monitoring stations were used to describe the local and regional climatology in the vicinity of the St. Lucie Plant. The closest existing meteorological station to this St. Lucie Plant with complete data is the National Weather Service (NWS) station located at the Palm Beach International Airport, situated approximately 75 kilometers (km) (45 miles) south-southeast of the St. Lucie Plant. The NWS has recorded weather observations for more than 50 years at this station. These data are the most complete for and representative of the region surrounding the St. Lucie Plant. FDEP has recommended the use of these meteorological data to characterize weather conditions for this area.

The climate in the vicinity of the St. Lucie Plant is subtropical with a marine influence from the Atlantic Ocean. The monthly and annual average temperatures for this area are presented in Table 2.3.7-1. The annual average temperature is approximately 75°F with monthly average temperatures varying from a maximum of 90°F to a minimum of 57°F. Record extreme temperatures range from a low of 27°F to a record high of 101°F. During the summertime, temperatures rarely exceed 100°F due to the high relative humidity with subsequent cloud cover formation and the abundant convective-type (e.g., thunderstorms) precipitation.

The monthly and annual average precipitation data are presented in Table 2.3.7-2. Approximately 64 percent of the annual precipitation falls during the six warmest months, May through October. The average annual precipitation is approximately 61 inches, but this has varied from as little as 39 inches to more than 86 inches in the past 30 years. The majority of rain is in the form of short-lived convection showers (e.g., thunderstorms). Large amounts of rain are also produced during the late summer or fall when tropical storms or hurricanes may pass near the St. Lucie Plant. These events may result in heavy downpours that reach torrential proportions; 24-hour amounts of from six to more than ten inches are not uncommon.

Monthly and annual average relative humidities, which indicate the amount of moisture in the air at a given temperature, are presented in Table 2.3.7-2 for the morning hours of 1:00 a.m. and 7:00 a.m. and early afternoon and evening hours of 1:00 p.m. and 7:00 p.m. The highest humidities are coincident with the coolest ambient temperatures, which generally occur at 7:00 a.m., or near dawn. The lowest humidities coincide with the highest ambient temperatures.

Annual and seasonal windroses for the 5-year period from 2001 through 2005 are given in Figures 2.3.7-1 and 2.3.7-2a through 2.3.7-2d, respectively. A summary of the seasonal and annual average wind speeds, including calm conditions, is presented in Table 2.3.7-3. As shown in these figures, the predominant winds during the year are from the east. The predominant easterly winds occur because the St. Lucie Plant lies entirely within the trade wind belt (i.e., below 30 degrees North latitude). Also, because of the location of the Atlantic Ocean, the easterly winds are reinforced due to the moderate to strong late afternoon sea breezes that occur on days with strong land heating and produce localized onshore winds.

A comparison of annual windroses was made between the wind data collected at the NWS station at Palm Beach International Airport and data collected at the 10-m level on the meteorological tower at the St. Lucie Plant. The annual windrose for the 1-year period from April 1, 2005 to March 31, 2006 from the St. Lucie meteorological tower is presented in Figure 2.3.7-3. The annual windrose from the meteorological tower shows the predominant winds from the east, similar to that for the NWS station (see Figure 2.3.7-1). However, the wind speeds recorded at the meteorological tower are higher than those from the NWS station. The location of the tower, closer to the Atlantic Ocean than the NWS station, is a factor in the difference in wind speeds. In addition, the land breeze that occurs at night is more pronounced by the percentage of westerly winds.

Except during the passage of tropical storms or hurricanes, high wind speeds generally do not occur. During the winter and spring, there are usually a few days when wind speeds are greater than 20 to 30 miles per hour (mph).

Atmospheric stability is a measure of the atmosphere's capability to disperse pollutants and potentially reduce ground-level concentrations. During the daytime with strong solar heating, the atmosphere can disperse pollutants very quickly for a relatively short period of time. This condition is considered as very unstable and generally occurs infrequently during the year. During the

nighttime under clear skies and light wind speeds, the atmosphere is considered stable with minimal potential to disperse pollutants. During the day or night when wind speeds are moderate to high, pollutants are dispersed at moderate rates (i.e., dispersion rates that are lesser than those during unstable conditions but greater than those during stable conditions). This condition is considered neutral and occurs frequently throughout the year.

The seasonal and annual average occurrences of atmospheric stability classes for this area for 2001 to 2005 are shown in Table 2.3.7-4. During the summer months, unstable conditions occur more than 30 percent of the time due to strong solar heating, whereas variable stability occurs less than 15 percent of the time in the winter months. Neutral stability occurs most frequently during the winter months due to the higher wind speeds that occur in this season. The occurrence of steady stability is nearly uniform throughout the year.

The mixing height is a parameter used to define the vertical height to which pollutants can disperse and, therefore, is used in estimating the volume of air in which pollutants are emitted and can be dispersed. In general, the higher the mixing height, the greater the potential for pollutants to be dispersed and for ground-level concentrations to be reduced.

The seasonal and annual average morning and afternoon mixing heights estimated for this area for 2001 to 2005 are listed in Table 2.3.7-5. The highest afternoon mixing heights occur in the spring and the lowest morning mixing heights occur in summer.

Thunderstorms are the most frequent of severe storms, occurring on an average of 79 days per year as reported by the NWS at Palm Beach International Airport. These storms occur throughout the year, but about 87 percent occur from May through October.

Hurricanes and tornadoes are other types of severe weather that can occur at the St. Lucie Plant, but the probability of a hurricane or tornado passing over the St. Lucie Plant is low.

In the 80-km (50-mile) coastal strip from West Palm Beach to Fort Pierce, there is about a 20-percent chance that a tropical storm will pass over the area during any given year (Gale Research Co., 1980). For storms of hurricane strength (i.e., wind speeds exceeding 73 mph), the chances decrease to about 15 percent with a 7-percent chance that the winds will be greater than 124 mph (i.e., wind speeds of a great hurricane).

Statistics compiled by the severe local storms branch of the national severe storms forecast center (Paulz, 1969) show that three tornadoes were spotted within the 1-degree-latitude by 1-degree-longitude square centered near the St. Lucie Plant from 1955 to 1967. This averages less than one tornado per year. The tornado recurrence interval for any specific point location within the 1 degree square was estimated by the methodology of Thom (1963). The recurrence interval, r , is equal to $1/p$ where p is the probability of a tornado striking within the 1 square area and is estimated as follows:

$$p = (2.8209 \times t)/a$$

where: t = mean annual frequency of tornadoes occurring, and

a = area of the 1° square (mi²).

In this analysis, t was assumed to be 1.3 based on data collected from 1953 to 1962 and was estimated to be 4,240 mi². Therefore, the mean recurrence interval for a tornado striking a point within this square is more than 1,000 years. The month during which tornadoes occur most frequently is June.

2.3.7.2 Ambient Air Quality

Ambient Standards

The National and Florida Ambient Air Quality Standards (AAQS) are presented in Table 2.3.7-6. Primary National AAQS were promulgated to protect the public health, and secondary National AAQS were promulgated to protect the public welfare from any known or anticipated adverse effects associated with the presence of pollutants in the ambient air. Areas of the country in compliance with AAQS are designated as attainment areas. Pollutants for which AAQS have been established are referred to as criteria pollutants. These pollutants include particulate matter with an aerodynamic particle size of 10 micrometers (µm) or less (PM₁₀), sulfur dioxide (SO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and lead (Pb).

St. Lucie County is classified as an attainment area for all criteria pollutants [Rule 62-204.340, Florida Administrative Code (F.A.C.)]. Adjacent counties, such as Indian River, Okeechobee, and Martin Counties, are also classified as attainment areas for all criteria pollutants.

On July 18, 1997, the EPA promulgated revisions to the National AAQS for O₃ and particulate matter (PM) (62 Federal Register No. 138). The O₃ standard was modified to be 0.08 parts per million (ppm) for an 8-hour average concentration. This standard is achieved when the three-year

average concentration of the 4th highest value is 0.08 ppm or less. The 1-hour average AAQS will no longer apply to an area one year after the effective date of the designation of that area for the 8-hour ozone AAQS. The effective date for most areas is June 15, 2004 [Federal Register, April 30, 2004 (69 FR 23996)].

The revised PM AAQS included two new PM_{2.5} standards (PM_{2.5} represents PM with an aerodynamic diameter of 2.5 µm or less); a short-term 24-hour average standard and an annual average standard. In October 2006, EPA promulgated revised AAQS for PM₁₀ and PM_{2.5} [Federal Register, October 17, 2006 (71 FR 61144)]. For PM₁₀, the annual standard was revoked and the 24-hour standard was retained. The 24-hour PM_{2.5} standard was revised to 35 micrograms per cubic meter (µg/m³) from 65 µg/m³ in the promulgated 1997 AAQS. The 24-hour PM_{2.5} standard is based on a 3-year average of the 98th percentile of 24-hour average concentrations that must not exceed 35 µg/m³ (from population-orientated monitors) and a 3-year average of annual average concentrations that must not exceed 15 µg/m³ (from a single or community-orientated monitor). These AAQS are effective December 18, 2006.

The FDEP has not yet adopted the revised O₃ or PM_{2.5} AAQS. Based on evaluations performed by FDEP and EPA, Palm Beach County has been designated an attainment area for the revised 1997 O₃ AAQS [Federal Register, April 30, 2004 (69 FR 23996)] as well as an attainment area for the 1997 PM_{2.5} AAQS [Federal Register, January 5, 2005 (70 FR 944)]. Although FDEP and EPA have not yet designated areas for PM_{2.5} in Florida based on the 2006 PM_{2.5} AAQS, monitoring data collected over the last several years indicate that St. Lucie County and adjoining counties would be classified as attainment of the PM_{2.5} AAQS. These standards must be implemented in the 2007 to 2008 timeframe, with a revision to the State Implementation Plan.

In promulgating the 1977 Clean Air Act (CAA) Amendments, Congress specified that certain increases above an air quality *baseline concentration* level of SO₂ and PM concentrations would constitute *significant deterioration* for sources located in attainment areas. The magnitudes of the allowable increases, or prevention of significant deterioration (PSD) increments, depend on the classification of the area in which a new source (or modification) will be located or have an impact. Three PSD increment classifications were designated based on criteria established in the 1977 CAA Amendments. Initially, Congress designated areas as either Class I (national parks, national wilderness areas, and memorial parks larger than 5,000 acres and national parks larger than

6,000 acres) or as Class II (all areas not designated as Class I). No Class III areas, which would be allowed greater deterioration than Class II areas, were designated. EPA then promulgated as regulations the requirements for classifications and area designations.

On October 17, 1988, EPA promulgated regulations to prevent significant deterioration due to NO_x emissions and established PSD increments for NO_2 concentrations. The EPA class designations and allowable PSD increments are presented in Table 2.3.7-6. Florida has adopted the EPA allowable increments for PM_{10} , SO_2 , and NO_2 .

St. Lucie County is classified as a Class II area (Rule 62-204.340, F.A.C.) since it is an attainment area for all pollutants. The nearest Class I area to the St. Lucie Plant is the Everglades National Park (NP) located about 180 km (108 miles) to the south-southwest.

Existing Air Pollutant Sources

The St. Lucie Plant is located in a coastal area of St. Lucie County, which has a minimal number of air pollution sources. The St. Lucie Plant is a minor source of air pollution with emergency and general purpose diesel engines. Existing major sources with SO_2 , PM, VOC, or NO_x emissions greater than 100 tons per year (TPY) within the county include Ft. Pierce Utilities Authority; Tropicana Products, Inc.; Cargill Citro Pure, L.P.; and Florida Gas Transmission.

Existing Ambient Air Quality

Ambient air quality monitoring data have been collected in St. Lucie County and representative sites in the region. Air monitoring data currently are collected for SO_2 , PM_{10} , NO_2 , O_3 , and CO. These data are generally representative of air quality for areas in the County with more industrial development than that around the St. Lucie Plant. Thus, the measured air quality data from these sites provide a conservative indication of air quality around the St. Lucie Plant.

A summary of the maximum pollutant concentrations measured at monitoring stations in St. Lucie County and from available representative sites from 2004 through 2006 is presented in Table 2.3.7-7. These data indicate that the maximum air quality concentrations measured in the region are well below applicable standards.

2.3.7.3 Measurement Programs

All information (i.e., meteorology and air quality data) was compiled from offsite monitoring stations maintained and operated by FDEP or cooperating governmental agencies (i.e., NWS). No significant changes in these programs are anticipated after the uprate to the plant.

Meteorological data were obtained from the NWS surface and upper-air stations at the Palm Beach International Airport and Miami, respectively. These data were obtained for an 8-year period from 2001 through 2005 from which the joint frequency of wind direction, wind speed, and atmospheric stability and a 5-year average of mixing heights were developed. Since 1986, the wind sensors at the Palm Beach International Airport have been located 33 ft above grade. Regular surface observations are taken just before each hour, 7 days per week. Upper-air soundings are conducted twice per day at 7:00 a.m. and 7:00 p.m., Eastern Standard Time.

As indicated previously, wind direction and wind speed are measured at the meteorological tower located at the St. Lucie Plant. Wind data are collected at the 10- and 60-m levels on the tower.

2.3.8 Noise

2.3.8.1 Background

Sound propagation involves three principal components: a noise source, a person or a group of people, and the transmission path. While two of these components, the noise source and the transmission path, are easily quantified (i.e., by direct measurements or through predictive calculations), the effects of noise on humans is the most difficult to determine due to the varying responses of humans to the same or similar noise patterns. The perception of sound (noise) by humans is very subjective and, just as for odors and taste, it is very difficult to predict a response from any particular individual to another. To account for human perception of noise, the loudness and quality of noise is used in evaluating noise impacts.

The loudness magnitude of noise levels is referred to as sound pressure level (SPL) with units in decibels (dB). Decibels are calculated as a logarithmic function of SPL in air to a reference effective pressure, which is considered the hearing threshold, or:

$$\text{SPL} = 20 \log_{10} (P_e/P_o)$$

where: P_e = measured effective pressure of sound wave in micropascals (μPa), and

P_o = reference effective pressure of 20 pascals (Pa).



To account for the effect of how the human ear perceives sound pressure at moderate to low levels, SPLs are adjusted for frequency (or pitch). One of the most commonly used frequency filters is the A-weighting (dBA), which adjusts measurements for the approximated response of the human ear to low-frequency SPLs [i.e., below 1,000 hertz (Hz)] and high-frequency SPLs (i.e., above 1,000 Hz).

St. Lucie County adopted a noise control ordinance, Chapter 1-13.8, Noise Control. The Ordinance provides: “numerical octave band noise limits, expressed as un-weighted decibels (dB) as well as equivalent A-weighted decibel levels (dBA) that are not to be exceeded for given use districts” (Section 1-13.8-18). The maximum permissible noise levels are applicable to the daytime defined to be 7:00 a.m. to 10:00 p.m. and the nighttime defined as 10:01 p.m. to 6:59 a.m. Noise generated in an industrial use and observed in a residential use is limited to 60 dBA during the daytime and 55 dBA during the nighttime.

2.3.8.2 Noise Measurement Procedures

Ambient noise levels in the vicinity of the St. Lucie Plant were determined at six far-field and four boundary far-field locations in September 2007. These noise measurements provide information on the baseline noise levels in the area during both the daytime and nighttime periods for the far-field locations. The equipment used to monitor the baseline noise levels operated in the slow response mode to obtain accurate, integrated, A-weighted SPLs. A windscreen was used because all measurements were taken outdoors. The microphone was positioned so that a random incidence response, as specified by the American National Standard Institute (ANSI), was achieved. The sound level meter and octave band analyzer were calibrated immediately prior to and just after the sampling period to provide a quality control check of the sound level meter’s operation during monitoring.

Integrated SPL data were collected to determine the L_{eq} at each location. The SPL data were analyzed and reported in both dB and dBA. The higher the decibel value, the louder the sound.

The SPL averages were calculated using the following formula:

$$\text{Average SPL} = 10 \log \frac{\sum_{i=1}^N 10^{(\text{SPL}_i/10)}}{N}$$

where: N = number of observations, and

SPL_i = individual sound pressure level in data set.

The SPLs and octave band data were collected during each monitoring event, using measurement techniques set forth by ANSI S12.9-1993/Part 3, 1993.

The noise monitoring equipment used during the study included the following:

1. Continuous Noise Monitoring Equipment
 - a. Larson Davis Model 824 Precision Integrating Sound Level Meter with Real Time Frequency Analyzer
 - b. Larson Davis Model PRM902 Microphone Preamplifier
 - c. Larson Davis Model 2560 Prepolarized ½-inch Condenser Microphone
 - d. Windscreen, tripod, and various cables
2. Sound Level Meter Calibration Unit
 - a. Larson Davis Model CAL200 Sound Level Calibrator, 94/114 dB at 1,000 Hz

Monitoring was conducted using the sound level meter mounted on a tripod at a height of 1.2 m (4 ft) above grade. Local meteorological conditions (wind speed, wind direction, temperature, and relative humidity) were measured during the monitoring periods. The operator recorded detailed field notes during monitoring and included major noise sources in the area. The Larson Davis sound level meter complies with Type I—Precision requirements set forth for sound level meters and for one-third octave filters.

2.3.8.3 Noise Monitoring Locations

The SPLs and octave band data were collected at six far-field and four boundary locations in September 2007 (Figure 2.3.8-1). All far-field monitoring locations were selected to delineate the noise levels in the vicinity of the St. Lucie Plant's boundary as well as locations beyond the boundary. Daytime and nighttime SPLs were obtained from the six far-field and four boundary far-field locations.

2.3.8.4 Existing Ambient Sound Pressure Level Conditions

The L_{eq} (equivalent sound pressure level averaged for the sampling period) during each monitoring event at each location are presented in Tables 2.3.8-1 and 2.3.8-2 for the boundary and the far-field monitoring locations, respectively. Charts of the octave band measurements and noise levels as a

function of time are provided in Appendix 10.5-1. Calibration certificates for the monitoring equipment are included as Appendix 10.5-2.

The data presented in Tables 2.3.8-1 and 2.3.8-2 consist of the following noise parameters:

- $L_{\min}$ = The minimum sound level observed during the monitoring period.
- $L_{\max}$ = The maximum sound level observed during the monitoring period.
- L_{eq} = The sound pressure level averaged over the measurement period; this parameter is the continuous steady sound pressure level that would have the same total acoustic energy as the real fluctuating noise over the same time period.
- L_{90} = The sound level exceeded 90 percent of the time during the monitoring period.

The L_{eq} represent the total sound energy observed over the monitoring which includes transient noise. The L_{90} best represents noise from continuous noise sources such as power plants since transient noise such as traffic is generally excluded.

During September 2007, the L_{eq} noise levels ranged from 47 to 77 dBA during the daytime and 48 to 57 dBA during the nighttime at the four boundary locations. At the six far-field locations, the L_{eq} noise levels ranged from 55 to 65 dBA during the daytime and 46 to 59 dBA during the nighttime.

The L_{eq} noise levels reflect the total noise energy over a 15-minute period at each of the far-field locations and 1 minute at each of the near-field locations. As a result, louder transient noises such as noise from sporadic traffic, high-flying aircraft, and insects all influence the observed values.

As shown in column titled “observations” in Tables 2.3.8-1 and 2.3.8-2, there were many transient noise sources identified that are included in observed L_{eq} . These transient noise sources included vehicular traffic, boats, insects, and construction depending upon location. These transient noise sources, especially where much high $L_{\max}$ were observed, bias the L_{eq} higher than if those noise sources are excluded. For this reason, the L_{90} is a more representative noise metric especially in determining the noise influence from a continuous noise source such as a power plant. The L_{90} sound levels observed at the residential area nearest to the St. Lucie Plant ranged from 41 to 59 dBA during the daytime and from 41 to 49 dBA during the nighttime (noise monitoring sites 1F, 4F and 5F). With the exception of the daytime noise monitoring site 1F, the observed noise levels were below the

maximum permissible noise levels in the St. Lucie noise ordinance. At noise monitoring site 1F during daytime, construction was occurring that was influencing the noise measurements. The daytime and nighttime L_{90} noise levels at monitoring sites 3B and 4B, which are located between the St. Lucie Plant and noise monitoring sites 4F and 5F, were less than the maximum permissible noise levels in the St. Lucie ordinance.

The results of the noise survey indicate that the noise levels from the St. Lucie Plant do not exceed the maximum permissible noise levels in the St. Lucie noise ordinance.

2.3.9 Other Environmental Features

Sea turtles return annually to nest on St. Lucie's Plant beaches. FPL is committed to protecting sea turtles and assisting research institutions in data collection. The FPL St. Lucie Plant conducts a sea turtle protection program as part of their compliance process with state and federal requirements. Since the initiation of the program, three species of sea turtles have been found to be nesting in the vicinity of the St. Lucie Plant: loggerhead, leatherback, and green sea turtles.

As participants in the Sea Turtle Stranding and Salvage Network (STSSN), FPL biologists routinely respond to sea turtle strandings in St. Lucie and Martin Counties. In addition, FPL conducts educational programs such as Turtle Walks as a public educational program through FPL's Energy Encounter educational center at the St. Lucie Plant.

FPL prepares an Annual Environmental Operating Report summarizing the sea turtle monitoring program (FPL and Quantum Resources, Inc., 2006). Additional detail on the sea turtle monitoring program was included previously in Subsection 2.3.6.

FPL has an active fish tag and release program that captures specimens that have been entrained into the intake canal, retrieves them, tags them, and releases them back to the environment. Aquariums around the country also participate in this program and collect specimens for exhibits from the intake canal.

Three-fourths of the St. Lucie Plant property remains in its natural state (mangroves, swamps, and beaches). There are about 180 species of birds and animals that inhabit the St. Lucie Plant property. Two St. Lucie County parks with beach access are located on St. Lucie Plant's property; Blind Creek Park and Walton Rocks Park. Blind Creek Park includes over 400 acres of pristine coastal wetlands

including coastal strand, maritime hammock, tidal swamp, and beach dune communities. Walton Rocks Park provides beach access to a natural reef exposed at low tide. St. Lucie County also withdraws minor amounts of ocean water from the intake canal for seasonal flushing of the mangrove impoundment between the intake and discharge canals to enhance growth of the mangroves and assist in mosquito control. The restoration of these lands, in coordination with the St. Lucie County Environmental Resources Department, is important to the preservation of native beach front habitats and estuarine shorelines.

TABLE 2.2.7-1

Average Monthly Employment, St. Lucie County, 2006

Major Industry Group	Employment
Goods-Producing	13,391
Natural Resources and Mining	3,302
Agriculture, Forestry, Fishing, and Hunting	3,246
Mining	56
Utilities	Not Available
Construction	6,793
Manufacturing	3,296
Durable Goods Manufacturing	2,126
Nondurable Goods Manufacturing	1,170
Service Providing	45,645
Trade, Transportation, and Utilities	16,575
Transportation and Warehousing	1,895
Wholesale Trade	4,403
Retail Trade	9,306
Finance and Insurance	2,950
Information	648
Financial Activities	4,202
Real Estate and Rental and Leasing	1,252
Professional and Business Services	7,300
Professional Scientific and Technical Services	2,807
Management Companies and Enterprises	72
Administration and Support and Waste Management and Remediation Services	4,421
Education and Health Services	8,722
Educational Services	383
Health Care and Social Assistance	8,339
Leisure and Hospitality	6,297
Arts, Entertainment & Recreation	862
Accommodation and Food Services	5,432
Other Services (except Public Administration)	1,885
Unclassified	16

Source: State of Florida, Labor Market Statistics, "Quarterly Census of Employment and Wages" (ES-202), Annual NAICS files.

TABLE 2.2.7-2

Housing Units by Occupancy Type, St. Lucie County, 2006

Housing Occupancy	Estimate
Renter Occupied	22,846
Owner Occupied	72,266
Total Occupied	95,112

Source: UF/BEBR, 2006.

**TABLE 2.2.8-1
ST. LUCIE PLANT
TRAFFIC VOLUMES**

Year	Site #940116¹	Site #940719²	Average	LOS³	LOS D Standard Service Volume³
2007	5,212	4,497	4,855	B or better	21,300

Notes:

- 1) FDOT Traffic Count site #940116 State Road A1A/South of Blue Heron Blvd, Fort Pierce.
- 2) FDOT Traffic Count site #940719 State Road A1A/South of FPL Power Plant.
- 3) Obtained from FDOT Q/LOS Handbook table 4-1 Generalized Annual Average. Daily Volumes for Florida's Urbanized Areas, 2-Lane Undivided Uninterrupted Flow Highways.

Source: Golder, 2007.

TABLE 2.2.8-2
Beach Access Sites Within 5-Mile Radius

Park Name	Approximate Distance (miles) from North to South
Frederick Memorial Park	4.7
Middle Cove Beach Assess	3.5
Little Mud Creek	2.3
Blind Creek	1.4
Blind Creek (FPL Easement)	1.3
FPL Conservation Easement	0.8
Walton Rocks Beach	0.7
Ocean Bay	1.7
Herman's Bay Access	2.3
Normandy Beach Access	3.1
Dollman Beach	3.7

Sources: St. Lucie County GIS Department, 2007; Golder, 2007.

TABLE 2.3.3-1
Mean Monthly Temperature (°F), Precipitation (in.), and Pan Evaporation (in.)

Month	Maximum Temperature¹ (1931-2005)	Minimum Temperature¹ (1931-2005)	Precipitation¹ (1931-2005)	Pan Evaporation² (1982-2007)	Estimated Evapo- transpiration³ (1982-2007)
January	73.4	53.1	2.21	5.2	3.1
February	74.7	54.5	2.83	5.9	3.5
March	77.9	58.2	3.36	7.8	4.7
April	81.3	62.8	3.28	9.4	5.6
May	85.1	68.0	4.23	10.5	6.3
June	88.2	71.8	6.09	10.2	6.1
July	90.1	73.0	5.44	10.3	6.2
August	90.0	73.4	6.12	10.2	6.1
September	88.3	72.9	8.21	8.9	5.4
October	84.2	68.6	6.89	8.0	4.8
November	79.1	61.3	3.03	6.1	3.6
December	74.9	55.4	2.18	5.2	3.1
Annual	82.3	64.4	53.88	97.6	58.6

¹ Measured at Fort Pierce, (Source: http://www.dnr.state.sc.us/climate/sercc/climateinfo/historical/historical_fl.html).

² Measured at DBHYDRO station Ft Pierce east, located approximately 10 miles north of the Site (Source: SFWMD – DBHDRYO).

³ Calculated from Pan Evaporation using the method of Keller (Keller, Kevin K., "Distribution of Evapotranspiration Within the Southwest Florid Water Management District", January, 1988).

Table 2.3.3-2
SFWMD Water Use Permits Within 5-Mile Radius of Site

Permit Number	Project Name	Landuse ¹	Water Use ²	X Coordinate	Y Coordinate	Source	Section	Township	Range
56-01120-W	MOBIL STATION 02-GQ8	IND	IND	876291.000000000000	1088629.000000000000	Surficial Aquifer System	22	36.000000000000	40.000000000000
56-01238-W	IMPLEMENT REMEDIAL ACTION PLAN	IND	IND	901692.000000000000	1096674.000000000000	Surficial Aquifer System	16	36.000000000000	41.000000000000
56-01238-W	IMPLEMENT REMEDIAL ACTION PLAN	IND	IND	901824.000000000000	1096362.000000000000	Surficial Aquifer System	16	36.000000000000	41.000000000000
56-01238-W	IMPLEMENT REMEDIAL ACTION PLAN	IND	IND	901797.000000000000	1096326.000000000000	Surficial Aquifer System	16	36.000000000000	41.000000000000
56-01238-W	IMPLEMENT REMEDIAL ACTION PLAN	IND	IND	901684.000000000000	1096526.000000000000	Surficial Aquifer System	16	36.000000000000	41.000000000000
56-01238-W	IMPLEMENT REMEDIAL ACTION PLAN	IND	IND	901807.000000000000	1096076.000000000000	Surficial Aquifer System	16	36.000000000000	41.000000000000
56-01550-W	ED FILLMORE GARAGE AT LEXINGTON SQUARE	LAN	IND	874518.000000000000	1092871.000000000000	Surficial Aquifer System	15	36.000000000000	40.000000000000
56-01088-W	FPL WALTON SERVICE CENTER	IND	IND	882791.000000000000	1081366.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-01033-W	7-11 FOOD STORE #20775/SITE 27	IND	IND	879327.000000000000	1083421.000000000000	Water Table Aquifer	26	36.000000000000	40.000000000000
56-01652-W	GATOR TRACE GOLF & COUNTRY CLUB	GOL	IRL	878828.000000000000	1109261.000000000000	Surficial Aquifer System	35	35.000000000000	40.000000000000
56-01652-W	GATOR TRACE GOLF & COUNTRY CLUB	GOL	IRL	878635.000000000000	1109422.000000000000	Surficial Aquifer System	35	35.000000000000	40.000000000000
56-01568-W	LIBERTY LANE DEVELOPMENT COMPANY INC	LAN	IRL	880575.000000000000	1080757.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-01138-W	SABENE GROVES	AGR	IRR	872195.000000000000	1100464.000000000000	Floridan Aquifer System	9	36.000000000000	40.000000000000
56-00280-W	D.L. SCOTTO & CO., INC.	AGR	IRR	871906.000000000000	1096850.000000000000	Floridan Aquifer System	16	36.000000000000	40.000000000000
56-00282-W	IRENE GREEN	AGR	IRR	873898.000000000000	1098126.000000000000	Floridan Aquifer System	10,15	36.000000000000	40.000000000000
56-00284-W	FT PIERCE GROWERS ASSOCIATION	AGR	IRR	875289.000000000000	1097463.000000000000	Floridan Aquifer System	15	36.000000000000	40.000000000000
56-00286-W	CHEZ NOUS GROVES	AGR	IRR	873234.000000000000	1100960.000000000000	Floridan Aquifer System	10	36.000000000000	40.000000000000
56-00286-W	CHEZ NOUS GROVES	AGR	IRR	873068.000000000000	1100473.000000000000	Floridan Aquifer System	10	36.000000000000	40.000000000000
56-00288-W	CITRUS GROVE	AGR	IRR	873098.000000000000	1098126.000000000000	Floridan Aquifer System	10,15	36.000000000000	40.000000000000
56-00390-W	ISLAND DUNES COUNTRY CLUB	LAN	IRR	908995.000000000000	1079277.000000000000	Floridan Aquifer System	34,35	36.000000000000	41.000000000000
56-01526-W	TROPICAL ISLES MOBILE HOME PARK	LAN	IRR	877233.000000000000	1101364.000000000000	Floridan Aquifer System	10	36.000000000000	40.000000000000
56-01806-W	STORE SMART SELF-STORAGE	PWS	IRR	875582.000000000000	1099695.000000000000	NSLRWCD Canal (C-17)	10	36.000000000000	40.000000000000
56-01664-W	ST LUCIE COUNTY ADMINISTRATION ANNEX P02-158	LAN	IRR	884094.000000000000	1078173.000000000000	Off-site Lake(s)	36	36.000000000000	40.000000000000
56-01880-W	LENNARD ROAD JENNINGS ROAD	LAN	IRR	888391.000000000000	1072492.000000000000	Off-site Lake(s)	1	37.000000000000	40.000000000000
56-01880-W	LENNARD ROAD JENNINGS ROAD	LAN	IRR	888391.000000000000	1073279.000000000000	Off-site Lake(s)	1	37.000000000000	40.000000000000
56-01086-W	PALM GROVE ASSOCIATION	LAN	IRR	876900.000000000000	1099244.000000000000	On-site Lake(s)	10	36.000000000000	40.000000000000
56-01086-W	PALM GROVE ASSOCIATION	LAN	IRR	876938.000000000000	1099235.000000000000	On-site Lake(s)	10	36.000000000000	40.000000000000
56-01652-W	GATOR TRACE GOLF & COUNTRY CLUB	GOL	IRR	878841.000000000000	1109415.000000000000	On-site Lake(s)	35	35.000000000000	40.000000000000
56-01652-W	GATOR TRACE GOLF & COUNTRY CLUB	GOL	IRR	880258.000000000000	1109922.000000000000	On-site Lake(s)	35	35.000000000000	40.000000000000
56-01526-W	TROPICAL ISLES MOBILE HOME PARK	LAN	IRR	876422.000000000000	1102394.000000000000	On-site Lake(s)	10	36.000000000000	40.000000000000
56-01526-W	TROPICAL ISLES MOBILE HOME PARK	LAN	IRR	877081.000000000000	1101871.000000000000	On-site Lake(s)	10	36.000000000000	40.000000000000
56-01542-W	LIBERTY LANE DEVELOPMENT	LAN	IRR	879483.000000000000	1080922.000000000000	On-site Lake(s)	35	36.000000000000	40.000000000000
56-00621-W	SAVANNA CLUB	GOL	IRR	886562.000000000000	1085163.000000000000	On-site Lake(s)	24,25	36.000000000000	40.000000000000
56-00621-W	SAVANNA CLUB	GOL	IRR	886567.000000000000	1085163.000000000000	On-site Lake(s)	24,25	36.000000000000	40.000000000000
56-00621-W	SAVANNA CLUB	GOL	IRR	886557.000000000000	1085163.000000000000	On-site Lake(s)	24,25	36.000000000000	40.000000000000
56-01188-W	LAKE LUCIE COMMUNITY DEVELOPMENT DISTRICT	LAN	IRR	880180.000000000000	1083475.000000000000	On-site Lake(s)	26	36.000000000000	40.000000000000
56-01836-W	PINE SUMMIT	LAN	IRR	876730.000000000000	1090776.000000000000	On-site Lake(s)	22,23	36.000000000000	40.000000000000
56-01836-W	PINE SUMMIT	LAN	IRR	877351.000000000000	1090712.000000000000	On-site Lake(s)	22,23	36.000000000000	40.000000000000
56-01025-W	ST LUCIE GARDENS	LAN	IRR	888791.000000000000	1071443.000000000000	On-site Lake(s)	6	37.000000000000	41.000000000000
56-01750-W	EAST LAKE VILLAGE GREENWAY/LAKE AREA	LAN	IRR	887500.000000000000	1073700.000000000000	On-site Lake(s)	1	37.000000000000	40.000000000000
56-01750-W	EAST LAKE VILLAGE GREENWAY/LAKE AREA	LAN	IRR	887950.000000000000	1072465.000000000000	On-site Lake(s)	1	37.000000000000	40.000000000000
56-01934-W	KITTERMAN WOODS	LAN	IRR	876679.000000000000	1094879.000000000000	On-site Lake(s)	15	36.000000000000	40.000000000000
56-01934-W	KITTERMAN WOODS	LAN	IRR	876391.000000000000	1093846.000000000000	On-site Lake(s)	15	36.000000000000	40.000000000000
56-02210-W	KITTERMAN PLACE	LAN	IRR	877174.000000000000	1095756.000000000000	On-site Lake(s)	15	36.000000000000	40.000000000000
56-02565-W	SILVER OAKS	LAN	IRR	880810.000000000000	1088900.000000000000	On-site Lake(s)	23	36.000000000000	40.000000000000
56-02565-W	SILVER OAKS	LAN	IRR	881550.000000000000	1089810.000000000000	On-site Lake(s)	23	36.000000000000	40.000000000000
56-02565-W	SILVER OAKS	LAN	IRR	882580.000000000000	1088890.000000000000	On-site Lake(s)	23	36.000000000000	40.000000000000
56-01372-W	MERRILL GARDENS ADULT LIVING FACILITY	LAN	IRR	884257.000000000000	1073504.000000000000	On-site Lake(s)/Pond(s)	1	37.000000000000	40.000000000000
56-00421-W	VIC KLASSEN	AGR	IRR	878369.000000000000	1090154.000000000000	On-site Lake(s)/Pond(s)	23	36.000000000000	40.000000000000
56-01988-W	ST LUCIE LANDING	LAN	IRR	871963.000000000000	1094282.000000000000	On-site Lake(s)/Pond(s)	16	36.000000000000	40.000000000000
56-00804-W	SUNRISE FORD COMPANY	LAN	IRR	874600.000000000000	1102964.000000000000	Surficial Aquifer System	10	36.000000000000	40.000000000000
56-01510-W	WENDY'S RESTAURANT WHITE CITY	LAN	IRR	875124.000000000000	1106277.000000000000	Surficial Aquifer System	3	36.000000000000	40.000000000000
56-01188-W	LAKE LUCIE COMMUNITY DEVELOPMENT DISTRICT	LAN	IRR	880037.000000000000	1083463.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-01190-W	HILLMOOR VILLAGE TOWNHOMES	LAN	IRR	886447.000000000000	1072963.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-01219-W	WALTON LAKES APARTMENTS PH I & II	LAN	IRR	885837.000000000000	1078663.000000000000	Surficial Aquifer System	36	36.000000000000	40.000000000000
56-00889-W	JIDE APARTMENTS	LAN	IRR	888744.000000000000	1075029.000000000000	Surficial Aquifer System	6	37.000000000000	41.000000000000
56-01285-W	TIFFANY CLUB APARTMENTS	LAN	IRR	887447.000000000000	1075828.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-01285-W	TIFFANY CLUB APARTMENTS	LAN	IRR	887337.000000000000	1075368.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000

Table 2.3.3-2
SFWMD Water Use Permits Within 5-Mile Radius of Site

Permit Number	Project Name	Landuse ¹	Water Use ²	X Coordinate	Y Coordinate	Source	Section	Township	Range
56-00286-W	CHEZ NOUS GROVES	AGR	IRR	873068.000000000000	1100473.000000000000	Surficial Aquifer System	10	36.000000000000	40.000000000000
56-00288-W	CITRUS GROVE	AGR	IRR	873058.000000000000	1098382.000000000000	Surficial Aquifer System	10,15	36.000000000000	40.000000000000
56-01486-W	PORT ST LUCIE MOVING & STORAGE	LAN	IRR	874825.000000000000	1100548.000000000000	Surficial Aquifer System	10	36.000000000000	40.000000000000
56-01492-W	TAYLOR MINI STORAGE	LAN	IRR	877327.000000000000	1088046.000000000000	Surficial Aquifer System	22	36.000000000000	40.000000000000
56-01482-W	CENTURY PROFESSIONAL PLAZA	LAN	IRR	876210.000000000000	1089761.000000000000	Surficial Aquifer System	22	36.000000000000	40.000000000000
56-01482-W	CENTURY PROFESSIONAL PLAZA	LAN	IRR	876210.000000000000	1089751.000000000000	Surficial Aquifer System	22	36.000000000000	40.000000000000
56-01438-W	MIDPORT CROSSING PARCEL 3	LAN	IRR	881436.000000000000	1078863.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-01628-W	SPANISH LAKES RIVERFRONT	LAN	IRR	877416.000000000000	1086699.000000000000	Surficial Aquifer System	27	36.000000000000	40.000000000000
56-01628-W	SPANISH LAKES RIVERFRONT	LAN	IRR	877426.000000000000	1086686.000000000000	Surficial Aquifer System	27	36.000000000000	40.000000000000
56-01454-W	JENNINGS ROAD R/V PARK	LAN	IRR	887639.000000000000	1070439.000000000000	Surficial Aquifer System	12	37.000000000000	40.000000000000
56-01649-W	NIEMEYER CIRCLE LLC	LAN	IRR	882263.000000000000	1080650.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-01669-W	ENTRADA AVENUE/RIO DRIVE IMPROVEMENTS	LAN	IRR	876019.000000000000	1089805.000000000000	Surficial Aquifer System	22	36.000000000000	40.000000000000
56-01669-W	ENTRADA AVENUE/RIO DRIVE IMPROVEMENTS	LAN	IRR	876453.000000000000	1088871.000000000000	Surficial Aquifer System	22	36.000000000000	40.000000000000
56-01669-W	ENTRADA AVENUE/RIO DRIVE IMPROVEMENTS	LAN	IRR	875385.000000000000	1090972.000000000000	Surficial Aquifer System	22	36.000000000000	40.000000000000
56-01679-W	PRIMA VISTA CROSSINGS	LAN	IRR	876224.000000000000	1089594.000000000000	Surficial Aquifer System	22	36.000000000000	40.000000000000
56-01682-W	FLORIDA POWER & LIGHT EDEN SUBSTATION	LAN	IRR	887455.000000000000	1071371.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-01683-W	SANKA'S WAREHOUSE	LAN	IRR	881088.000000000000	1081899.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-01521-W	ST LUCIE MEDICAL CENTER	LAN	IRR	885473.000000000000	1074346.000000000000	Surficial Aquifer System	2	37.000000000000	40.000000000000
56-01559-W	TIGER TALE WAREHOUSE	LAN	IRR	883935.000000000000	1079364.000000000000	Surficial Aquifer System	36	36.000000000000	40.000000000000
56-01562-W	ECKERDS PLAZA	LAN	IRR	884018.000000000000	1073858.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-01562-W	ECKERDS PLAZA	LAN	IRR	884037.000000000000	1073870.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-01523-W	LIBERTY LANE DEVELOPMENT COMPANY INC	LAN	IRR	880323.000000000000	1081188.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-01527-W	NEW CENTURY CONDOMINIUMS	LAN	IRR	878532.000000000000	1111238.000000000000	Surficial Aquifer System	34,35	35.000000000000	40.000000000000
56-01540-W	GATOR TRACE CONDOMINIUM ASSOCIATION INC	LAN	IRR	878566.000000000000	1109756.000000000000	Surficial Aquifer System	35	35.000000000000	40.000000000000
56-01550-W	ED FILLMORE GARAGE AT LEXINGTON SQUARE	LAN	IRR	874518.000000000000	1092871.000000000000	Surficial Aquifer System	15	36.000000000000	40.000000000000
56-01576-W	STAR OFFICE BUILDING TWO	LAN	IRR	885325.000000000000	1073661.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-01577-W	NEXTAL GATOR TRACE	LAN	IRR	875250.000000000000	1105699.000000000000	Surficial Aquifer System	3	36.000000000000	40.000000000000
56-01590-W	SEVENTH DAY ADVENTIST CHURCH	LAN	IRR	881180.000000000000	1076056.000000000000	Surficial Aquifer System	2	37.000000000000	40.000000000000
56-01520-W	SAVANNA CLUB MAINTENANCE BUILDING	LAN	IRR	882866.000000000000	1082332.000000000000	Surficial Aquifer System	25,26	36.000000000000	40.000000000000
56-01604-W	UNITED RESTORATION	LAN	IRR	883618.000000000000	1080129.000000000000	Surficial Aquifer System	36	36.000000000000	40.000000000000
56-01606-W	SUNRISE FORD	LAN	IRR	874841.000000000000	1103359.000000000000	Surficial Aquifer System	3	36.000000000000	40.000000000000
56-01615-W	PORT ST LUCIE NURSING AND RESTORATIVE CARE CTR	LAN	IRR	873065.000000000000	1094273.000000000000	Surficial Aquifer System	15	36.000000000000	40.000000000000
56-01615-W	PORT ST LUCIE NURSING AND RESTORATIVE CARE CTR	LAN	IRR	873065.000000000000	1094727.000000000000	Surficial Aquifer System	15	36.000000000000	40.000000000000
56-01616-W	TOWN SOUTH PLAZA	LAN	IRR	874625.000000000000	1105877.000000000000	Surficial Aquifer System	3	36.000000000000	40.000000000000
56-01728-W	CVS/PHARMACY	LAN	IRR	881762.000000000000	1078283.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-01727-W	CLADDAUGH WAREHOUSE	LAN	IRR	882790.000000000000	1080490.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-01731-W	G & S WAREHOUSE	LAN	IRR	883471.000000000000	1079855.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-02171-W	HOPE LUTHERAN CHURCH OF P.S.L INC	LAN	IRR	888126.000000000000	1074671.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-02234-W	FIRST PRESBYTERIAN CHURCH	LAN	IRR	888917.000000000000	1078215.000000000000	Surficial Aquifer System	31	36.000000000000	41.000000000000
56-02236-W	MARTIN SELF STORAGE	LAN	IRR	879568.000000000000	1083613.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-01750-W	EAST LAKE VILLAGE GREENWAY/LAKE AREA	LAN	IRR	887945.000000000000	1072465.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-02173-W	INDIAN RIVER NATIONAL BANK-BUSINESS PARK DR	LAN	IRR	878176.000000000000	1085017.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-02177-W	TAYLOR CAR WASH	LAN	IRR	874830.000000000000	1091896.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-01025-W	ST LUCIE GARDENS	LAN	IRR	888968.000000000000	1072135.000000000000	Surficial Aquifer System	6	37.000000000000	41.000000000000
56-02257-W	LOT 15 PSL IND PK LLC	LAN	IRR	883006.000000000000	1080558.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-02265-W	TOWN PLACE	LAN	IRR	880230.500000000000	1082580.900000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-02020-W	WALTON COURT	LAN	IRR	889296.000000000000	1078784.000000000000	Surficial Aquifer System	31	36.000000000000	41.000000000000
56-02125-W	CRB OF FLORIDA INC	PWS	IRR	887995.000000000000	1070073.000000000000	Surficial Aquifer System	12	37.000000000000	40.000000000000
56-02125-W	CRB OF FLORIDA INC	PWS	IRR	887963.000000000000	1070075.000000000000	Surficial Aquifer System	12	37.000000000000	40.000000000000
56-02132-W	EAST PORT NEIGHBORHOOD PARK	LAN	IRR	894761.000000000000	1069683.000000000000	Surficial Aquifer System	8	37.000000000000	41.000000000000
56-01807-W	FIDELITY FEDERAL BANK AND TRUST	LAN	IRR	881702.000000000000	1078322.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-01809-W	FLORIDA OUTDOOR RECREATION	LAN	IRR	874755.000000000000	1098065.000000000000	Surficial Aquifer System	10	36.000000000000	40.000000000000
56-02135-W	PORT ST LUCIE SOCIAL SECURITY OFFICE BLDG	LAN	IRR	881651.000000000000	1079943.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-02335-W	HILLMOOR PROFESSIONAL CENTER	LAN	IRR	885202.000000000000	1072949.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-00920-W	FLORIDA POWER & LIGHT - ST LUCIE COUNTY	LAN	IRR	881144.000000000000	1079308.000000000000	Surficial Aquifer System	10,14	34.000000000000	39.000000000000
56-02080-W	MACKENZI WAREHOUSE	LAN	IRR	881642.000000000000	1080243.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-01576-W	STAR OFFICE BUILDING TWO	LAN	IRR	885207.000000000000	1073623.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-01540-W	GATOR TRACE CONDOMINIUM ASSOCIATION INC	LAN	IRR	878058.000000000000	1110763.000000000000	Surficial Aquifer System	35	35.000000000000	40.000000000000

Table 2.3.3-2
SFWMD Water Use Permits Within 5-Mile Radius of Site

Permit Number	Project Name	Landuse ¹	Water Use ²	X Coordinate	Y Coordinate	Source	Section	Township	Range
56-02099-W	SR 5 FROM RIO MAR TO MIDWAY ROAD	LAN	IRR	875022.000000000000	1093069.000000000000	Surficial Aquifer System	3,10,15,22	36.000000000000	40.000000000000
56-02099-W	SR 5 FROM RIO MAR TO MIDWAY ROAD	LAN	IRR	875004.000000000000	1097375.000000000000	Surficial Aquifer System	3,10,15,22	36.000000000000	40.000000000000
56-02099-W	SR 5 FROM RIO MAR TO MIDWAY ROAD	LAN	IRR	874995.000000000000	1099466.000000000000	Surficial Aquifer System	3,10,15,22	36.000000000000	40.000000000000
56-02099-W	SR 5 FROM RIO MAR TO MIDWAY ROAD	LAN	IRR	874959.000000000000	1103496.000000000000	Surficial Aquifer System	3,10,15,22	36.000000000000	40.000000000000
56-01874-W	PINE SUMMIT COMMERCIAL TRACT	LAN	IRR	875235.000000000000	1091695.000000000000	Surficial Aquifer System	22,23	36.000000000000	40.000000000000
56-01750-W	EAST LAKE VILLAGE GREENWAY/LAKE AREA	LAN	IRR	887500.000000000000	1073700.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-01921-W	CROWNE PLAZA	LAN	IRR	879373.000000000000	1082486.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-02207-W	ST LUCIE MEDICAL PARK	LAN	IRR	884811.000000000000	1076174.000000000000	Surficial Aquifer System	36	36.000000000000	40.000000000000
56-01695-W	A PLUS STORAGE	LAN	IRR	879636.000000000000	1084592.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-01714-W	WENDY'S AT PRIMA VISTA CROSSING	LAN	IRR	876469.000000000000	1089422.000000000000	Surficial Aquifer System	22	36.000000000000	40.000000000000
56-02461-W	US 1 MEDIAN (ST LUCIE COUNTY ROAD & BRIDGE)	LAN	IRR	875198.000000000000	1091420.000000000000	Surficial Aquifer System	22	36.000000000000	40.000000000000
56-02579-W	LA BUONA VITA MHP	LAN	IRR	879060.000000000000	1082895.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-02670-W	HOPE LUTHERAN CHURCH	LAN	IRR	888094.000000000000	1074679.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-02644-W	ST LUCIE COUNTY CANCER CENTER	LAN	IRR	875216.000000000000	1102440.000000000000	Surficial Aquifer System	13	36.000000000000	40.000000000000
56-02635-W	GROVE PARK	LAN	IRR	889113.000000000000	1072841.000000000000	Surficial Aquifer System	6	37.000000000000	41.000000000000
56-02702-W	ADMINISTRATIVE ANNEX 1664 SE WALTON RD	LAN	IRR	884089.000000000000	1078202.000000000000	Surficial Aquifer System	36	36.000000000000	40.000000000000
56-02020-W	WALTON COURT	LAN	IRR	889225.000000000000	1078748.000000000000	Surficial Aquifer System	31	36.000000000000	41.000000000000
56-02467-W	VILLAGE GREEN DUNKIN DONUTS	LAN	IRR	880863.000000000000	1081121.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-02503-W	ALL TUNE AND LUBE	LAN	IRR	874620.000000000000	1103773.000000000000	Surficial Aquifer System	3	36.000000000000	40.000000000000
56-02452-W	CHARLEY'S DODGE	LAN	IRR	874336.000000000000	1099907.000000000000	Surficial Aquifer System	10	36.000000000000	40.000000000000
56-02591-W	TABERNACLE OF PRAISE	LAN	IRR	892253.000000000000	1071234.000000000000	Surficial Aquifer System	6	37.000000000000	41.000000000000
56-02679-W	SUNRISE PLAZA	LAN	IRR	881250.000000000000	1080175.000000000000	Surficial Aquifer System	35	36.000000000000	40.000000000000
56-02681-W	LYNGATE MEDICAL CENTER	LAN	IRR	883765.000000000000	1073757.000000000000	Surficial Aquifer System	1	37.000000000000	40.000000000000
56-02719-W	FIELDS PAG INCORPORATED	LAN	IRR	874716.000000000000	1107513.000000000000	Surficial Aquifer System	3	36.000000000000	40.000000000000
56-01289-W	PINEWOOD POINTE APARTMENTS	LAN	IRR	882501.000000000000	1078713.000000000000	Unspecified	35,36	36.000000000000	40.000000000000
56-00477-W	WALTON COURT	AGR	IRR	889779.000000000000	1079109.000000000000	Water Table Aquifer	36	36.000000000000	40.000000000000
56-01342-W	ELEMENTARY SCHOOL F	LAN	IRR	877018.000000000000	1093969.000000000000	Water Table Aquifer	15	36.000000000000	40.000000000000
56-01421-W	INDIAN RIVER LANDING CONDOMINIUM ASSOC INC	LAN	IRR	902902.000000000000	1068118.000000000000	Water Table Aquifer	9	37.000000000000	41.000000000000
56-01711-W	COASTAL ORTHOPAEDIC & SPORTS MEDICINE CENTER	LAN	IRR	877343.000000000000	1087703.000000000000	Water Table Aquifer	22	36.000000000000	40.000000000000
56-01988-W	ST LUCIE LANDING	LAN	IRR	871963.000000000000	1094282.000000000000	Water Table aquifer	16	36.000000000000	40.000000000000
56-01581-W	GASTON POULIN	PWS	LIV	879752.000000000000	1091852.000000000000	Surficial Aquifer System	23	36.000000000000	40.000000000000
56-01581-W	GASTON POULIN	PWS	LIV	879755.000000000000	1091851.000000000000	Surficial Aquifer System	23	36.000000000000	40.000000000000
56-02745-W	SOUTH ISLAND PLANTATION	DEW	MND	910786.000000000000	1076276.000000000000	On-site Borrow Pit(s)	2	37.000000000000	41.000000000000
56-02745-W	SOUTH ISLAND PLANTATION	DEW	MND	910524.000000000000	1076324.000000000000	On-site Borrow Pit(s)	2	37.000000000000	41.000000000000
56-02032-W	MIDPORT ROAD SEVENTH DAY ADVENTIST	DEW	MND	881570.000000000000	1076290.000000000000	Water Table aquifer	2	37.000000000000	40.000000000000
56-02152-W	TIFFANY WOODS PUD	DEW	MND	892307.000000000000	1077963.000000000000	Water Table aquifer	31	36.000000000000	41.000000000000
56-02152-W	TIFFANY WOODS PUD	DEW	MND	892012.000000000000	1076929.000000000000	Water Table aquifer	31	36.000000000000	41.000000000000
56-01692-W	SAVANNA CLUB PHASES VI-VIII	DEW	MND	884946.000000000000	1086922.000000000000	Water Table aquifer	25	36.000000000000	40.000000000000
56-02512-W	TAILERS' COVE	DEW	MND	912893.000000000000	1071351.000000000000	Water Table aquifer	2	37.000000000000	41.000000000000
56-02512-W	TAILERS COVE	DEW	MND	912893.000000000000	1071351.000000000000	Water Table aquifer	2	37.000000000000	41.000000000000
56-02488-W	SR-5 US-1 WIDENING RIO MAR TO NORTH OF MIDWAY RD	DEW	MND	875092.000000000000	1092980.000000000000	Water Table aquifer	15	35.000000000000	40.000000000000
56-02488-W	SR-5 US-1 WIDENING RIO MAR TO NORTH OF MIDWAY RD	DEW	MND	875092.000000000000	1092980.000000000000	Water Table aquifer	15	35.000000000000	40.000000000000
56-02488-W	SR-5 US-1 WIDENING RIO MAR TO NORTH OF MIDWAY RD	DEW	MND	875092.000000000000	1092980.000000000000	Water Table aquifer	15	35.000000000000	40.000000000000
56-02496-W	SILVER OAKS	DEW	MND	881585.000000000000	1088546.000000000000	Water Table aquifer	23	36.000000000000	40.000000000000
56-02546-W	KITTERMAN PLACE	DEW	MND	876756.000000000000	1096114.000000000000	Water Table aquifer	15	36.000000000000	40.000000000000
56-02546-W	KITTERMAN PLACE	DEW	MND	877192.000000000000	1096345.000000000000	Water Table aquifer	15	36.000000000000	40.000000000000
56-02546-W	KITTERMAN PLACE	DEW	MND	877173.000000000000	1095756.000000000000	Water Table aquifer	15	36.000000000000	40.000000000000
56-02577-W	GROVE PARK	DEW	MND	888968.000000000000	1073385.000000000000	Water Table aquifer	6	37.000000000000	41.000000000000
56-02269-W	SILVER OAKS	DEW	MND	881723.000000000000	1088544.000000000000	Water Table aquifer	23	36.000000000000	40.000000000000
56-02634-W	TREASURE COAST LEXUS	DEW	MND	874460.000000000000	1104844.000000000000	Water Table aquifer	3	36.000000000000	40.000000000000
56-01972-W	ST LUCIE LANDING	DEW	MND	871824.000000000000	1094163.000000000000	Water Table Aquifer	16	36.000000000000	40.000000000000
56-00097-W	SPANISH LAKES MOBILE HOME PARK	PWS	MON	880171.000000000000	1085217.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-00097-W	SPANISH LAKES MOBILE HOME PARK	PWS	MON	880040.000000000000	1084855.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-00097-W	SPANISH LAKES MOBILE HOME PARK	PWS	MON	880187.000000000000	1085962.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-00097-W	SPANISH LAKES MOBILE HOME PARK	PWS	MON	881640.000000000000	1085927.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-00097-W	SPANISH LAKES MOBILE HOME PARK	PWS	MON	881640.000000000000	1085927.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-00097-W	SPANISH LAKES MOBILE HOME PARK	PWS	MON	881640.000000000000	1085927.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-00142-W	PORT ST LUCIE PUBLIC WATER SUPPLY SYSTEM	PWS	MON	873030.478000000000	1087348.743000000000	Surficial Aquifer System	1,2,10-15	36.000000000000	39.000000000000

Table 2.3.3-2
SFWMD Water Use Permits Within 5-Mile Radius of Site

Permit Number	Project Name	Landuse ¹	Water Use ²	X Coordinate	Y Coordinate	Source	Section	Township	Range
56-00142-W	PORT ST LUCIE PUBLIC WATER SUPPLY SYSTEM	PWS	MON	873035.890000000000	1087348.772000000000	Surficial Aquifer System	1,2,10-15	36.000000000000	39.000000000000
56-00142-W	PORT ST LUCIE PUBLIC WATER SUPPLY SYSTEM	PWS	MON	873035.858000000000	1087354.831000000000	Surficial Aquifer System	1,2,10-15	36.000000000000	39.000000000000
56-00300-W	OCEAN TOWERS UTILITY CORP INC	PWS	PWS	910399.000000000000	1076607.000000000000	Floridan Aquifer System	34,35	36.000000000000	41.000000000000
56-00300-W	OCEAN TOWERS UTILITY CORP INC	PWS	PWS	910274.000000000000	1076794.000000000000	Floridan Aquifer System	34,35	36.000000000000	41.000000000000
56-00794-W	LEXINGTON SQUARE	PWS	PWS	874824.000000000000	1094786.000000000000	Surficial Aquifer System	15	36.000000000000	40.000000000000
56-01509-W	SOUTH CANOE LAUNCH AREA/OFFICE	PWS	PWS	896364.000000000000	1080364.000000000000	Surficial Aquifer System		0.000000000000	0.000000000000
56-00794-W	LEXINGTON SQUARE	PWS	PWS	874643.000000000000	1094987.000000000000	Surficial Aquifer System	15	36.000000000000	40.000000000000
56-01392-W	RAINBOW MOBILE HOME PARK	PWS	PWS	874322.000000000000	1092775.000000000000	Surficial Aquifer System	15	36.000000000000	40.000000000000
56-00142-W	PORT ST LUCIE PUBLIC WATER SUPPLY SYSTEM	PWS	PWS	874707.000000000000	1084863.000000000000	Surficial Aquifer System	1,2,10-15	36.000000000000	39.000000000000
56-00142-W	PORT ST LUCIE PUBLIC WATER SUPPLY SYSTEM	PWS	PWS	875007.000000000000	1085583.000000000000	Surficial Aquifer System	1,2,10-15	36.000000000000	39.000000000000
56-01359-W	VILLAGE SQUARE SHOPPING CENTER	PWS	PWS	879637.000000000000	1081963.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-01369-W	PORT ST LUCIE LANES	PWS	PWS	874437.000000000000	1094463.000000000000	Surficial Aquifer System	15	36.000000000000	40.000000000000
56-01370-W	FLOWERS BAKING COMPANY/FT PIERCE	PWS	PWS	874724.000000000000	1095087.000000000000	Surficial Aquifer System	15	36.000000000000	40.000000000000
56-01486-W	PORT ST LUCIE MOVING & STORAGE	LAN	PWS	874825.000000000000	1100548.000000000000	Surficial Aquifer System	10	36.000000000000	40.000000000000
56-01382-W	GRIMES PLAZA II	PWS	PWS	876791.000000000000	1088842.000000000000	Surficial Aquifer System	22	36.000000000000	40.000000000000
56-01509-W	SOUTH CANOE LAUNCH AREA/OFFICE	PWS	PWS	896365.000000000000	1080364.000000000000	Surficial Aquifer System		0.000000000000	0.000000000000
56-01654-W	GROVE COMMUNITY ASSOCIATION INC	PWS	PWS	875832.000000000000	1100983.000000000000	Surficial Aquifer System	10	36.000000000000	40.000000000000
56-01654-W	GROVE COMMUNITY ASSOCIATION INC	PWS	PWS	875850.000000000000	1101054.000000000000	Surficial Aquifer System	10	36.000000000000	40.000000000000
56-01581-W	GASTON POULIN	PWS	PWS	879752.000000000000	1091852.000000000000	Surficial Aquifer System	23	36.000000000000	40.000000000000
56-01581-W	GASTON POULIN	PWS	PWS	879755.000000000000	1091851.000000000000	Surficial Aquifer System	23	36.000000000000	40.000000000000
56-02693-W	LEXINGTON SHOPPES	PWS	PWS	874886.000000000000	1093714.000000000000	Surficial Aquifer System	15	36.000000000000	40.000000000000
56-00097-W	SPANISH LAKES MOBILE HOME PARK	PWS	PWS	880171.000000000000	1085217.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-00097-W	SPANISH LAKES MOBILE HOME PARK	PWS	PWS	880040.000000000000	1084855.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-00097-W	SPANISH LAKES MOBILE HOME PARK	PWS	PWS	880187.000000000000	1085962.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-01806-W	STORE SMART SELF-STORAGE	PWS	PWS	875087.000000000000	1095585.000000000000	Surficial Aquifer System	10	36.000000000000	40.000000000000
56-01809-W	FLORIDA OUTDOOR RECREATION	LAN	PWS	874755.000000000000	1098065.000000000000	Surficial Aquifer System	10	36.000000000000	40.000000000000
56-00920-W	FLORIDA POWER & LIGHT - ST LUCIE COUNTY	LAN	PWS	881144.000000000000	1079308.000000000000	Surficial Aquifer System	10,14	34.000000000000	39.000000000000
56-00097-W	SPANISH LAKES MOBILE HOME PARK	PWS	PWS	878849.000000000000	1084702.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-00097-W	SPANISH LAKES MOBILE HOME PARK	PWS	PWS	880243.000000000000	1085411.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-01695-W	A PLUS STORAGE	LAN	PWS	879636.000000000000	1084592.000000000000	Surficial Aquifer System	26	36.000000000000	40.000000000000
56-02554-W	WALTON COMMUNITY CENTER	PWS	PWS	897075.000000000000	1080209.000000000000	Surficial Aquifer System	32	36.000000000000	41.000000000000
56-02693-W	LEXINGTON SHOPPES	PWS	PWS	874886.000000000000	1093714.000000000000	Surficial Aquifer System	15	36.000000000000	40.000000000000

Note: In some instances, there may be more than one Water Use for the same facility(€, both PWS and monitor). This will result in two records for that one facility.

¹ Land Use Abbreviations		
AGR	Agriculture	
AQU	Aquaculture	
DEW	Dewatering	
IND	Industrial	
LAN	Landscape	
LIV	Livestock	
PWS	Public Water Supply	

² Water Use Abbreviations		
AQC	Aquaculture	
DAI	Diversion & Impoundment	
FRZ	Freeze Protection	
IND	Industrial	
IRR	Irrigation	
LIV	Livestock	
MND	Monitoring	
PWS	Public Water Supply	

Source: SFWMD, 2007.

**TABLE 2.3.6-1
THREATENED, ENDANGERED, AND PLANT AND ANIMAL SPECIES OF SPECIAL
CONCERN KNOWN TO OCCUR IN ST. LUCIE COUNTY, FLORIDA**

Scientific Name	Common Name	Federal Status	State Status
FISH			
<i>Rivulus marmoratus</i>	mangrove rivulus	N	LS
<i>Acipenser oxyrhynchus</i>	Atlantic sturgeon	LS ¹	LS ²
<i>Centropomus undecimalis</i>	Common snook	N	N ³
<i>Pristis pectinata</i>	Smalltooth sawfish	LE ¹	N
REPTILES AND AMPHIBIANS			
<i>Rana capito</i>	gopher frog	N	LS
<i>Alligator mississippiensis</i>	American alligator	T(S/A)	LS
<i>Caretta caretta</i>	Loggerhead sea turtle	LT	LT
<i>Chelonia mydas</i>	green sea turtle	LE	LE
<i>Dermochelys coriacea</i>	Leatherback sea turtle	LE	LE
<i>Drymarchon corais couperi</i>	eastern indigo snake	LT	LT
<i>Eretmochelys imbricata</i>	Hawksbill sea turtle	LE	LE
<i>Gopherus polyphemus</i>	gopher tortoise	N	LT
<i>Lepidochelys kempii</i>	Kemp's ridley sea turtle	LE	LE
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	N	LS
BIRDS			
<i>Aphelocoma coerulescens</i>	Florida scrub-jay	LT	LT
<i>Aramus guarauna</i>	Limpkin	N	LS
<i>Athene cunicularia floridana</i>	Florida burrowing owl	N	LS
<i>Caracara cheriway</i>	crested caracara	LT	LT
<i>Charadrius melodus</i>	piping plover	LT	LT
<i>Egretta caerulea</i>	little blue heron	N	LS

**TABLE 2.3.6-1
THREATENED, ENDANGERED, AND PLANT AND ANIMAL SPECIES OF SPECIAL
CONCERN KNOWN TO OCCUR IN ST. LUCIE COUNTY, FLORIDA**

Scientific Name	Common Name	Federal Status	State Status
<i>Egretta thula</i>	snowy egret	N	LS
<i>Egretta tricolor</i>	tricolored heron	N	LS
<i>Eudocimus albus</i>	white ibis	N	LS
<i>Falco peregrinus</i>	peregrine falcon	N	LE
<i>Falco sparverius paulus</i>	southeastern American kestrel	N	LT
<i>Grus canadensis pratensis</i>	Florida sandhill crane	N	LT
<i>Haematopus palliatus</i>	American oystercatcher	N	LS
<i>Haliaeetus leucocephalus</i>	bald eagle	N	LT
<i>Mycteria americana</i>	wood stork	LE	LE
<i>Pelecanus occidentalis</i>	brown pelican	N	LS
<i>Platalea ajaja</i>	roseate spoonbill	N	LS
<i>Rostrhamus sociabilis plumbeus</i>	snail kite	LE	LE
<i>Rynchops niger</i>	black skimmer	N	LS
<i>Sterna antillarum</i>	least tern	N	LT
MAMMALS***			
<i>Peromyscus polionotus niveiventris</i>	southeastern beach mouse	LT	LT
<i>Podomys floridanus</i>	Florida mouse	N	LS
<i>Sciurus niger shermani</i>	Sherman's fox squirrel	N	LS
<i>Trichechus manatus</i>	Manatee	LE	LE
PLANTS			
<i>Argusia gnaphalodes</i>	sea lavender	N	LE
<i>Chamaesyce cumulicola</i>	sand-dune spurge	N	LE
<i>Coelorachis tuberculosa</i>	Piedmont jointgrass	N	LT

TABLE 2.3.6-1
THREATENED, ENDANGERED, AND PLANT AND ANIMAL SPECIES OF SPECIAL
CONCERN KNOWN TO OCCUR IN ST. LUCIE COUNTY, FLORIDA

Scientific Name	Common Name	Federal Status	State Status
<i>Conradina grandiflora</i>	large-flowered rosemary	N	LT
<i>Dicerandra immaculata</i>	Lakela's mint	LE	LE
<i>Glandularia maritima</i>	coastal vervain	N	LE
<i>Halophila johnsonii</i>	Johnson's seagrass	LT	N
<i>Harrisia fragrans</i>	fragrant prickly apple	LE	LE
<i>Lechea cernua</i>	nodding pinweed	N	LT
<i>Okenia hypogaea</i>	burrowing four-o'clock	N	LE
<i>Peperomia obtusifolia</i>	blunt-leaved peperomia	N	LE
<i>Polygala smallii</i>	tiny polygala	LE	LE
<i>Pteroglossaspis ecristata</i>	giant orchid	N	LT
<i>Schizachyrium niveum</i>	scrub bluestem	N	LE
<i>Tephrosia angustissima</i> var <i>curtissii</i>	coastal hoary-pea	N	LE

Federal/State Status:

LT = Listed as Threatened

LE = Listed as Endangered

LS = Listed as Species of Special Concern

N = Not listed

T (S/A) = Listed as Threatened due to similarity of appearance

¹ National Oceanic and Atmospheric Administration, National Marine Fisheries Service (2007)

² Florida Fish and Wildlife Conservation Commission (2007)

³ Common snook is not a listed species, but its recreational harvest is regulated by the Florida Fish and Wildlife Conservation Commission (2007).

Source: Florida Natural Areas Inventory, 2007.

TABLE 2.3.7-1
MONTHLY AND ANNUAL AVERAGE TEMPERATURES MEASURED
AT PALM BEACH INTERNATIONAL AIRPORT

Month	Daily Average Temperatures (°F)^a			Daily Extremes (°F)^b	
	Average	Maximum	Minimum	Maximum	Minimum
January	66.2	75.1	57.3	89	27
February	67.2	76.3	58.2	90	32
March	70.6	79.2	61.9	94	30
April	73.8	82.1	65.4	99	43
May	78.2	85.9	70.5	96	51
June	81.2	88.5	73.8	98	61
July	82.5	90.1	75.0	101	66
August	82.8	90.1	75.4	99	65
September	81.7	88.7	74.7	97	66
October	78.1	85.0	71.2	95	46
November	73.1	80.4	65.8	91	36
December	68.3	76.4	60.1	90	28
Annual	75.3	83.2	67.4	101	27

^a 30-year period of record, climatological normal, 1971 to 2000.

^b 69-year period of record, 1938 to 2006.

Source: National Oceanic and Atmospheric Administration (NOAA), 2006.

TABLE 2.3.7-2
MONTHLY AND ANNUAL AVERAGE PRECIPITATION
AND RELATIVE HUMIDITY
MEASURED AT PALM BEACH INTERNATIONAL AIRPORT

Month	Precipitation (inches)			Humidity (%) hour (LST) ^a			
	Average ^a	Maximum ^b	Minimum ^b	1 a.m.	7 a.m.	1 p.m.	7 p.m.
January	3.75	11.18	0.22	82	84	59	73
February	2.55	8.71	0.29	81	84	57	70
March	3.68	16.78	0.33	79	82	56	68
April	3.57	18.26	0.04	77	80	55	66
May	5.39	15.22	0.39	80	80	59	71
June	7.58	20.09	1.07	85	84	65	76
July	5.97	17.74	1.22	85	85	64	75
August	6.65	13.52	1.73	85	86	64	76
September	8.1	29.4	1.77	85	87	66	78
October	5.46	18.74	0.56	81	84	62	75
November	5.55	14.63	0.23	81	84	62	74
December	3.14	11.69	0.06	82	84	61	74
Annual	61.39	85.89	38.66	82	84	61	73

^a 30-year period of record, climatological normal, 1971 to 2000.

^b 67-year period of record, 1940 to 2006 for monthly values; 30-year period of record, 1977 to 2006 for annual values.

Note: LST = local standard time.

Source: NOAA, 2006.

TABLE 2.3.7-3
SEASONAL AND ANNUAL AVERAGE WIND SPEEDS
AT PALM BEACH INTERNATIONAL AIRPORT

Season	Wind Speed^a		Calm^a
	(knots)	(mph)	(%)
Winter	7.90	9.1	9.65
Spring	8.43	9.7	9.19
Summer	6.75	7.8	16.3
Autumn	8.13	9.4	9.72
Annual	7.80	9.0	11.2

^a 5-year period of record, 2001 to 2005

Source: NOAA, 2005.

TABLE 2.3.7-4
SEASONAL AND ANNUAL AVERAGE ATMOSPHERIC STABILITY CLASSES
AT PALM BEACH INTERNATIONAL AIRPORT

Season	Occurrence (%) of Stability Class					
	Very Unstable	Moderately Unstable	Unstable	Neutral	Stable	Slightly Stable
Winter	0.2	3.3	10.5	44.1	17.7	24.3
Spring	0.9	5.6	15.8	43.0	16.6	18.1
Summer	1.5	10.6	20.9	25.1	13.8	28.1
Autumn	0.5	4.8	13.5	40.2	17.9	23.1
Annual	0.8	6.1	15.2	38.1	16.5	23.4

^a 5-year period of record, 2001 to 2005

Source: NOAA, 2005.

TABLE 2.3.7-5
SEASONAL AND ANNUAL AVERAGE
MORNING AND AFTERNOON MIXING HEIGHTS
AT PALM BEACH INTERNATIONAL AIRPORT

Season	Mixing Height (m)	
	Morning	Afternoon
Winter	853	1,835
Spring	1,248	2,342
Summer	849	2,168
Autumn	1,025	2,055
Annual	995	2,101

^a 5-year period of record, 2001 to 2005.

Based on surface and upper air data from the NWS stations at Palm Beach and Miami International Airports, respectively.

Source: NOAA, 2005.

**TABLE 2.3.7-6
NATIONAL AND STATE AAQS, ALLOWABLE PSD INCREMENTS, AND SIGNIFICANT IMPACT LEVELS**

Pollutant	Averaging Time	National AAQS ($\mu\text{g}/\text{m}^3$) ^a		Florida AAQS ^a ($\mu\text{g}/\text{m}^3$)	PSD Increments ($\mu\text{g}/\text{m}^3$) ^a		Significant Impact Levels ($\mu\text{g}/\text{m}^3$) ^b	
		Primary Standard	Secondary Standard		Class I	Class II	Class I	Class II
Particulate Matter ^c (PM ₁₀)	Annual Arithmetic Mean	50	50	50	4	17	0.2	1
	24-Hour Maximum	150	150	150	8	30	0.3	5
Particulate Matter ^c (PM _{2.5})	Annual Arithmetic Mean	15	15	50	NA	NA	NA	NA
	24-Hour Maximum	35	35	150	NA	NA	NA	NA
Sulfur Dioxide	Annual Arithmetic Mean	80	NA	60	2	20	0.1	1
	24-Hour Maximum	365	NA	260	5	91	0.2	5
	3-Hour Maximum	NA	1,300	1,300	25	512	1.0	25
Carbon Monoxide	8-Hour Maximum	10,000	10,000	10,000	NA	NA	NA	500
	1-Hour Maximum	40,000	40,000	40,000	NA	NA	NA	2,000
Nitrogen Dioxide	Annual Arithmetic Mean	100	100	100	2.5	25	0.1	1
Ozone ^d	1-Hour Maximum ^d	235	235	235	NA	NA	NA	NA
	8-Hour Maximum ^e	160	160					
Lead	Calendar Quarter Arithmetic Mean	1.5	1.5	1.5	NA	NA	NA	NA

Note: Particulate matter (PM₁₀) = particulate matter with aerodynamic diameter less than or equal to 10 micrometers.

Particulate matter (PM_{2.5}) = particulate matter with aerodynamic diameter less than or equal to 10 micrometers.

NA = Not applicable, i.e., no standard exists or not promulgated yet.

^a Short-term maximum concentrations are not to be exceeded more than once per year, except for PM₁₀, PM_{2.5}, and O₃ AAQS which are based on expected exceedences.

^b Maximum concentrations are not to be exceeded.

^c PM_{2.5}: 24-hour standard based on the 3-year averages of the 98th percentile values; annual standard based on 3-year average at community monitors. These standards must be implemented in the 2007-2008 timeframe. On October 17, 2006, EPA finalized the PM AAQS (71 FR 61236). The 24-hour PM_{2.5} standard was changed to 35 $\mu\text{g}/\text{m}^3$. Annual PM₁₀ standard was revoked. The FDEP has not yet adopted the revised standards.

^d 0.12 ppm; achieved when the expected number of days per year with concentrations above the standard is fewer than 1.

^e 0.08 ppm; achieved when the 3-year average of 99th percentile values is 0.08 ppm or less. These standards must be implemented in the 2007-2008 timeframe. The FDEP has not yet adopted the revised standards.

Sources: Federal Register, Vol. 43, No. 118, June 19, 1978; 40 CFR 50; 40 CFR 52.21; Florida Chapter 62.204, F.A.C., Golder, 2007.

TABLE 2.3.7-7
SUMMARY OF MAXIMUM MEASURED SO₂, PM₁₀, O₃, NO₂, AND CO CONCENTRATIONS OBSERVED FROM REPRESENTATIVE MONITORING STATIONS
2004 THROUGH 2006

AIRS Site No.	Operator	Location	Measurement Period		Concentration							
					1-Hour		3-Hour		8-Hour	24-Hour		Annual
			Year	Months	Highest	2nd Highest	Highest	2nd Highest	3-year Average 4th Highest	Highest	2nd Highest	Average
Sulfur dioxide		Florida AAQS			NA	NA	NA	0.5 ppm	NA	NA	0.1 ppm	0.02 ppm
12-099-3004	Palm Beach County	1050 15th Street Riviera Beach	2006	Jan-Dec	NA	NA	0.003	0.002	NA	0.002	0.002	0.0011
			2005	Jan-Dec	NA	NA	0.003	0.003	NA	0.003	0.003	0.0012
			2004	Jan-Dec	NA	NA	0.002	0.002	NA	0.001	0.001	0.0010
PM₁₀^a		Florida AAQS			NA	NA	NA	NA	NA	NA	150 µg/m³	50 µg/m³
12-111-1002	St. Lucie	101 N. Rock Road Fort Pierce	2006	Jan-Dec	NA	NA	NA	NA	NA	NM	NM	NM
			2005	Jan-Dec	NA	NA	NA	NA	NA	35	31	17.4
			2004	Jan-Dec	NA	NA	NA	NA	NA	49	45	16.2
Ozone^a		Florida AAQS			NA	0.12 ppm	NA	NA	0.08 ppm	NA	NA	NA
12-111-1002	St. Lucie	101 N. Rock Road Fort Pierce	2006	Jan-Dec	0.079	0.076	NA	NA	0	NA	NA	NA
			2005	Jan-Dec	0.080	0.078	NA	NA	0	NA	NA	NA
			2004	Jan-Dec	0.084	0.084	NA	NA	0	NA	NA	NA
Nitrogen dioxide		Florida AAQS			NA	NA	NA	NA	NA	NA	NA	0.053 ppm
12-111-1002	St. Lucie	101 N. Rock Road Fort Pierce	2006	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	NM
			2005	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	0.0102
			2004	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	0.0097
Carbon monoxide		Florida AAQS			NA	35 ppm	NA	NA	9 ppm	NA	NA	NA
12-099-1004	Palm Beach County	3700 Belvedere Road Palm Beach	2006	Jan-Dec	5.8	2.8	NA	NA	2nd Highest 1.8	NA	NA	NA
			2005	Jan-Dec	4.3	3.4	NA	NA	2.2	NA	NA	NA
			2004	Jan-Dec	3.2	3.0	NA	NA	1.8	NA	NA	NA

Note: AAQS = ambient air quality standard
 NA = not applicable
 NM = not monitored



Source: EPA Aerametric Information Retrieval System, Air Quality Subsystem, Quick Look Report, Florida, 2004-2006

TABLE 2.3.8-1
BASELINE AMBIENT SOUND PRESSURE LEVELS AT THE ST. LUCIE PLANT SITE FOR THE BOUNDARY SITES

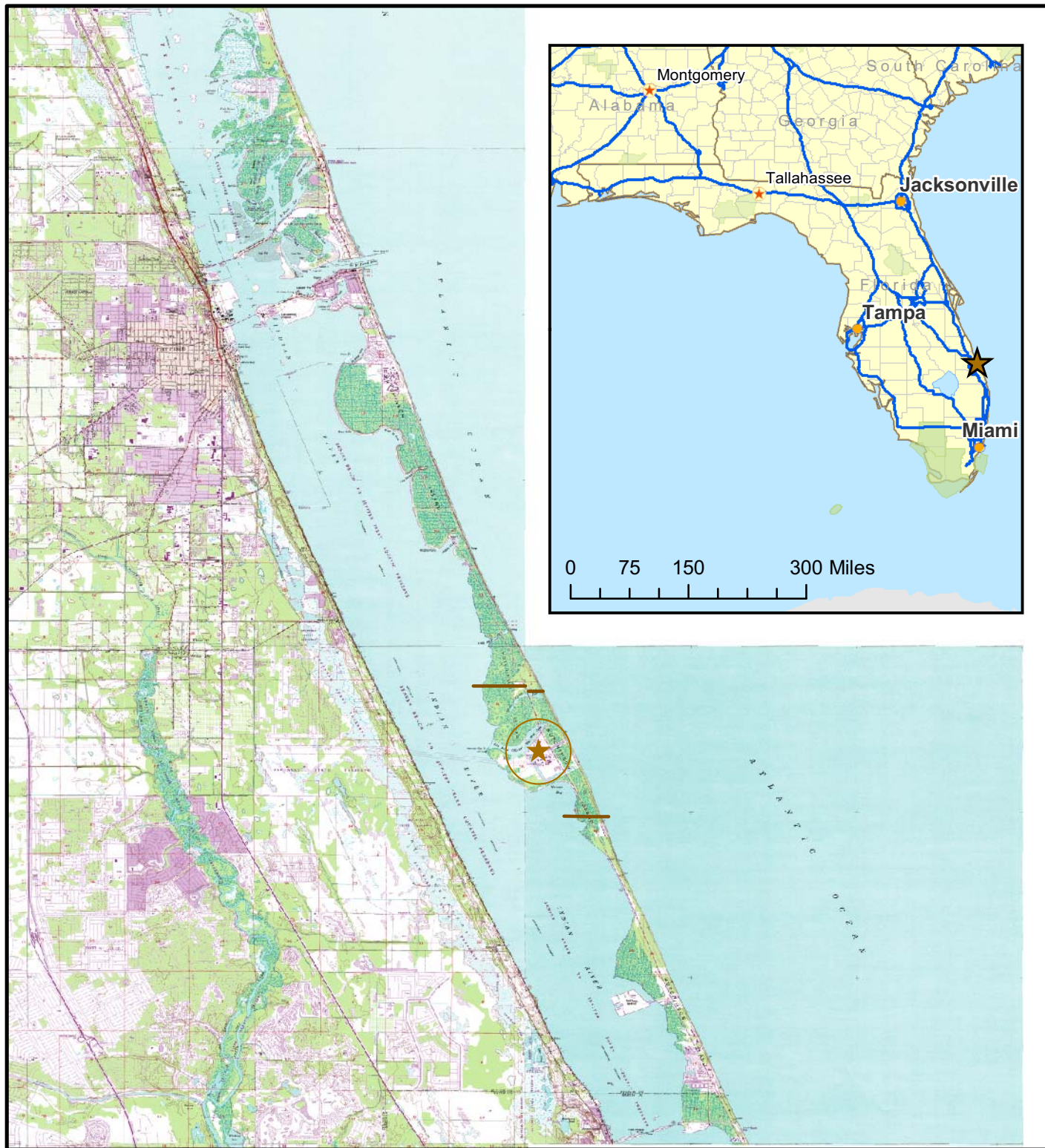
Site	Coordinates	Date	Time	Sound Levels (dBA)				Observations
				Min	Max	L ₉₀	Leq	
1B-Main Entrance	27o 21' 4.0" N	28-Sep-07	Daytime	51	92	53	77	Traffic
Northeast of Unit 1	80o 14' 41.0"W	27-Sep-07	Nighttime	52	67	53	55	Plant, Traffic, Insects, Birds
2B-South of the Canal at Gate G	27o 20' 30.0" N	28-Sep-07	Daytime	42	76	46	61	Traffic, Plant, Insects
Southeast of Unit 2	80o 14' 20.0"W	27-Sep-07	Nighttime	56	68	57	57	Spot Light Generator, Plant, Traffic, Insects
3B-North on the Inner Loop of the	27o 20' 42.0" N	28-Sep-07	Daytime	42	59	44	47	Insects, Birds, Splashing
West Forty	80o 15' 16.0"W	27-Sep-07	Nighttime	49	55	50	51	Insects, Plant, Birds
4B-South on the Inner Loop of the	27o 20' 22.0" N	28-Sep-07	Daytime	45	57	46	49	Waves, Plant, Boats, Construction, Insects, Birds
West Forty	80o 14' 57.0"W	27-Sep-07	Nighttime	45	55	47	48	Plant, Insects, Traffic

Source: Golder, 2007.

TABLE 2.3.8-2
BASELINE AMBIENT SOUND PRESSURE LEVELS AT THE ST. LUCIE PLANT SITE FOR FAR FIELD SITES

Site	Coordinates	Date	Time	Sound Levels (dBA)				Observations
				Min	Max	L ₉₀	Leq	
1F-Ocean Side Condominiums	27o 19' 50.0" N	28-Sep-07	Daytime	56	66	59	61	Traffic, Construction
Southeast of Plant	80o 13' 52.0"W	27-Sep-07	Nighttime	42	48	44	46	Ocean, Traffic
2F-Walton Rock Park	27o 20' 27.0" N	28-Sep-07	Daytime	49	74	51	55	Insects, Waves, Traffic
South East of Unit 2	80o 14' 7.0"W	27-Sep-07	Nighttime	47	51	47	48	Ocean, Traffic, Plant
3F-Ocean Drive Road	27o 21' 53.0" N	28-Sep-07	Daytime	49	83	50	65	Traffic, Insects, Helicopter
Northeast of Unit 1	80o 14' 55.0"W	27-Sep-07	Nighttime	40	74	41	50	Ocean, Traffic
4F-Near the Power on Indian River Rd.	27o 20' 16.0" N	28-Sep-07	Daytime	34	82	40	62	Train, Traffic, Birds, Boats
Northwest of Plant across River	80o 16' 27.0"W	27-Sep-07	Nighttime	48	75	49	57	Traffic, Insects, Birds
5F-On Indian River Rd.	27o 20' 1.0" N	28-Sep-07	Daytime	35	80	41	61	Boats, Traffic, Birds
Directly West of Plant across River	80o 16' 16.0"W	27-Sep-07	Nighttime	39	78	41	56	Traffic, Insects, Birds
6F- On Indian River Rd.	27o 19' 28.0" N	28-Sep-07	Daytime	40	78	44	63	Waves, Traffic, Seagulls
Southwest of Plant across River	80o 16' 05.0"W	27-Sep-07	Nighttime	46	81	48	59	Traffic, Insects, Birds, Slight Plant, Boat

Source: Golder, 2007.



LEGEND



FPL St. Lucie Plant

— FPL St. Lucie Plant Property Boundary

REFERENCE

1. USGS-NRCS-NCGC Topographic Image 1:24,000, 1999. 2. FPL, 2001.

0 1.5 3 6 Miles



PROJECT

ST. LUCIE
UPRATE PROJECT

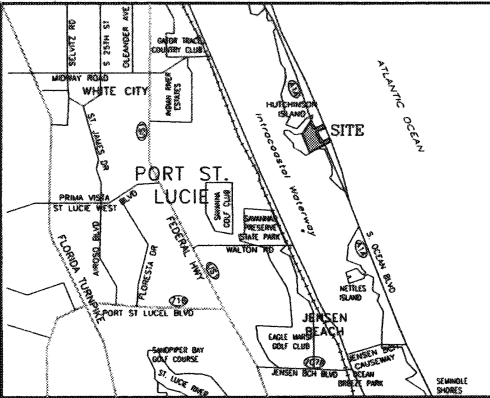
TITLE

SITE LOCATION MAP



PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	11/12/07	FIGURE 2.1.1-1	
GIS	RL	11/13/07		
CHECK	SM	11/13/07		
REVIEW	KK	11/13/07		

Specific Purpose Survey for:
The Florida Power & Light Company
PORT ST. LUCIE, ST LUCIE COUNTY, FLORIDA.
Sections 9 & 16, Township 36 South, Range 41 East



VICINITY MAP
(NOT TO SCALE)

K.S.
Keith & Schnars, P.A.
ENGINEERS • PLANNERS • SURVEYORS
1880 SE Lyngate Drive
Suite 202 Port St. Lucie, FL 34952
Phone: (772) 323-2244
Fax: (772) 323-2244

DESCRIPTION of PERIMETER

COMMENCING AT THE POINT OF CURVATURE OF A CURVE AT STATION 374+18.40 PER FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP SECTION NO. 9405-107, OF STATE ROAD A-1-A, ST. LUCIE COUNTY, FLORIDA, WITH A REVISION DATE OF 8-8-56; THENCE S60°54'09"W, A DISTANCE OF 50.00 FEET TO THE WEST RIGHT OF WAY LINE OF STATE ROAD A-1-A; THENCE ALONG SAID WEST RIGHT OF WAY LINE S29°05'51"E, A DISTANCE OF 6.86 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE CONTINUING ALONG SAID WEST RIGHT OF WAY LINE, PROCEED A DISTANCE OF 687.96 FEET TO A POINT; THENCE DEPARTING SAID WEST RIGHT OF WAY OF STATE ROAD A-1-A, PROCEED FOR THE FOLLOWING EIGHT (8) COURSES:

THENCE NORTH 60°38'44" EAST, FOR A DISTANCE OF 1456.34 FEET;
THENCE SOUTH 66°47'51" EAST, FOR A DISTANCE OF 99.36 FEET;
THENCE SOUTH 30°03'12" EAST, FOR A DISTANCE OF 64.12 FEET;
THENCE SOUTH 07°08'11" WEST, FOR A DISTANCE OF 233.71 FEET;
THENCE SOUTH 23°43'30" EAST, FOR A DISTANCE OF 222.22 FEET;
THENCE SOUTH 60°38'44" WEST, FOR A DISTANCE OF 283.09 FEET;
THENCE NORTH 28°10'57" WEST, FOR A DISTANCE OF 288.49 FEET;
THENCE SOUTH 61°08'54" WEST, FOR A DISTANCE OF 1080.74 FEET, TO A POINT ON THE AFOREMENTIONED WEST RIGHT OF WAY LINE OF STATE ROAD A-1-A;
THENCE SOUTH 29°05'51" EAST, ALONG SAID WEST RIGHT OF WAY LINE, FOR A DISTANCE OF 2100.59 FEET; THENCE DEPARTING SAID WEST RIGHT OF WAY OF STATE ROAD A-1-A, PROCEED FOR THE FOLLOWING EIGHT (8) COURSES:

THENCE NORTH 60°50'08" EAST, FOR A DISTANCE OF 784.66 FEET;
THENCE NORTH 47°14'45" EAST, FOR A DISTANCE OF 100.05 FEET;
THENCE NORTH 60°15'57" EAST, FOR A DISTANCE OF 360.31 FEET;
THENCE SOUTH 24°28'04" EAST, FOR A DISTANCE OF 377.19 FEET;
THENCE SOUTH 40°10'10" WEST, FOR A DISTANCE OF 105.10 FEET;
THENCE SOUTH 61°43'55" WEST, FOR A DISTANCE OF 978.05 FEET;
THENCE NORTH 29°21'08" WEST, FOR A DISTANCE OF 40.99 FEET;
THENCE SOUTH 60°59'17" WEST, FOR A DISTANCE OF 84.28 FEET, TO A POINT ON THE CENTERLINE OF A 100 FOOT RIGHT OF WAY FOR THE AFOREMENTIONED STATE ROAD A-1-A;
THENCE DEPARTING SAID CENTERLINE PROCEED FOR THE FOLLOWING TWENTY-FIVE(25) COURSES:

THENCE SOUTH 60°59'17" WEST, FOR A DISTANCE OF 399.26 FEET;
THENCE SOUTH 51°25'23" WEST, FOR A DISTANCE OF 30.00 FEET;
THENCE SOUTH 60°55'21" WEST, FOR A DISTANCE OF 1070.84 FEET TO A POINT OF CURVATURE OF A CURVE CONCAVE TO THE NORTHEASTERLY HAVING A RADIUS OF 475.00 FEET; THENCE WESTERLY AND NORTHWESTERLY ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 90°01'22", FOR A DISTANCE OF 748.32 FEET; THENCE NORTH 29°03'17" WEST, FOR AN ARC LENGTH OF 729.93 FEET;
THENCE NORTH 26°33'47" WEST, FOR A DISTANCE OF 110.00 FEET;
THENCE NORTH 28°46'31" WEST, FOR A DISTANCE OF 1003.93 FEET;
THENCE SOUTH 60°58'00" WEST, FOR A DISTANCE OF 411.70 FEET;
THENCE NORTH 29°03'13" WEST, FOR A DISTANCE OF 360.59 FEET;
THENCE NORTH 61°01'42" EAST, FOR A DISTANCE OF 308.34 FEET;
THENCE NORTH 28°58'18" WEST, FOR A DISTANCE OF 132.28 FEET;
THENCE NORTH 29°49'11" EAST, FOR A DISTANCE OF 87.86 FEET;
THENCE NORTH 16°00'17" EAST, FOR A DISTANCE OF 304.83 FEET;
THENCE NORTH 60°46'23" EAST, FOR A DISTANCE OF 136.91 FEET;
THENCE NORTH 28°25'27" WEST, FOR A DISTANCE OF 89.91 FEET;
THENCE NORTH 16°25'00" WEST, FOR A DISTANCE OF 37.63 FEET;
THENCE NORTH 16°05'16" EAST, FOR A DISTANCE OF 125.32 FEET;
THENCE NORTH 61°17'44" EAST, FOR A DISTANCE OF 250.28 FEET;
THENCE NORTH 24°24'34" WEST, FOR A DISTANCE OF 145.78 FEET;
THENCE NORTH 25°43'11" EAST, FOR A DISTANCE OF 71.69 FEET;
THENCE NORTH 18°31'49" EAST, FOR A DISTANCE OF 81.65 FEET;
THENCE NORTH 00°02'32" WEST, FOR A DISTANCE OF 152.80 FEET;
THENCE NORTH 58°30'53" EAST, FOR A DISTANCE OF 311.58 FEET;
THENCE SOUTH 29°57'51" EAST, FOR A DISTANCE OF 105.71 FEET;
THENCE NORTH 60°02'09" EAST, FOR A DISTANCE OF 742.24 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION.

SAID LANDS LYING AND BEING IN ST. LUCIE COUNTY, AND CONTAINING 177.02 ACRES MORE OR LESS.

FIGURE 2.1.1-1.

CERTIFIED SITE LAYOUT

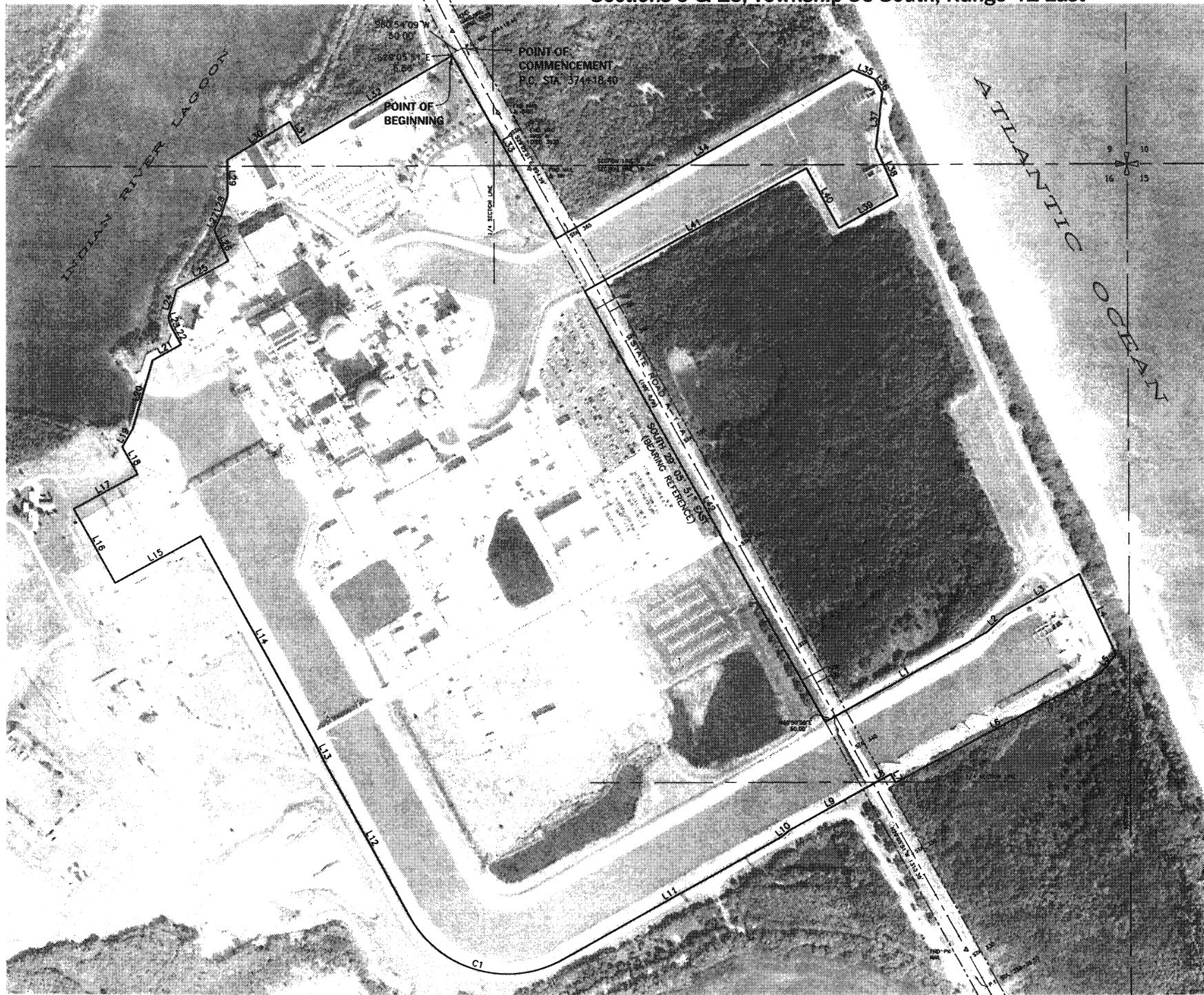
I HEREBY CERTIFY THAT THE ATTACHED SPECIFIC PURPOSE SURVEY OF THE HEREIN DESCRIBED PROPERTY IS DEPICTED TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION AS SURVEYED UNDER MY DIRECTION ON NOVEMBER 21, 2007. I FURTHER CERTIFY THAT THIS SPECIFIC PURPOSE SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES, SUBJECT TO THE QUALIFICATIONS NOTED HEREON.

KEITH & SCHNARS, P.A.
ENGINEERS-PLANNERS-SURVEYORS
By: Robert N. Johnson
Professional Surveyor & Mapper
Florida Registration No. 6540 (For The Firm)

Date of Signature
11/26/2007

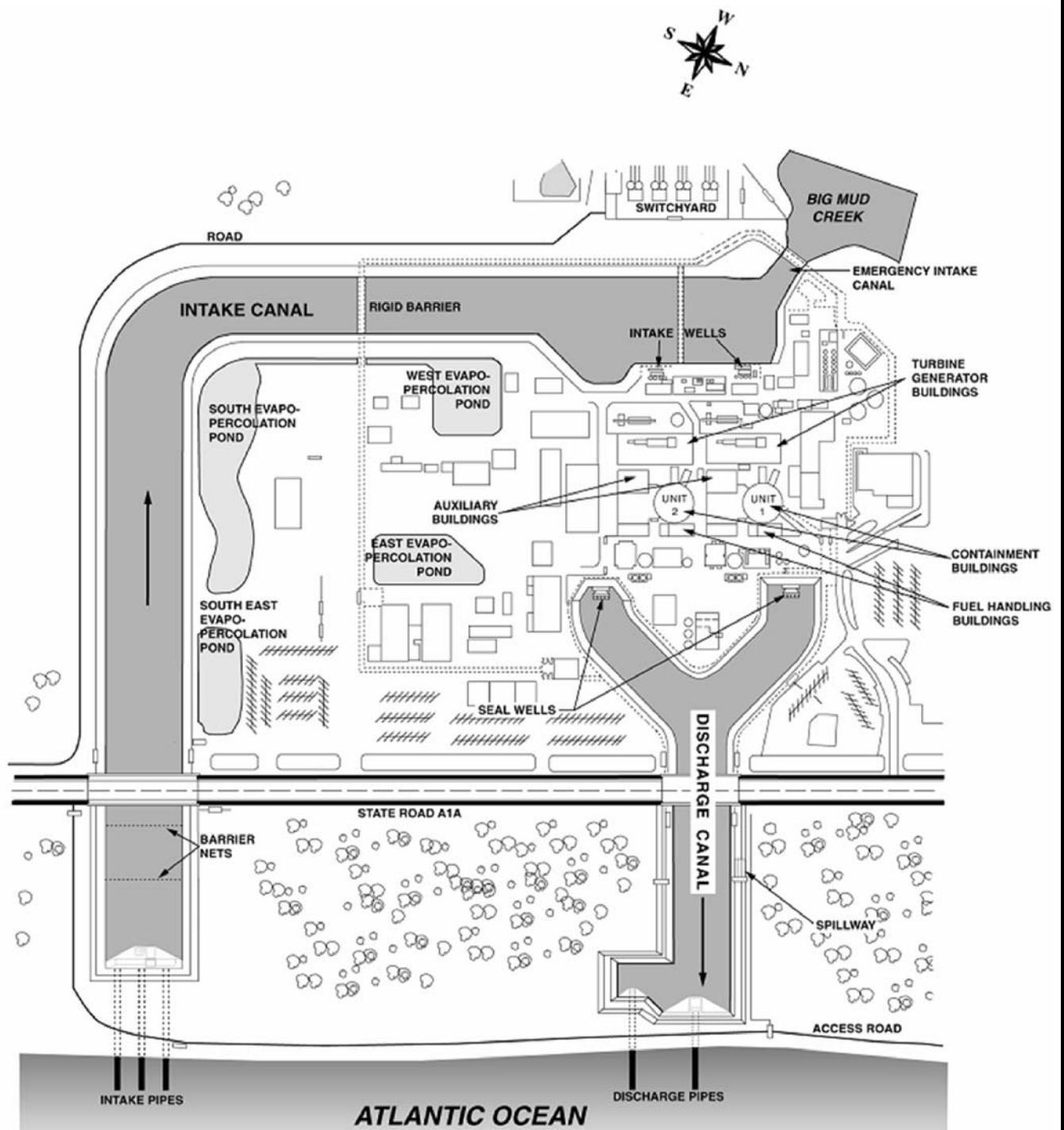
SPECIFIC PURPOSE SURVEY
for The Florida Power & Light Company
SAINT LUCIE NUCLEAR POWER PLANT
PORT ST. LUCIE, ST LUCIE COUNTY, FLORIDA.

SHEET NO. 1
OF 1 SHEETS
PROJECT NO. 17677.05
©2007



LINE TABLE			LINE TABLE			CURVE TABLE			
LINE	LENGTH	BEARING	LINE	LENGTH	BEARING	Curve	Length	Radius	Chord Direction / Length
L1	784.66	N60°50'08"E	L23	89.91	N28°25'27"W	C1	746.32	475.00	S74°02'58"E 671.89 120°10'22"
L2	100.05	N47°14'45"E	L24	103.93	N60°58'00"W				
L3	360.31	N60°15'57"E	L25	233.71	N07°08'11"W				
L4	277.19	S24°28'04"E	L26	222.22	N23°43'30"E				
L5	105.10	S40°10'10"W	L27	978.05	N61°43'55"W				
L6	978.05	S61°43'55"W	L28	87.86	N29°49'11"E				
L7	48.99	N29°21'08"W	L29	84.28	S60°59'17"W				
L8	84.28	S60°59'17"W	L30	399.26	S60°59'17"W				
L9	399.26	S60°59'17"W	L31	30.00	S51°25'23"W				
L10	50.00	S60°54'09"W	L32	742.24	N60°02'09"E				
L11	1070.84	S60°55'21"W	L33	729.93	N26°33'47"W				
L12	729.93	N26°33'47"W	L34	110.00	N28°46'31"W				
L13	110.00	N28°46'31"W	L35	1003.93	N60°58'00"W				
L14	411.70	N29°03'13"W	L36	360.59	N61°01'42"E				
L15	360.59	N61°01'42"E	L37	132.28	N28°58'18"W				
L16	87.86	N29°49'11"E	L38	81.65	N18°31'49"E				
L17	152.80	N00°02'32"W	L39	311.58	N58°30'53"E				
L18	132.28	N07°08'11"E	L40	233.71	S07°08'11"W				
L19	87.86	S29°49'11"E	L41	105.71	S29°57'51"E				
L20	311.58	S29°57'51"E	L42	742.24	N60°02'09"E				
L21	105.71	S29°57'51"E							
L22	136.91	N60°46'23"E							

NOTES:
1.) THE BEARINGS SHOWN HEREON ARE ASSUMED AND REFER TO THE SOUTHWESTERLY RIGHT-OF-WAY OF STATE ROAD A-1-A, BEING NORTH 29°05'51" WEST, AS RECORDED IN FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY MAP FOR STATE ROAD NO. A-1-A, SECTION NO. 9405-107, DATED 8-8-56.
2.) THE SPECIFIC PURPOSE OF THIS SURVEY IS TO GRAPHICALLY DEPICT THE "NUCLEAR PERIMETER SITE LIMITS" AT THE SAINT LUCIE NUCLEAR POWER PLANT AS DESCRIBED BY THE CLIENT.
3.) ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SURVEY PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SURVEY PARTY OR PARTIES.
4.) FEATURES REPRESENTED BY SYMBOL(S) ARE LOCATED AT THE CENTER OF SYMBOL AND ARE NOT TO SCALE, UNLESS OTHERWISE NOTED.
5.) LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR RIGHTS-OF-WAY, EASEMENTS, OWNERSHIP, OR OTHER INSTRUMENTS OF RECORD.
6.) THE LAST DATE OF FIELD WORK WAS APRIL 17, 2007.
7.) THE ORTHO-NAME SHOWN HEREON IS FOR GRAPHIC PURPOSES ONLY AND HAS NOT BEEN GEO-RECTIFIED.
8.) THIS IS NOT A BOUNDARY SURVEY.



LEGEND:

- = COOLING WATER
- = EVAPO-PERCOLATION PONDS
- = MANGROVE IMPOUNDMENTS
- = PARKING

REFERENCE

1. FPL, 2001

PROJECT

ST. LUCIE
UPGRADE PROJECT

TITLE

**COOLING WATER INTAKE
AND DISCHARGE SYSTEM**



PROJECT No. 0738-97685

SCALE AS SHOWN REV. 0

DESIGN	KK	11/28/07
GIS	RL	12/4/07
CHECK	SM	12/4/07
REVIEW	RL	12/4/07

FIGURE 2.1.2-1



LEGEND

— FPL St. Lucie Plant Property Boundary

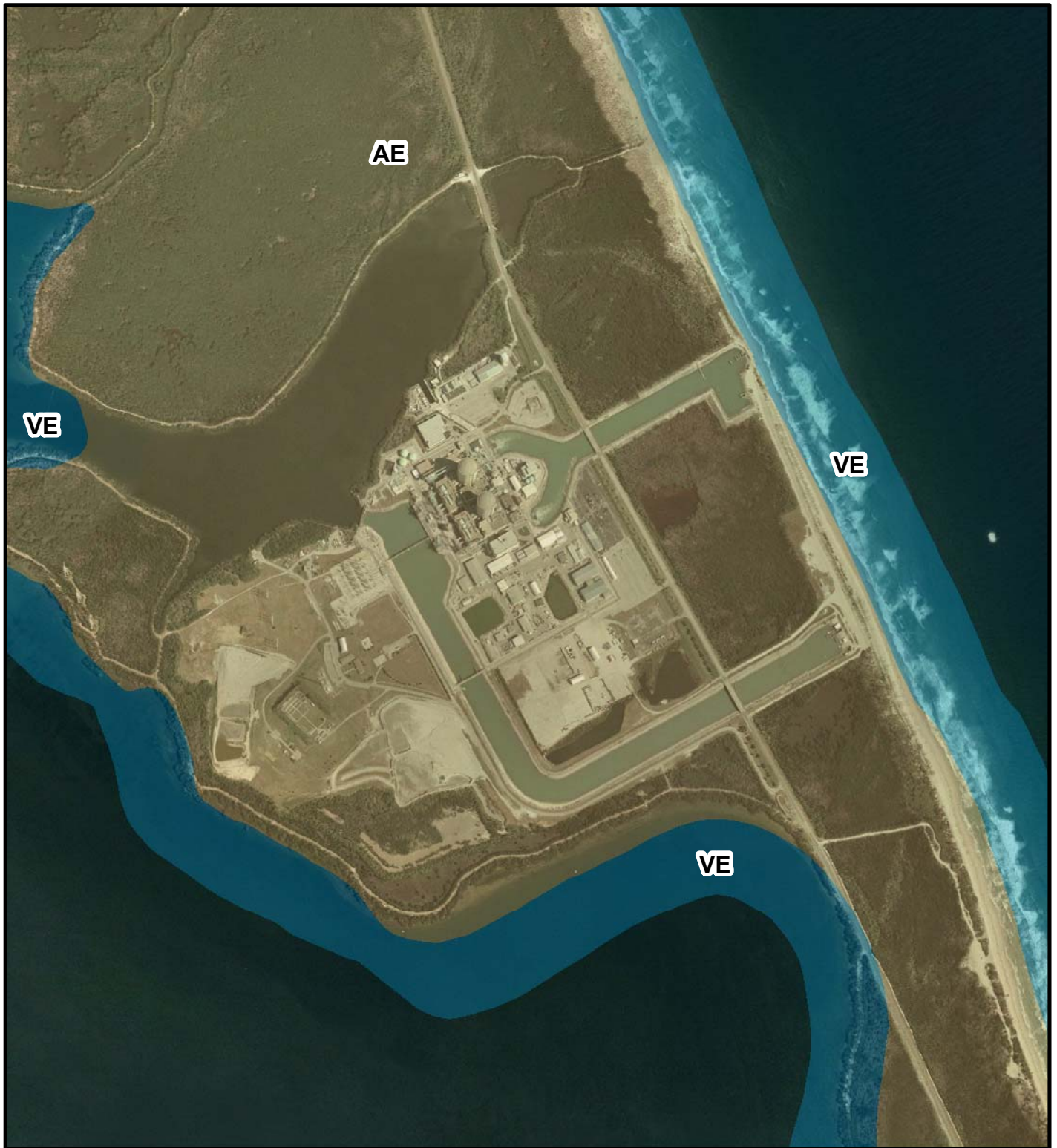
REFERENCE

1. ESRI Online Imagery 2006. 2. Property Boundary, St. Lucie County Property Appraiser, 2007

0 750 1,500 3,000 Feet



PROJECT		ST. LUCIE UPRATE PROJECT	
TITLE		SITE AERIAL PHOTOGRAPH	
	PROJECT No.	073-87685	SCALE AS SHOWN
	DESIGN	KK 11/28/07	REV. 0
	GIS	RL 12/03/07	FIGURE 2.1.3-1
	CHECK	SM 12/03/07	
	REVIEW	KK 12/03/07	



LEGEND

Flood Zones

- AE – Areas subject to a 1% or greater annual chance of flooding in any given year.
- VE – Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves.

REFERENCE

1. ESRI Online Imagery, 2006. 2. FEMA flood zones, St. Lucie County GIS 2007.

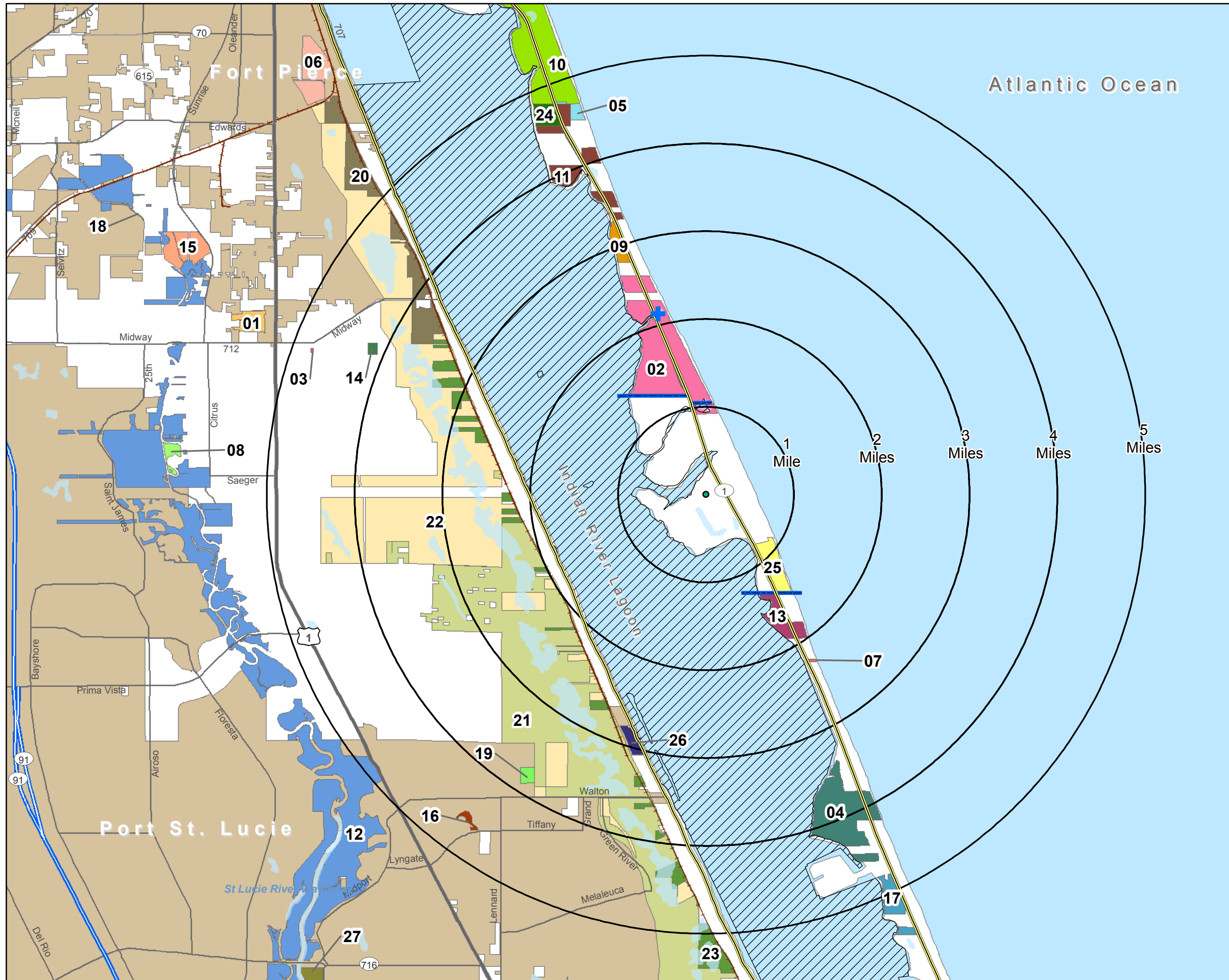
0 750 1,500 3,000 Feet



PROJECT		ST. LUCIE UPRATE PROJECT	
TITLE		100 - YEAR FLOOD ZONE	
		PROJECT No. 073-87685	SCALE AS SHOWN
		DESIGN KK 11/28/07	REV. 0
		GIS RL 12/4/07	
		CHECK SM 12/4/07	
		REVIEW KK 12/4/07	

FIGURE 2.1.5-1

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\ST_LUCIE\MAP DOCUMENTS\SCA07387685A12_GovJur1_2_3_4_5Miles



LEGEND

- St. Lucie Plant
- Indian River Lagoon - Treasure Coast Scenic Highway
- FPL St. Lucie Plant Property Boundary
- + Little Mud Creek
- Municipalities
- Jensen Beach to Jupiter Inlet Aquatic Preserve

- 01 - Ancient Oaks
- 02 - Blind Creek
- 03 - Collins Park
- 04 - Dollman Tract
- 05 - Frederick Douglass Park
- 06 - Heathcote Botanical Park
- 07 - Herman's Bay Beach Access
- 08 - Idabelle/Scuiturros Island
- 09 - Impoundment 5
- 10 - John Brooks Park
- 11 - Middle Cove
- 12 - North Fork of the St. Lucie River
- 13 - Ocean Bay
- 14 - Palm Lake Park
- 15 - Platt's Creek Mitigation Site
- 16 - Port St. Lucie Rotary Park
- 17 - Project 10B
- 18 - River Oaks Rec Trail
- 19 - Sandhill Crane Park
- 20 - Savannas Buffer Preserve
- 21 - Savannas Reserve
- 22 - Savannas State Reserve
- 23 - South Savannas
- 24 - Vitolo Family Park
- 25 - Walton Rocks Beach Park
- 26 - Walton Scrub Homestead
- 27 - Westmoreland

NOTE

1. Radii drawn from point between St. Lucie Units 1 & 2.
2. This map does not accurately represent legal municipal boundaries.

REFERENCE

1. Property Boundary, St. Lucie County Property Appraiser 2007.
2. ESRI Media Kit, base map 2005.
3. Parks and Environmentally Significant Lands, St. Lucie County GIS Department 2007.



PROJECT	ST. LUCIE UPRATE PROJECT			
TITLE	GOVERNMENTAL JURISDICTIONS (WITHIN 1, 2, 3, 4, AND 5-MILE RADII)			
	PROJECT No.	073-87685	SCALE AS SHOWN	REV. 0
	DESIGN	KK 11/28/07	FIGURE 2.2.1-1	
	GIS	RL 12/4/07		
	CHECK	SM 12/4/07		
	REVIEW	KK 12/4/07		



LEGEND

— FPL Property Boundary

Future Land Use

- CPUB - Conservation-Public
- P/F - Public Facilities
- R/C - Residential/Conservation – 1 du/5 ac
- RM - Residential Medium – 9du/1ac
- T/U - Transportation/Utilities

REFERENCE

1. ESRI Online Imagery 2006
2. Future Land Use, & FPL property boundary, St. Lucie County Property Appraiser, 2007

0 0.25 0.5 1 Miles



PROJECT		ST. LUCIE UPRATE PROJECT	
TITLE		FUTURE LAND USE	
		PROJECT No. 073-87685	SCALE AS SHOWN
		DESIGN KK 11/19/07	REV. 0
		GIS RL 11/19/07	
		CHECK SM 11/19/07	
		REVIEW KK 11/19/07	

FIGURE 2.2.2-1



LEGEND

— FPL Property Boundary

Zoning

- CPUB - Conservation Public
- HIRD - Hutchinson Island Residential District
- I - Institutional
- R/C - Residential/Conservation – 1 du/5 ac
- U - Utilities

REFERENCE

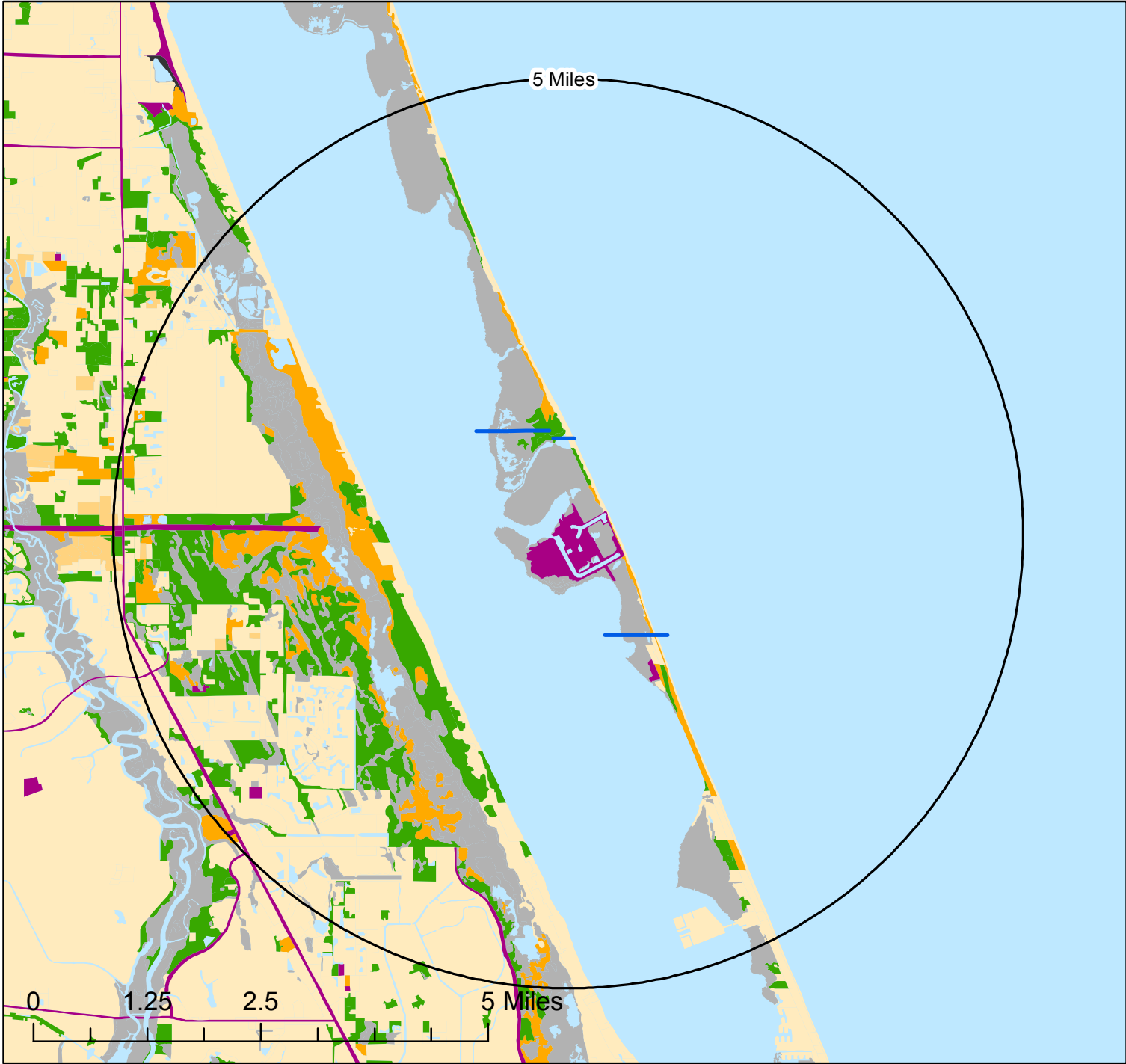
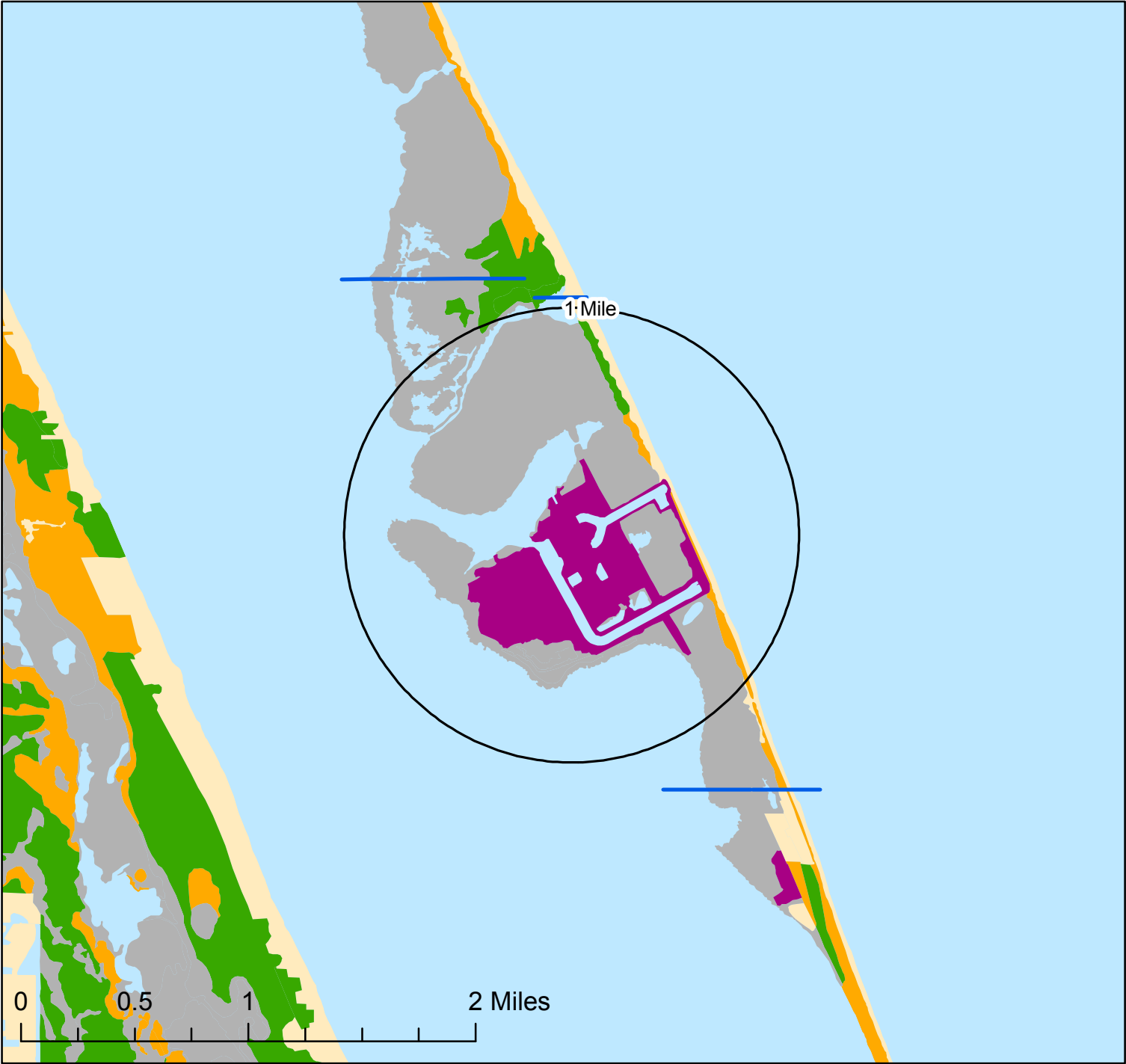
1. ESRI Online Imagery 2006
2. Zoning, & FPL property boundary, St. Lucie County Property Appraiser, 2007

0 0.25 0.5 1 Miles



PROJECT		ST. LUCIE UPRATE PROJECT	
TITLE		ZONING MAP	
		PROJECT No. 073-87685	SCALE AS SHOWN
		DESIGN KK 11/19/07	REV. 0
		GIS RL 11/19/07	
		CHECK SM 11/19/07	
		REVIEW KK 11/19/07	

FIGURE 2.2.2-2



LEGEND

- FPL St. Lucie Plant Property Boundary
- Land Use Type**
- 100 - URBAN
 - 200 - AGRICULTURE
 - 300 - RANGELAND
 - 400 - UPLAND FOREST
 - 500 - WATER
 - 600 - WETLANDS
 - 700 - BARREN LAND
 - 800 - TRANSPORTATION, COMMUNICATIONS, AND UTILITIES

REFERENCE

1. Land Use, South Florida Water Management District, 2004.
2. Property Boundary, St. Lucie County Property Appraiser, 2007

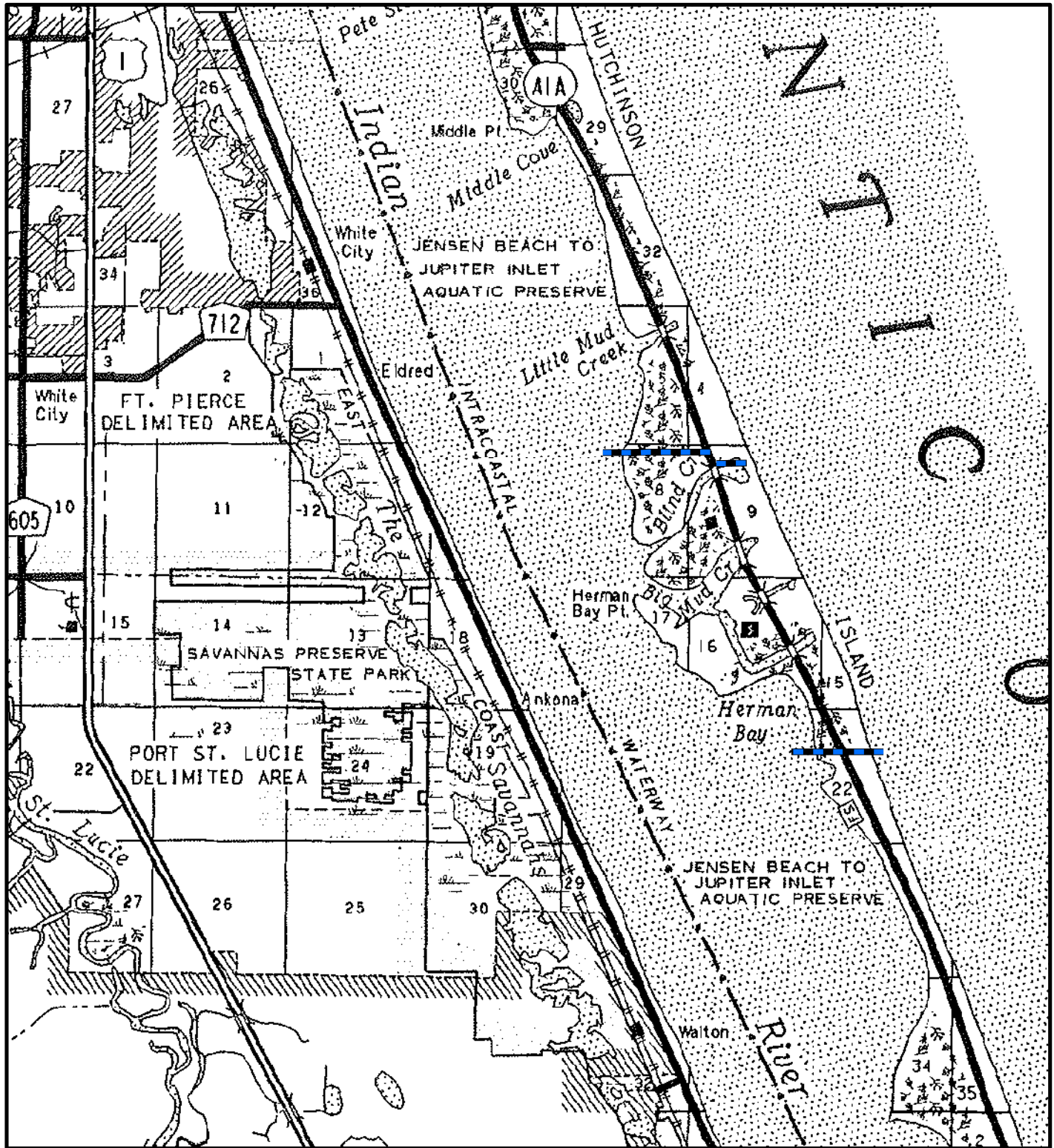
NOTE

Radii drawn from St. Lucie Units 1 & 2



PROJECT	ST. LUCIE UPRATE PROJECT			
TITLE	EXISTING LAND USE 1 AND 5-MILE RADII			
	PROJECT No. 073-87685			SCALE AS SHOWN
	DESIGN	KK	11/28/07	REV. 0
	GIS	RL	12/4/07	
	CHECK	SM	12/4/07	
	REVIEW	KK	12/4/07	

FIGURE 2.2.3-1



LEGEND

 FPL St. Lucie Plant Property Boundary

REFERENCE

1. FPL, 2001. 2. Property Boundary, St. Lucie County Property Appraiser, 2007



PROJECT		ST. LUCIE UPRATE PROJECT	
TITLE		MAJOR ROADS	
		PROJECT No. 0738-87685	SCALE AS SHOWN
		DESIGN KK 11/28/07	REV. 0
		GIS RL 12/4/07	
		CHECK SM 12/4/07	
		REVIEW RL 12/4/07	

FIGURE 2.2.8-1

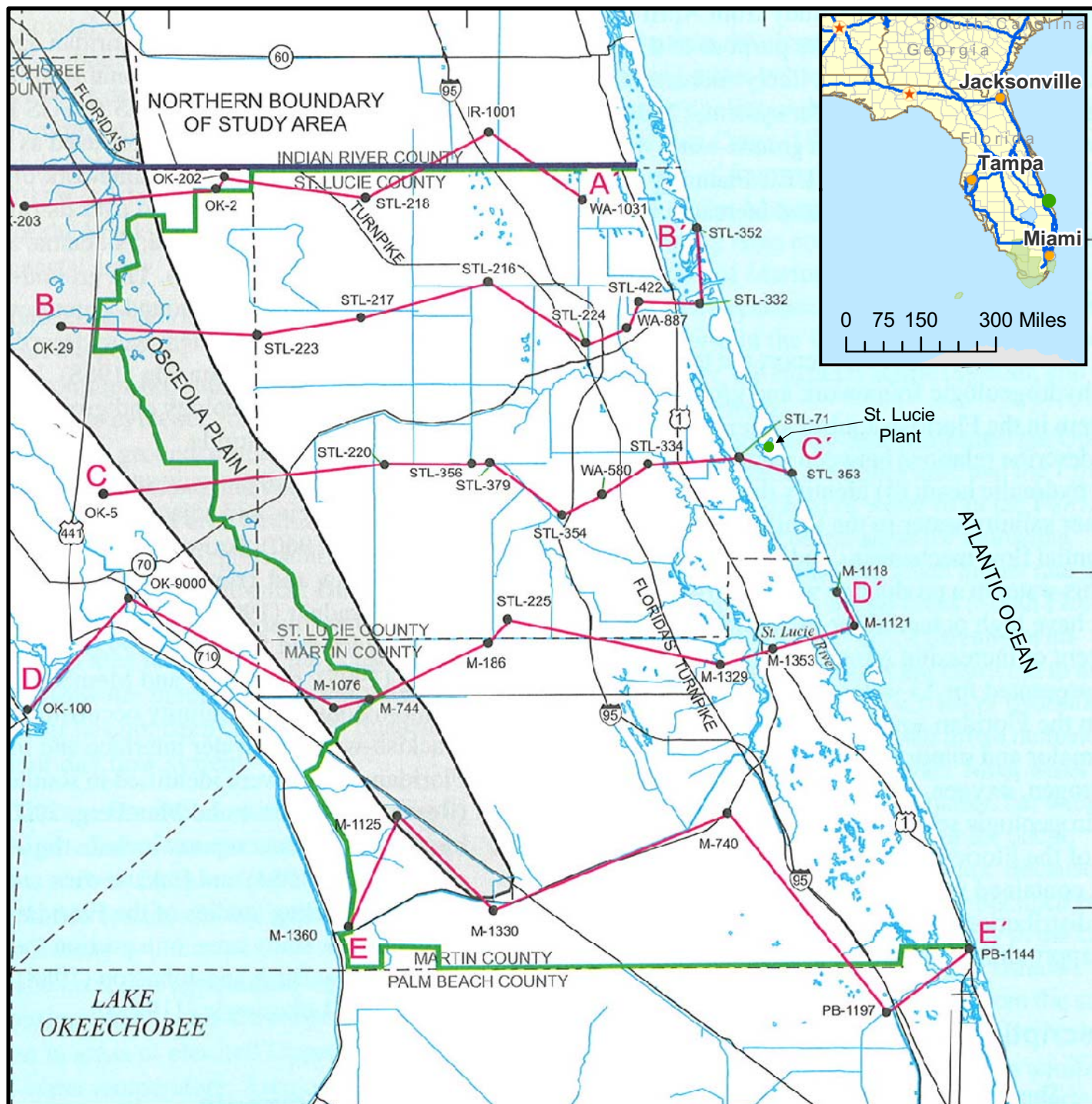
Series		Geologic unit		Hydrogeologic unit	Approximate thickness (feet)
HOLOCENE		PAMLICO SAND		SURFICIAL AQUIFER SYSTEM	50-250
PLEISTOCENE	ANASTASIA FORMATION				
	FT. THOMPSON FORMATION				
PLIOCENE		TAMIAMI FORMATION		INTERMEDIATE CONFINING UNIT	250-750
MIOCENE AND LATE OLIGOCENE	HAWTHORN GROUP		PEACE RIVER FORMATION		
	MARKER UNIT		ARCADIA FORMATION		
	BASAL HAWTHORN/ SUWANNEE UNIT				
	?				
EARLY OLIGOCENE		SUWANNEE LIMESTONE		FLORIDAN AQUIFER SYSTEM	300-500
EOCENE	LATE	OCALA LIMESTONE			
	MIDDLE	AVON PARK FORMATION			
	EARLY	?			
PALEOCENE		CEDAR KEYS FORMATION			
				MIDDLE CONFINING UNIT	200-400
				LOWER FLORIDAN AQUIFER	2,000
				Boulder Zone	300-500
				SUB-FLORIDAN CONFINING UNIT	1,500?

REFERENCE

1. Hydrogeology, Water Quality, and Distribution and Sources of Salinity in the Floridan Aquifer System, Martin and St. Lucie Counties, Florida - USGS/WRIR 034242 pg10, 2004

PROJECT		ST. LUCIE UPRATE PROJECT	
TITLE		GENERALIZED GEOLOGY AND HYDROGEOLOGY FOR ST. LUCIE COUNTY	
		PROJECT No. 073-87685	SCALE AS SHOWN
		DESIGN U 11/16/07	REV. 0
		GIS RL 11/16/07	
		CHECK U 11/16/07	
		REVIEW KK 11/16/07	

FIGURE 2.3.1-1

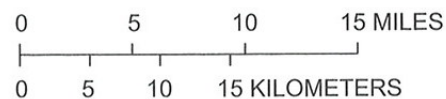


LEGEND

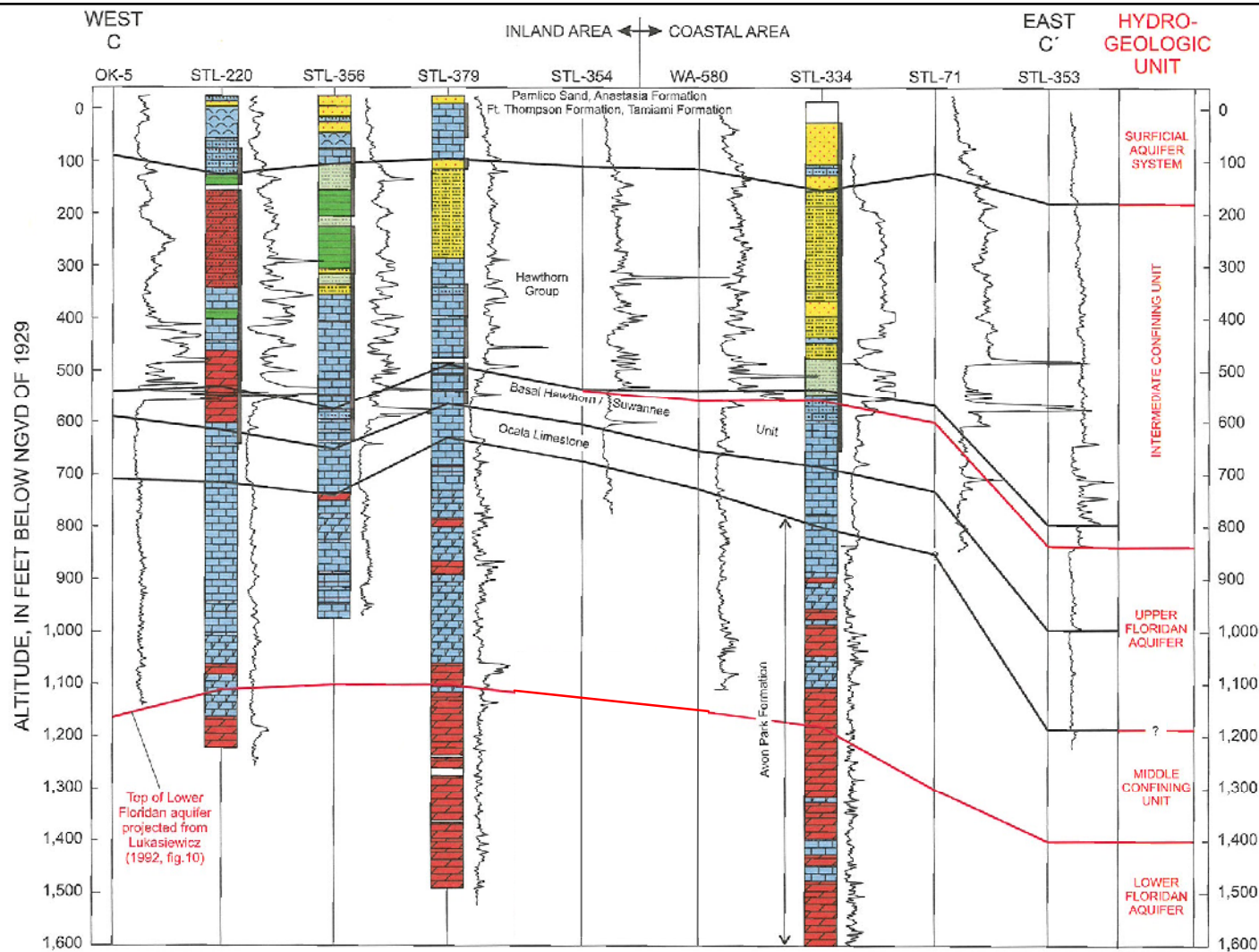
- St. Lucie Plant
- UPPER EAST COAST PLANNING AREA FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT
- LINE OF HYDROGEOLOGIC SECTION
- M-1330 WELL LOCATION AND NUMBER

REFERENCE

1. Base from U.S. Geological Survey digital data, 1972



PROJECT		ST. LUCIE UPRATE PROJECT	
TITLE		SITE LOCATION SHOWING LINES OF HYDROGEOLOGIC SECTIONS	
PROJECT No. 073-87685		SCALE AS SHOWN	REV. 0
DESIGN	IJ	11/16/07	FIGURE 2.3.1-2
GIS	RL	11/16/07	
CHECK	IJ	11/16/07	
REVIEW	KK	11/16/07	



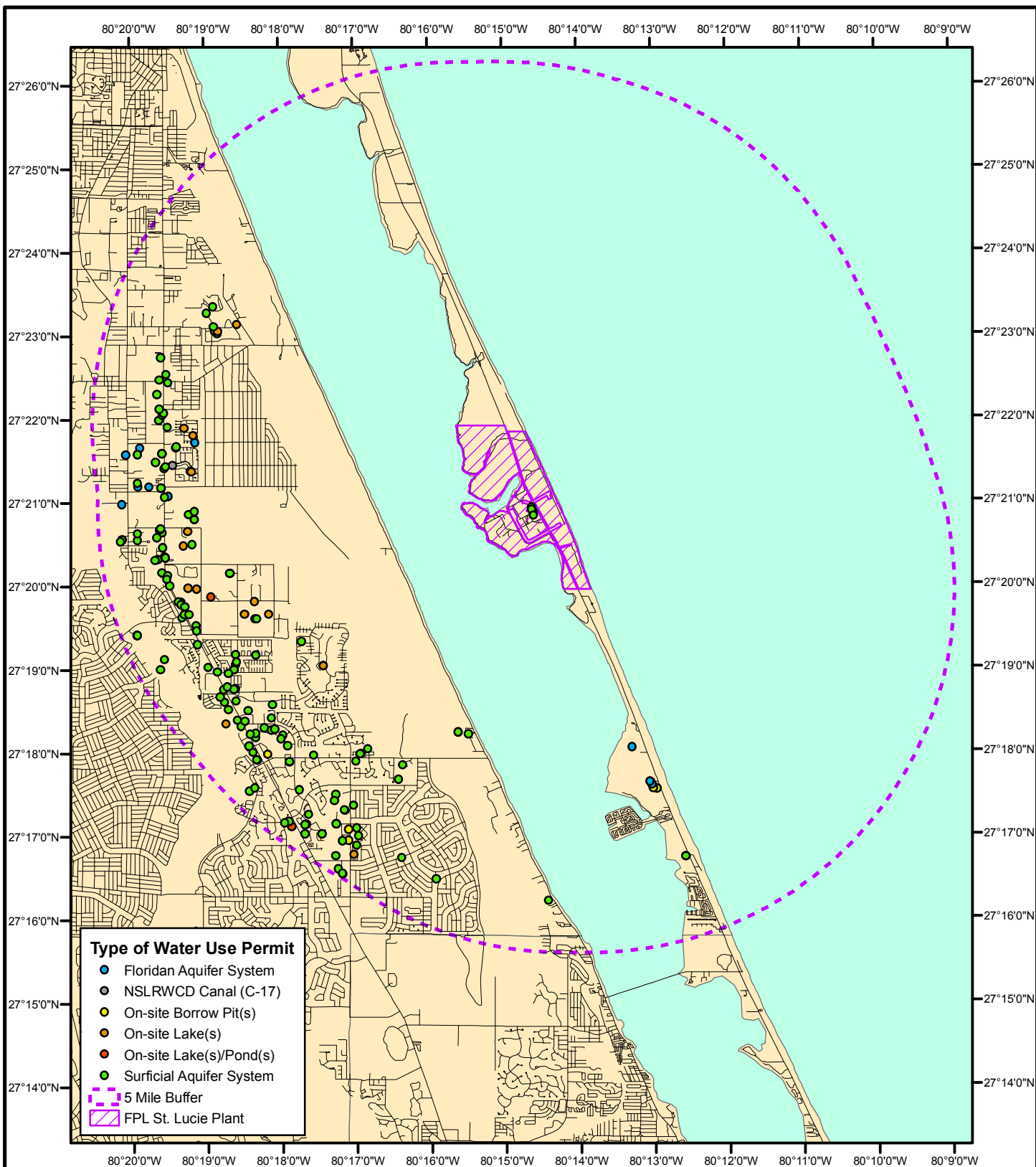
LEGEND

	LIMESTONE		SAND		PHOSPHATE, COMMON
	SANDY LIMESTONE		CLAYEY SAND		PHOSPHATE, TRACE TO 3 PERCENT
	DOLOMITIC LIMESTONE		SILT		GAMMA-RAY CURVE, INTENSITY INCREASES TO RIGHT
	DOLOMITE		CLAY		
	SANDY DOLOMITE		NO SAMPLE		
	SHELL				

REFERENCE

1. Hydrogeology, Water Quality, and Distribution and Sources of Salinity in the Floridan Aquifer System, Martin and St. Lucie Counties, Florida - USGS/WRIR 03-4242 pg 13

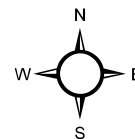
PROJECT	ST. LUCIE UPRATE PROJECT			
TITLE	HYDROGEOLOGICAL CROSS SECTION NORTH OF SITE			
		PROJECT No. 073-87685	SCALE AS SHOWN	REV. 0
		DESIGN U 11/16/07		
		GIS RL 11/16/07		
		CHECK U 11/16/07		
		REVIEW KK 11/16/07		
			FIGURE 2.3.1-3	



REFERENCES

1. SFWMD, 2007.

10,000 0 10,000
Feet



SCALE AS SHOWN

DATE 11/08/2007

DESIGN KK

GIS RL

CHECK

REVIEW

TITLE

WATER USE PERMITS WITHIN 5 MILES OF THE PLANT

ST. LUCIE UPRATE PROJECT

FIGURE

2.3.3-1

FILE No. 07387685A00

PROJECT No. 073-87685

REV. 0

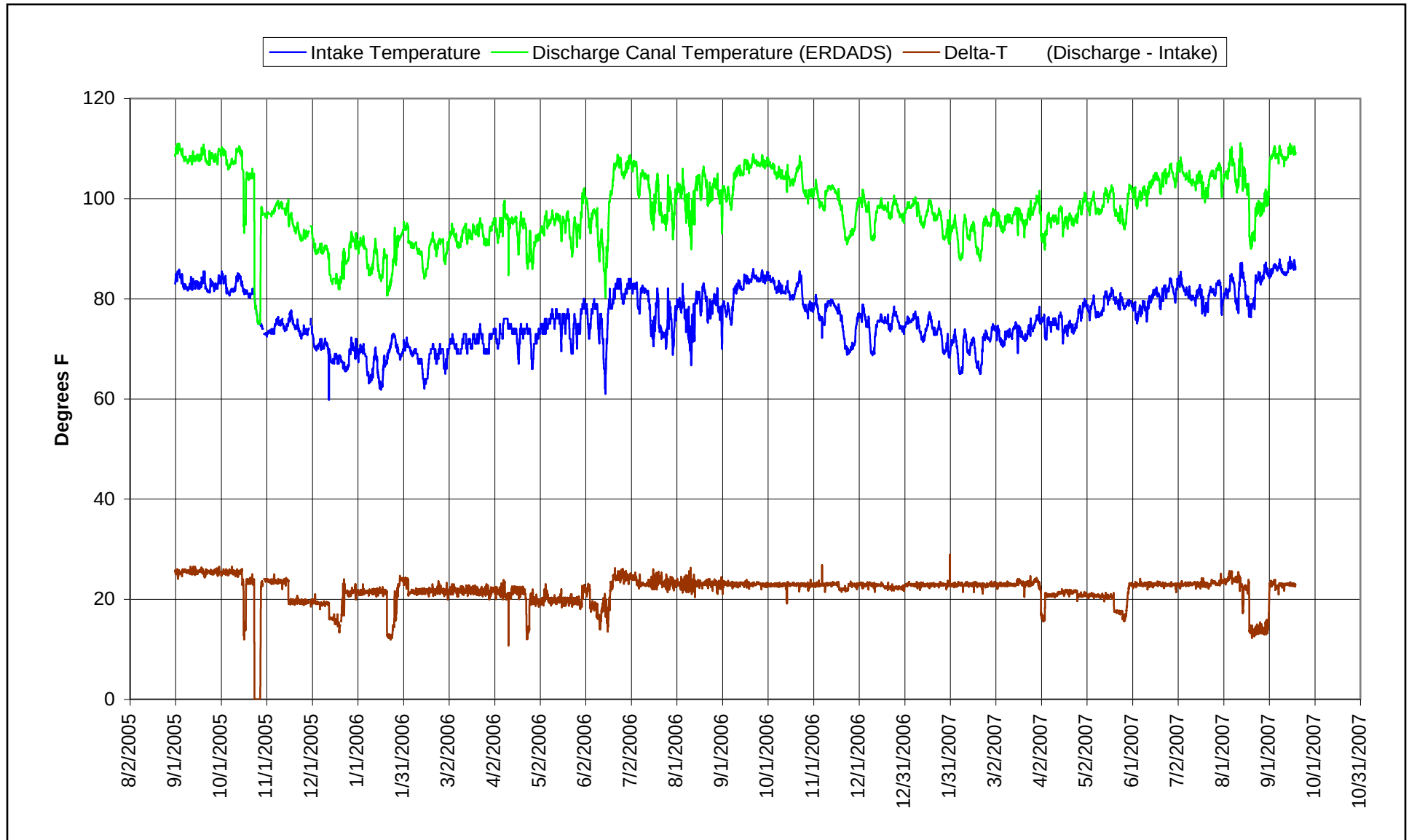


Figure 2.3.4-1
Operating Temperatures at the St. Lucie Plant

Source: FPL, 2007; Golder, 2007.



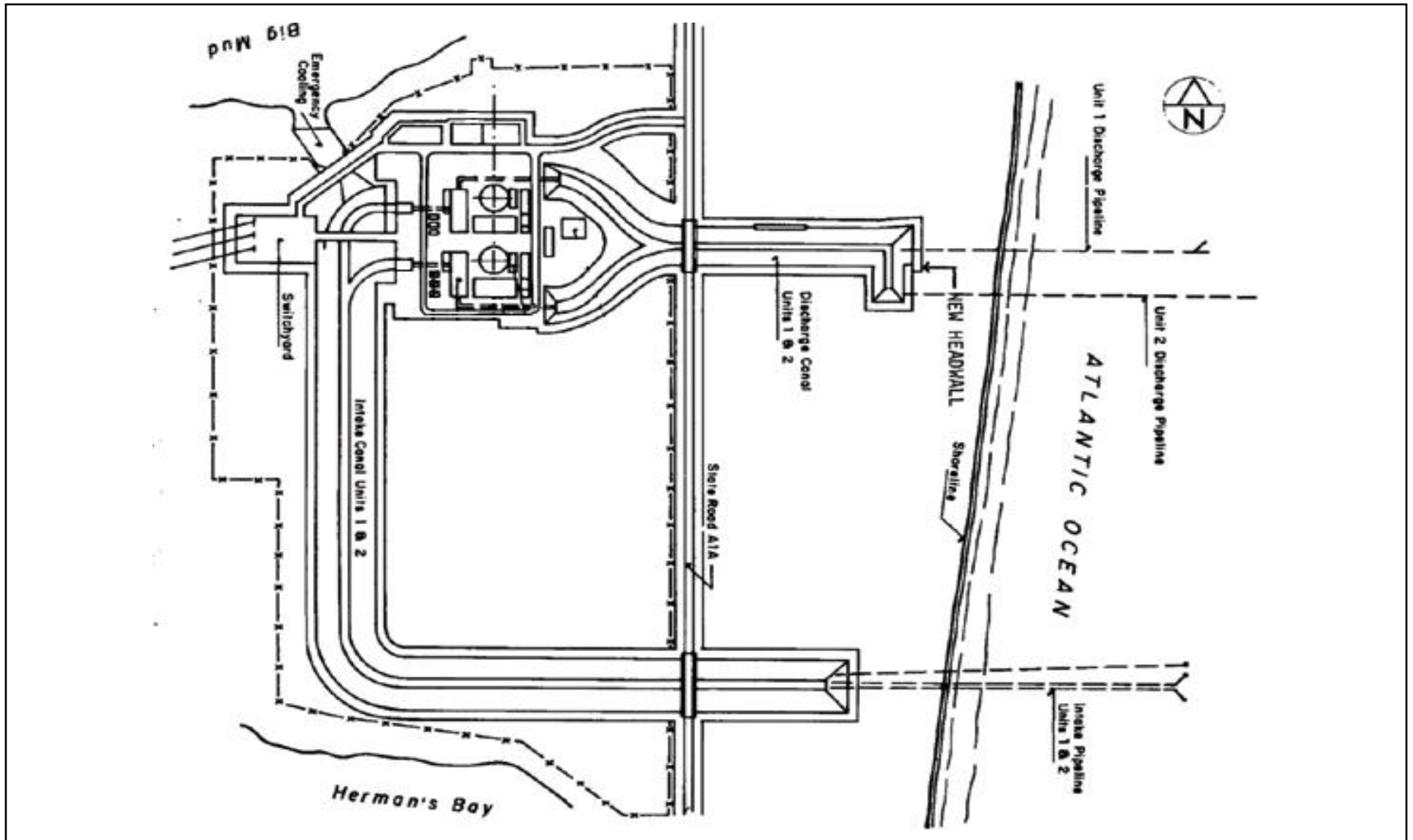


Figure 2.3.4-2
Circulating Water System Plan (View 1) at the St. Lucie Plant

Source: Golder, 2007.

Source: Golder, 2007.


 UNIVERSITY OF MICHIGAN PRESS



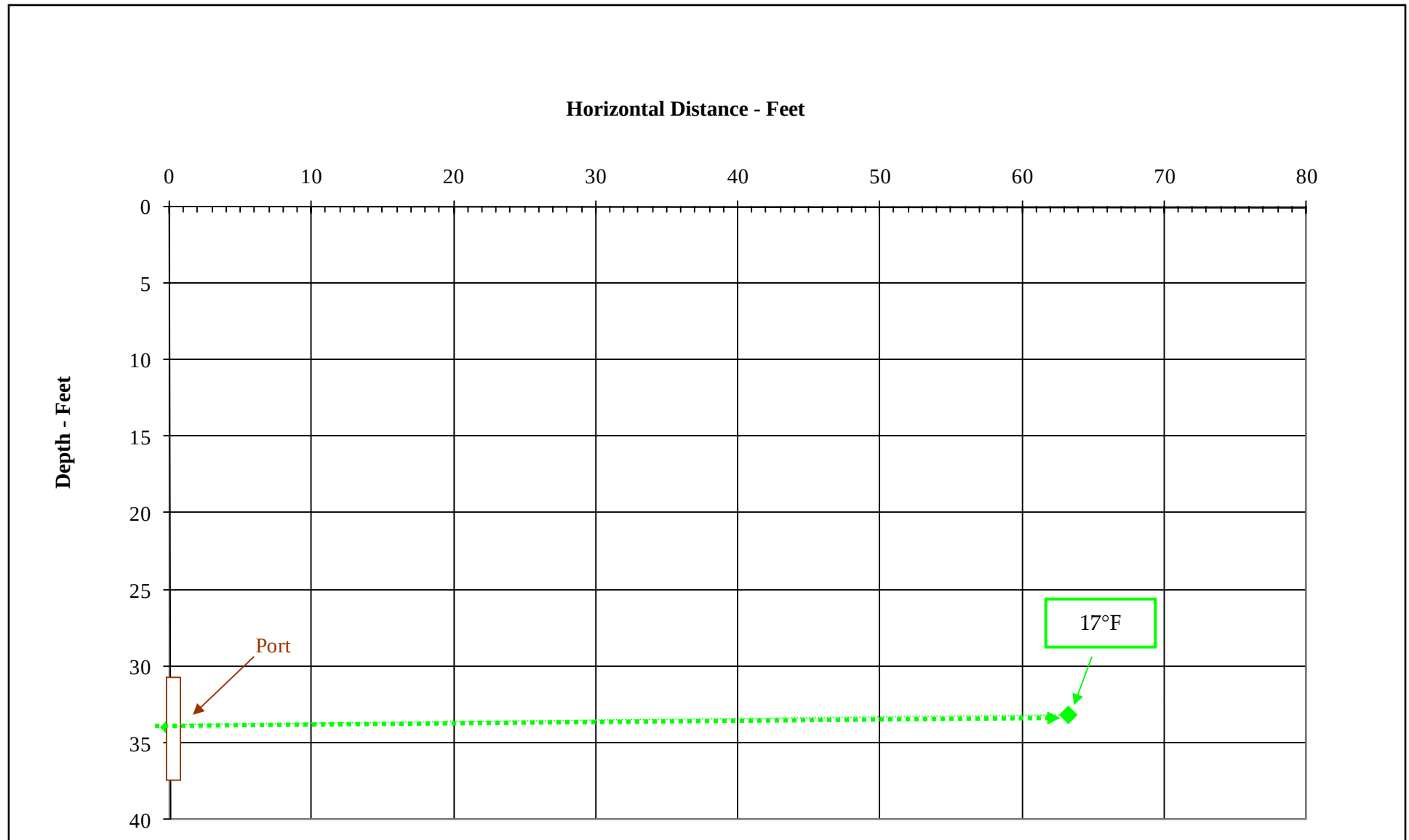


Figure 2.3.4-5
Centerline Location of 17°F Isotherm for St. Lucie Plant Y-Port Diffuser

Source: Golder, 2007.



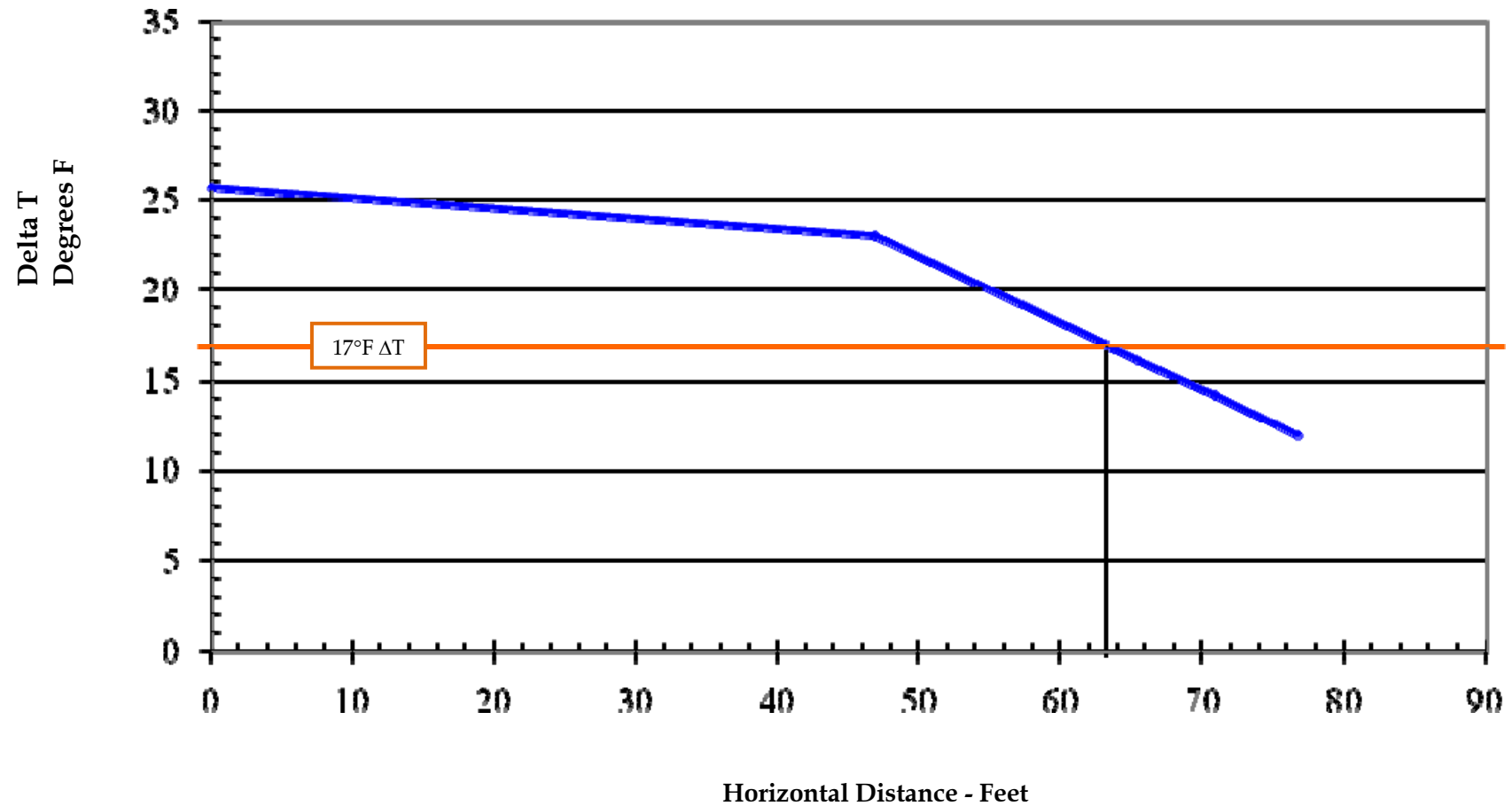


Figure 2.3.4-6
Temperature Rise as a Function of Horizontal Distance for St. Lucie Plant Y-Port Diffuser

Source: Golder, 2007.

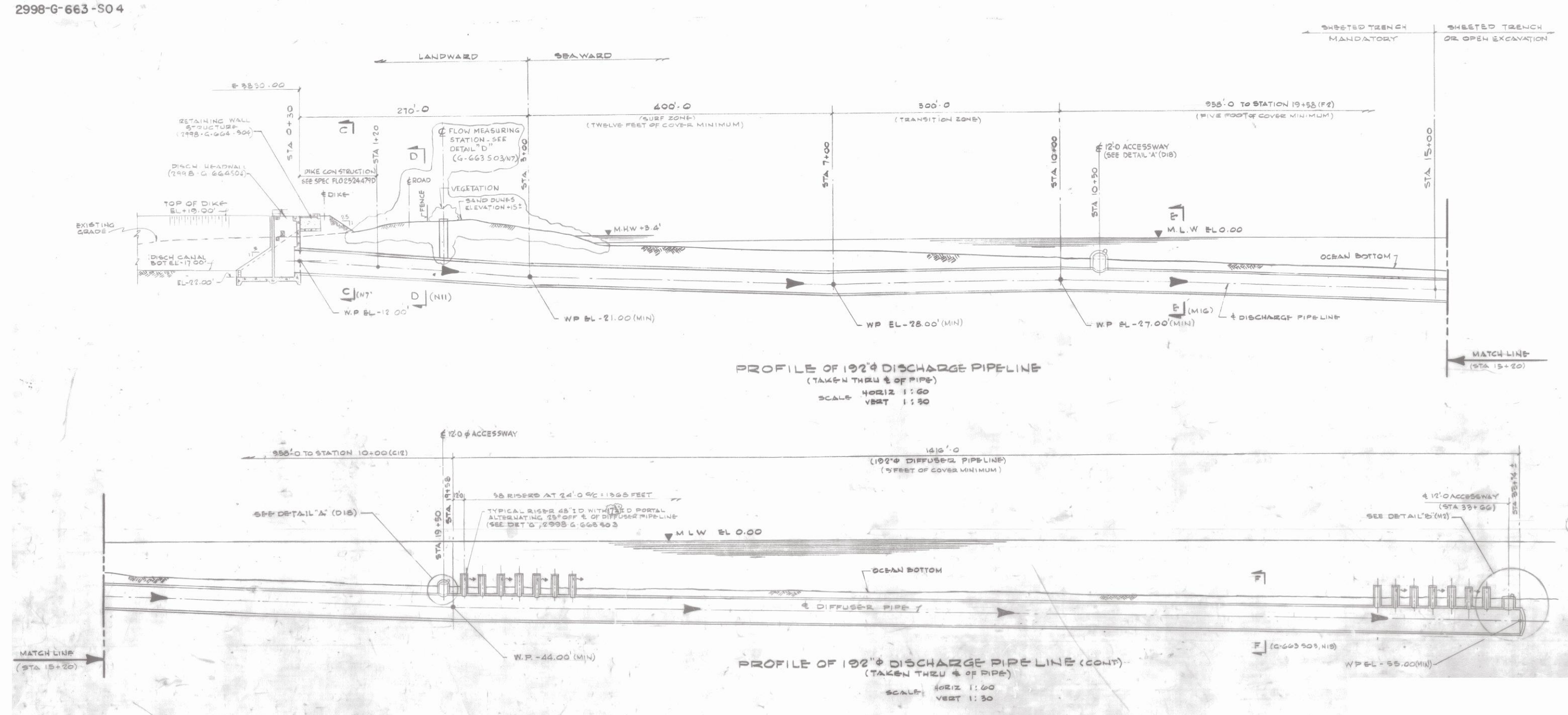


Figure 2.3.4-7
Circulating Water System Multiport Profile at the St. Lucie Plant

Source: Golder, 2007.



Source: Golder; 2007.

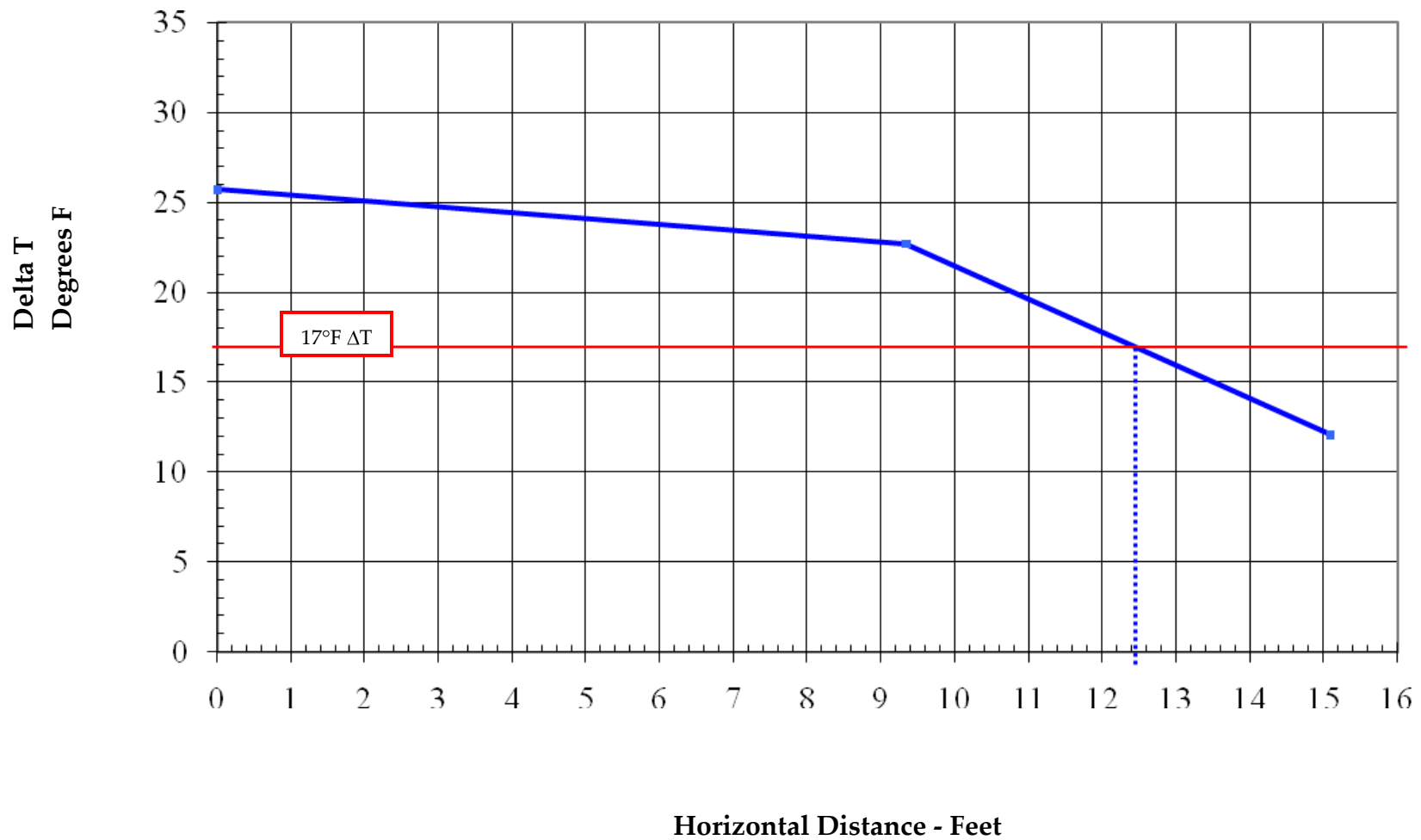


Figure 2.3.4-9
Temperature Rise as a Function of Horizontal Distance for St. Lucie Plant Multiport Diffuser

Source: Golder, 2007.



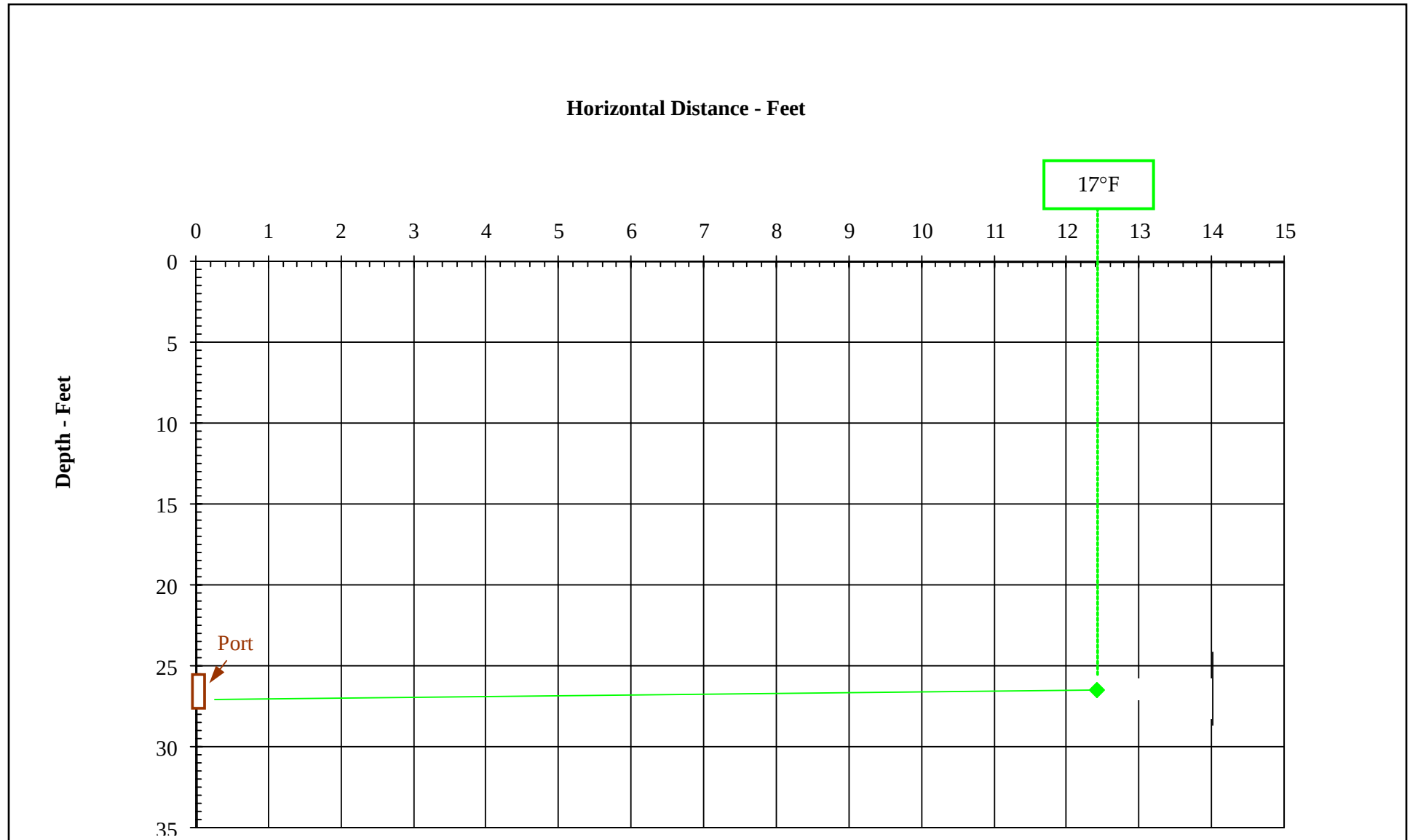


Figure 2.3.4-10
Centerline Location of 17°F Isotherm for St. Lucie Plant Multiport Diffuser

Source: Golder, 2007.



LEGEND

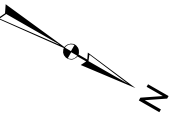
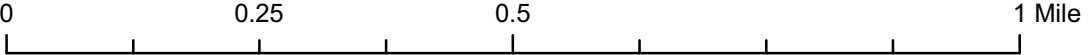
- FPL Property Boundary
- Wetland Edge Delineated by Golder

Habitat Classification

- 133 - MULTIPLE DWELLINNG UNITS, LOW RISE
- 134 - MULTIPLE DWELLING UNITS, HIGH RISE
- 139 - HIGH DENSITY UNDER CONSTRUCTION
- 160 - EVAPORATION / PERCOLATION PONDS
- 170 - INSTITUTIONAL
- 181 - SWIMMING BEACH
- 322 - COASTAL SCRUB
- 322/426 - COASTAL SCRUB / TROPICAL HARDWOODS
- 420 - UPLAND HARDWOOD FORESTS
- 422 - BRAZILIAN PEPPER
- 426 - TROPICAL HARDWOODS
- 428 - CABBAGE PALM
- 437 - AUSTRALIAN PINE
- 510 - STREAMS AND WATERWAYS
- 541 - EMBAYMENTS OPENING INTO THE ATLANTIC OCEAN
- 542 - EMBAYMENTS NOT OPENING INTO THE ATLANTIC OCEAN
- 571 - ATLANTIC OCEAN

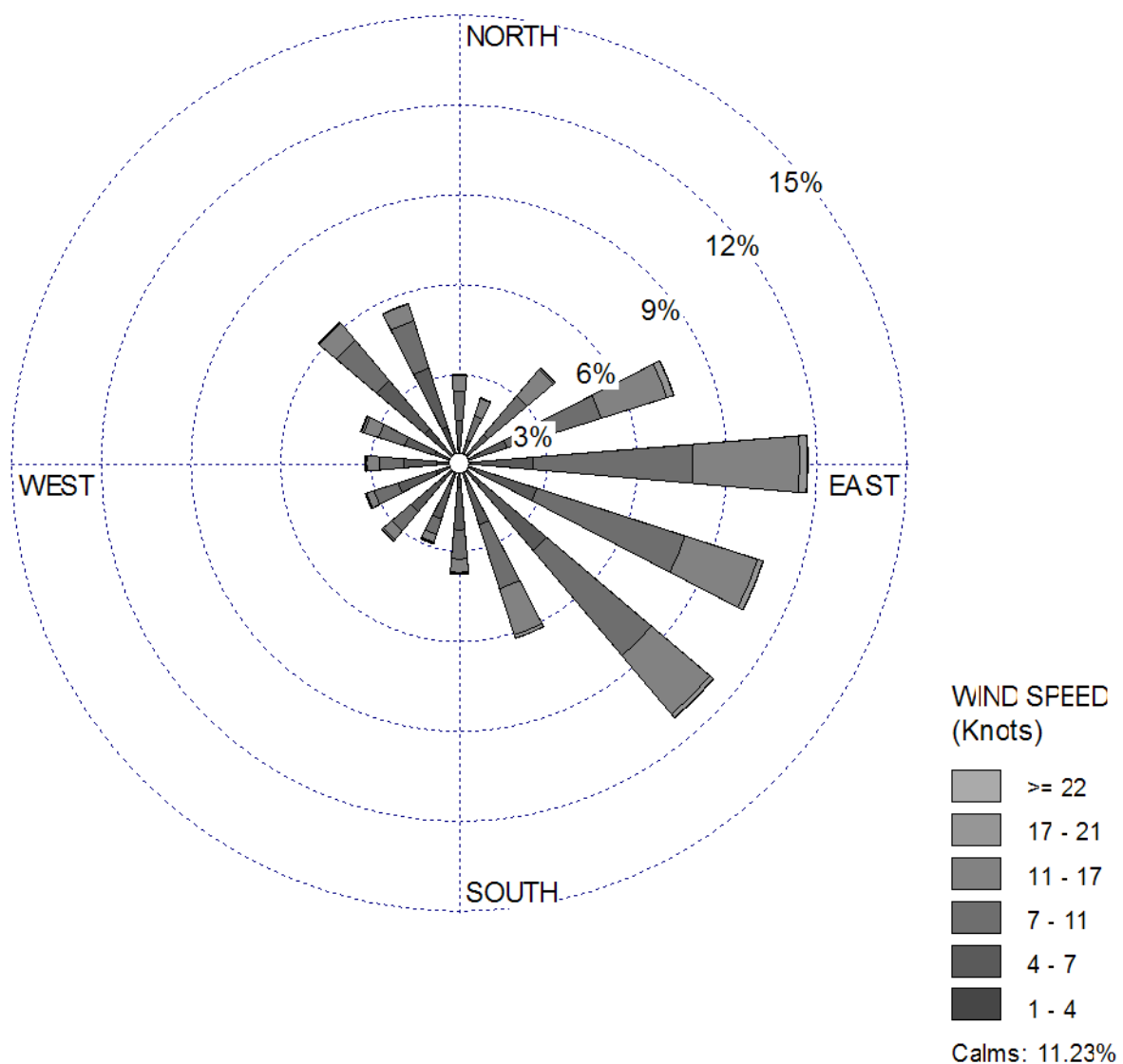
REFERENCES

1. ESRI Online Imagery 2006. 2. Habitat Classification based on SFWMD 2004 Land Use. 3. Wetland Edge Golder Associates, 2007. 4. Property Boundary, St. Lucie County Property Appraiser, 2007



PROJECT		ST. LUCIE UPRATE PROJECT			
TITLE		HABITAT CLASSIFICATION MAP			
	PROJECT No. 073-87685		SCALE AS SHOWN		REV. 0
	DESIGN				
	GIS	RL	11/7/07		
	CHECK	SR	11/7/07		
	REVIEW	IJ	11/7/07		

Figure 2.3.5-1

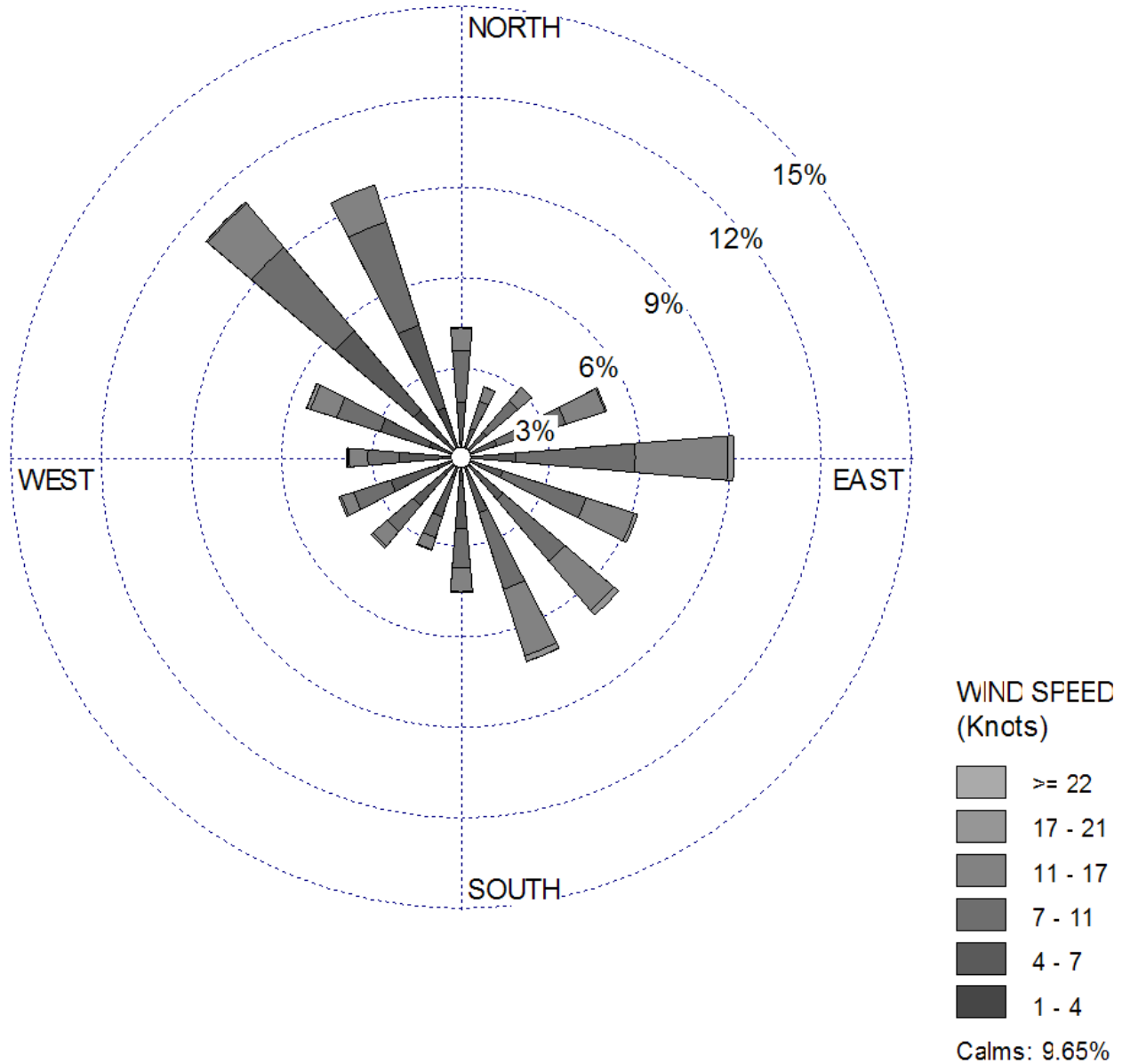


Average Wind Speed 7.80 Knots
Calm winds 11.2%
Note: 1 knot = 1.151 miles per hour

Figure 2.3.7-1. Annual Wind Rose for Palm Beach International Airport, FL
2001-2005

Source: National Climatic Data Center, 2001-2005



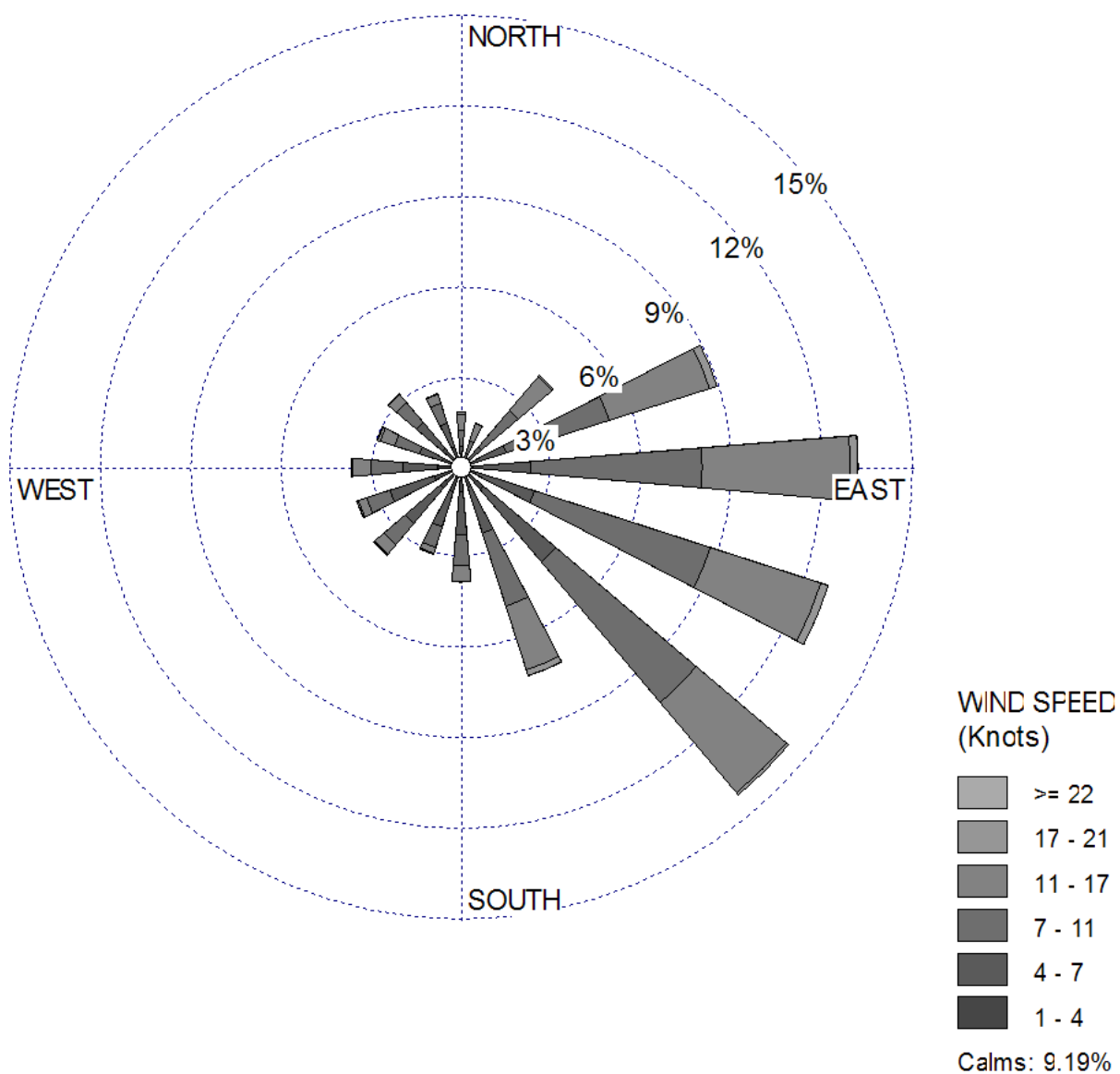


Average Wind Speed 7.90 Knots
Note: 1 knot = 1.151 miles per hour

Figure 2.3.7-2a. Winter Wind Rose for Palm Beach International Airport, FL 2001-2005

Source: National Climatic Data Center, 2001-2005





Average Wind Speed 8.43 Knots
Note: 1 knot = 1.151 miles per hour

Figure 2.3.7-2b. Spring Wind Rose for Palm Beach International Airport, FL
2001-2005

Source: National Climatic Data Center, 2001-2005



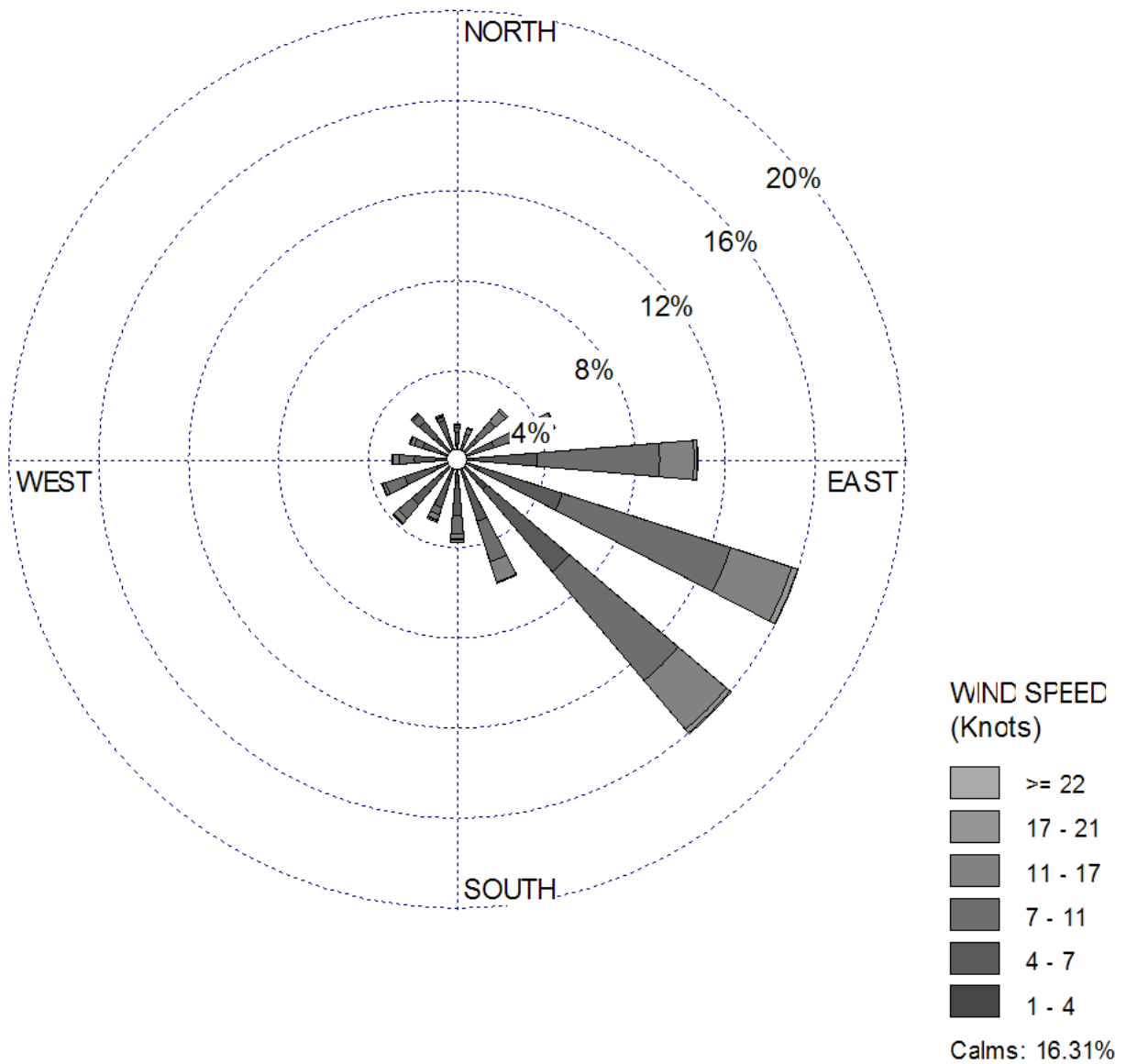


Figure 2.3.7-2c. Summer Wind Rose for Palm Beach International Airport, FL 2001-2005

Source: National Climatic Data Center, 2001-2005



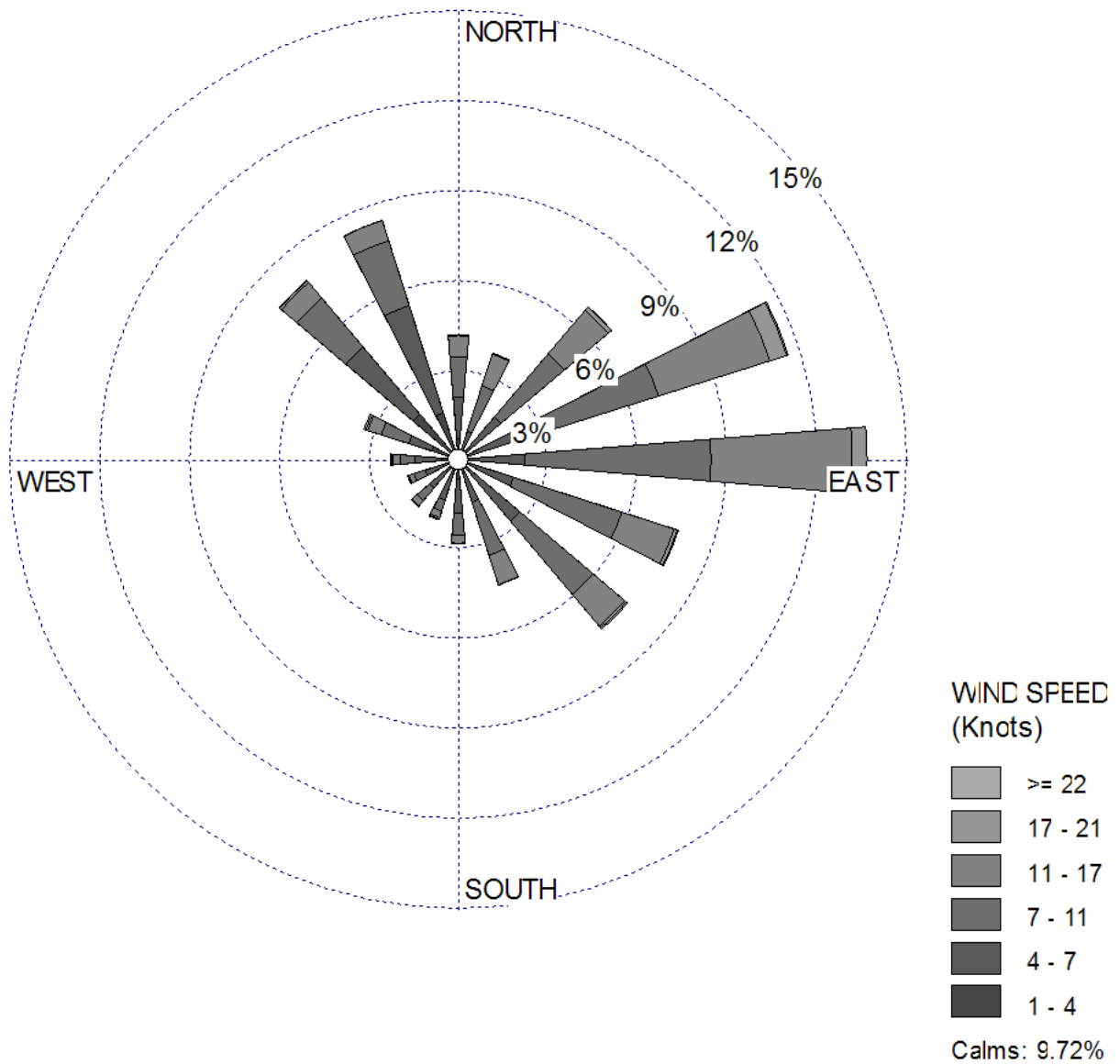
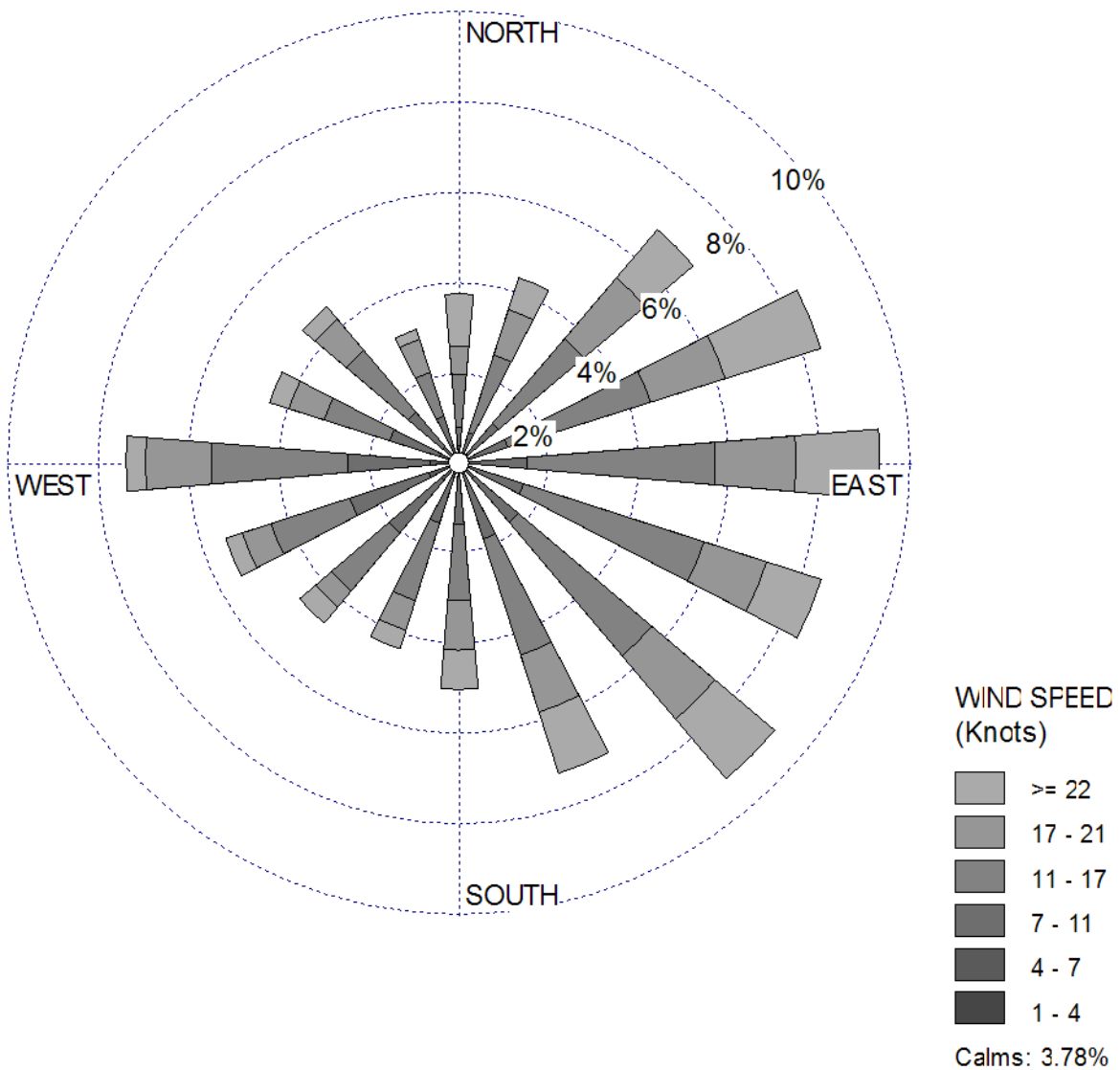


Figure 2.3.7-2d. Autumn Wind Rose for Palm Beach International Airport, FL
2001-2005

Source: National Climatic Data Center, 2001-2005





Average Wind Speed 14.99 Knots

Note: 1 knot = 1.151 miles per hour

Calms include missing data

Figure 2.3.7-3. Annual Wind Rose for FPL St. Lucie, 10-m Meteorological Tower,
4/1/05 – 3/31/06

Source: FPL, 2007



Project: P:\GIS\PROJECTS\FPL_ST_LUCIE\MAP DOCUMENTS\0738768501.mxd



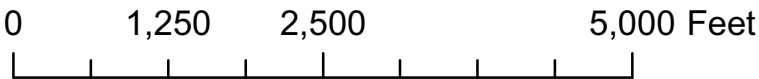
LEGEND

Noise Sampling Locations

- BOUNDARY
- FENCE

REFERENCE

1. Farfield Sampling Locations Golder Associates 2007. 2. ESRI Online Imagery 2006



PROJECT

ST. LUCIE
UPRATE PROJECT

TITLE

NOISE MONITORING LOCATIONS



PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	GC	10/05/07	FIGURE 2.3.8-1	
GIS	SR	10/05/07		
CHECK	RL	10/05/07		
REVIEW	KK	11/15/07		

3.0 THE PLANT AND DIRECTLY ASSOCIATED FACILITIES

The St. Lucie Plant is currently authorized to operate under various federal and state environmental permits (see Appendices 10.1 and 10.4). This Chapter provides information on the existing St. Lucie Plant and changes resulting from the Project.

3.1 Background

FPL plans to add about 200 MW (net) of electrical generation resources to its system at the St. Lucie Plant. The nuclear power units for St. Lucie Units 1 and 2 are of comparable design, each consisting of a pressurized water reactor with two steam generators that produce steam that turns a turbine to generate electricity. Each Unit is currently licensed to operate at an output of 2,700 megawatts (thermal) [MW(t)], with a corresponding gross electrical output of approximately 890 megawatts (electric) [MW(e)]. Because of onsite electrical power usage, each reactor unit has a current net capability of about 840 MW(e), for a combined net plant capability of about 1,680 MW(e).

The Project, for which full Site Certification is being sought, consists of upgrades to each unit. The upgrades will include refurbishment and improvement activities to the steam turbine-electric generator, electrical systems, and cooling systems. The extra power output will result from improving the performance of the steam turbines and from using more nuclear fuel, which will result in increased thermal MWs produced in the reactors. The additional heat will generate more steam to turn the turbines. These refurbishment and improvement activities will primarily occur during two outages per unit lasting about 50 days each. Construction activities associated with Unit 1 uprates are expected to begin during the Spring outage of 2010 and Fall outage of 2011, while Unit 2 uprates are expected to begin during the Fall outage of 2010 and Spring outage of 2012. Certain improvements will also be made while the units are operating. All refurbishment and improvement activities will occur within the existing building and structures associated with Units 1 and 2.

Water use associated with operation of St. Lucie Units 1 and 2 consists of saltwater withdrawn from the Atlantic Ocean for non-contact cooling purposes and freshwater from a municipal water source for potable and service water use, discussed in more detail below.

The St. Lucie Plant obtains potable water from the City of Fort Pierce through the Fort Pierce Utilities Authority. Sanitary wastewater is sent to St. Lucie County's South Hutchinson Island Water Reclamation Facility.

Three 230-kV transmission lines interconnect St. Lucie Units 1 and 2 to FPL's transmission system. Beginning at the St. Lucie Units 1 and 2 Switchyard, these three lines run west across the Indian River Lagoon and overland for approximately 11 miles in one corridor, with the lines terminating at the Midway Substation. No changes in the transmission lines are required for the Project.

3.2 Site Layout

The existing site layout of St. Lucie Units 1 and 2 major structures and equipment in the power block and nearby areas is shown in Figure 3.2.0-1. The prominent structures and enclosed facilities and equipment associated with each of the Units include: the containment building, which contains the nuclear steam supply system, including the reactor, steam generators, reactor coolant pumps, and related equipment; the turbine generator building, where the turbine generator and associated main condensers are located; the auxiliary building, which contains waste management facilities, engineered safety features components, and other facilities; and the fuel handling building, where the spent fuel storage pool and storage facilities for new fuel are located. Prominent features beyond the power block area include the intake system, discharge canal, evaporation/percolation ponds, switchyard, spent fuel storage facilities, technical and administrative support facilities, and public education facilities (Energy Encounter Exhibit, Marine Education Facility). The taller buildings on the St. Lucie Plant, particularly the containment buildings (approximately 200 ft high), are visible from the mainland. No changes to the existing layout will be made for the Project.

3.3 Fuel

St. Lucie Units 1 and 2 are licensed for uranium-dioxide fuel that is slightly enriched uranium-235. The uranium-dioxide fuel is in the form of pellets contained in Zircaloy tubes with welded end plugs to confine radionuclides. The tubes are fabricated into assemblies designed for loading into the reactor core. Each reactor core includes 217 fuel assemblies.

FPL currently replaces approximately one-third of the fuel assemblies in each reactor at intervals of approximately 18 months. FPL operates the reactors such that the average fuel usage by the reactors

is approximately 47,000 megawatt-days per metric ton uranium. Following completion of the Project, approximately 11 percent more nuclear fuel will be used to increase the capacity of each unit. No changes in the fuel-handling facilities are required.

Diesel fuel is used in a number of emergency generators that include four main plant generators, two building generators, and various general purpose diesel engines. The main plant emergency generators will not be changed as a result of the Project. These emergency generators are for stand-by use only and only tested to assure reliability and for maintenance. Diesel fuel is delivered to the St. Lucie Plant by truck as needed, and stored in tanks with secondary containment.

3.4 Air Emissions Controls

3.4.1 Air Emission Types and Resources

The operation of St. Lucie Units 1 and 2 does not create fossil fuel-related air emissions. There are four emergency diesel generators, each with two diesel engines for a total of eight diesel engines. Two generators are rated at 3.4 MW and two generators are rated at 3.8 MW. These generators normally operate only several hours per month for maintenance and reliability. The maximum heat input for the eight diesel engines is 293.2 MMBtu/hr.

There are also two diesel generators that supply emergency power to two buildings. One generator is rated at 250 kW to supply power to D-13 Building. A diesel generator rated at 800 kW supplies emergency power to the administration building. The maximum heat input for the two building service generators is 8.9 MMBtu/hr.

The other small diesel-driven equipment items at the St. Lucie Plant are tracked as one emissions unit.

3.4.2 Air Emission Controls

The St. Lucie Plant is classified as a minor source of air pollution, since FDEP has issued a Federally Enforceable State Operating Permit (FESOP) to keep emissions less than 100 tons per year for any air pollutant regulated under the Clean Air Act (Permit Number 1110071-005-AF; see Appendix 10.4). Nitrogen oxides (NO_x) from the diesel engines is the limiting pollutant for the emission units at the St. Lucie Plant. The FDEP FESOP limits NO_x emissions to 99.4 tons, which includes fuel use limits on the large main plant emergency diesel engines of 97,000 gallons in any

12-month consecutive period and the smaller building and general purpose diesel engines of 190,000 gallons in any 12-month consecutive period. Also, the Plant may choose to combine the emission units' fuel-tracking, which then limits the NO_x totals for a 12-month consecutive period to a maximum of 80 tons. The sulfur content of the diesel fuel is limited to 0.05 percent. There will be no change in the operation or emissions of the diesel engines resulting from the Project. The Project will not result in an increase of carbon dioxide (CO₂) or other greenhouse gas emissions.

3.4.3 Control Technology Description and Best Available Control Technology

The air emission units at the St. Lucie Plant consist of eight large main plant diesel engines, two smaller diesel engines, and various general-purpose diesel engines. The air emissions from these engines are limited by the use of 0.05-percent sulfur diesel fuel and good combustion practices. Best Available Control Technology (BACT) is not applicable to these existing emission units.

3.4.4 Design Data for Control Equipment

This section is not applicable to the Project.

3.4.5 Design Philosophy

The Project minimizes air pollutant emissions by using nuclear fuel. This includes avoiding emissions of particulate matter (PM), sulfur dioxide (SO₂), NO_x, carbon monoxide (CO), and volatile organic compounds (VOC). In addition, about 0.6 million tons per year of CO₂ will be avoided by the Project.

3.5 Plant Water Use

The source of cooling water for the St. Lucie Plant is the Atlantic Ocean.

General plant service water, fire protection water, process water, and potable water are obtained from Fort Pierce Utilities Authority. Process water uses include demineralizer regeneration, steam cycle makeup, and general service water use for washdowns. The existing St. Lucie Plant water use diagram is presented schematically in Figure 3.5.0-1. The water use diagram for the uprated facility is unchanged from that for the existing facility.

3.5.1 Circulating Water Heat Rejection System

St. Lucie Units 1 and 2 use once-through cooling water from the Atlantic Ocean to remove heat from the main (turbine) condensers via the Circulating Water System (CWS), and to remove heat from other auxiliary equipment via the Auxiliary Equipment Cooling Water System (AECWS) [i.e., the Intake Cooling Water System (ICWS)]. The great majority of this cooling water is used for the CWS.

As with other pressurized water reactors, heat generated in the reactors is transferred in loops in a way that useful energy can be safely extracted to produce electricity. St. Lucie Units 1 and 2 have a two-loop, three-stage heat-transfer design. The primary system circulates reactor coolant (demineralized water that has been treated to control chemistry and corrosion) under high pressure through the reactor and two steam generators. The steam generators, steam turbine, and main turbine condensers are similarly connected in a secondary closed loop containing treated, demineralized water. Secondary-system water flashes to steam in the steam generators and the steam turns the turbine to generate electricity. After exiting the turbine, the steam in the secondary system passes through the main condensers, where it is cooled to liquid water before returning to the steam generator to complete the secondary loop.

The CWS is the final (tertiary) stage in this heat transfer system. Unlike the primary and secondary loops, the tertiary stage is unconfined. Ocean water is drawn through three offshore intake structures into the intake canal. This water is then pumped from the intake canal at the intake wells through the main condensers to the discharge canal. The heated water is finally discharged back to the Atlantic Ocean through offshore diffusers (see Figure 3.2.0-1). Circulation of water in the system is provided by eight circulating water pumps (four per unit) located at the intake. Design capacity of the pumps is 974,600 gallons per minute (gpm), with a capacity range from 800,000 to 1,120,000 gpm, depending on system conditions. When all pumps are operating and both units are operating at 100-percent capacity, the design temperature rise across the condensers is approximately 25.7°F. After the Project is complete, the CWS flow rate will be unchanged, while the temperature rise across the condensers will have increased by approximately 2.9°F, and will remain within the current limits authorized in the FDEP Industrial Wastewater Facility Permit [(IWFP); see Appendix 10.4].

The three cooling water intake structures for St. Lucie Units 1 and 2 are located approximately 1,200 ft offshore where the water is approximately 23 ft deep. Two of the structures were installed

prior to startup of Unit 1 in 1976. The third intake structure, which is larger than the initial two, was installed in 1983. The designs of the structures are similar, featuring a large concrete base with a vertical cylindrical opening in the center and a concrete velocity cap supported by columns extending approximately 6 ft from the base. The velocity cap configuration was designed to reduce potential entrainment of marine organisms by eliminating vertical flows and limiting horizontal flow velocities. Water withdrawn from the structures is conveyed through separate buried pipes, beneath the beach and dune system, to the intake canal. Inside diameters of the pipes, which correspond to those of the vertical cylindrical openings in the concrete bases of the structures, are 16 ft for the large intake and 12 ft for the small intakes.

The intake canal, which is an approximately 5,000-ft-long trapezoidal channel, 200 ft wide and 30 ft deep at normal water levels, conveys cooling water to the intakes during normal operation. FPL has installed and maintains three barriers in the channel to reduce potential for losses of marine life, particularly sea turtles, and to facilitate the return of turtles to the ocean. These include deployment of a 5-inch mesh barrier net across the channel approximately midway between State Road A1A and the canal headwall and an 8-inch mesh barrier net immediately east of State Road A1A and installation of a rigid barrier across the north-south portion of the intake canal (see Figure 3.2.0-1). FPL dredged accumulated sediments from the intake canal on several occasions in accordance with U.S. Army Corps of Engineers (USACE) permits, and sold the dewatered sediments for clean fill. The permit includes provisions for periodic dredging in the future, if needed.

Under emergency conditions, water can be withdrawn from Big Mud Creek via the Emergency Intake Canal (see Figure 3.2.0-1) through two 54-inch pipe assemblies in the barrier wall that separates the Creek from the Canal. FPL does not use this intake during normal operations, but does test this system semi-annually by exercising the valves in the two pipe inlets.

Water is withdrawn from the intake canal at eight separate intake structures (four per unit). Water enters the intakes through a series of trash racks (vertical bars spaced three inches apart), then through traveling screens (3/8-inch mesh), which are periodically backwashed. The water is then pumped from the intakes through the main turbine condensers. Heated water is discharged to the discharge canal.

The discharge canal, 2,200 ft long with transverse dimensions similar to those described for the intake canal, transports the heated cooling water to two discharge pipes at its eastern terminus. The pipes transport water beneath the beach and dune system back to the Atlantic Ocean. One of the pipes, completed in 1975 to serve St. Lucie Unit 1, is 12 ft in diameter, extends approximately 1,500 ft offshore, and terminates in a two-port “Y” diffuser. The other pipe, installed in 1981 for two-unit operation, is 16 ft in diameter, extends approximately 3,400 ft offshore, and features a multiport diffuser. This diffuser consists of fifty-eight 17 ¾-inch (1.48-ft) diameter ports located 24 ft apart on the easternmost 1,400 ft of the pipe. The ports are on alternating sides of the diffuser and discharge at an angle 25 degrees from the centerline of the diffuser pipe in the off-shore direction. The discharge of heated water through the Y-port and multiport diffusers ensures distribution over a wide area and rapid and efficient mixing with ambient waters.

Temperature of the discharged cooling water is limited by the IWFP for St. Lucie Units 1 and 2. These limits require that heated water from the diffusers, as measured near the exit from the Discharge Canal, not exceed 113°F or 30°F above ambient during normal operations; a maximum temperature of 117°F or 32°F above ambient is permitted during certain maintenance operations, when throttling circulating water pumps to minimize use of chlorine, and when biofouling of the CWS occurs.

The AECWS for St. Lucie Units 1 and 2 is also a once-through cooling system, but uses much less water than the CWS. Up to 58,000 gpm of ocean cooling water is pumped from the intake canal. This non-contact cooling water is pumped through heat exchangers to provide cooling for a wide variety of plant equipment and is routed to the discharge canal. Low-level chlorination is used to control biofouling of this system.

3.5.2 Domestic/Sanitary Wastewater

Sanitary wastewater from the St. Lucie Plant is released to St. Lucie County’s South Hutchinson Island Water Reclamation Facility. Reclaimed water from the Reclamation Facility is sometimes used for irrigation on Hutchinson Island. When the reclaimed water supply exceeds the demand, the excess is pumped by agreement to a point beyond the point of discharge (POD) in the St. Lucie Plant discharge canal. No change will be associated with the Project.

3.5.3 Potable Water Systems

Potable water use for the Project will continue to be obtained from the Fort Pierce Utilities Authority.

3.5.4 Process Water Systems

The St. Lucie Plant utilizes trailer-mounted reverse osmosis/mixed bed (RO/MB) demineralizer systems for process water treatment using water from raw water tanks. The demineralized water is pumped to a process water tank. RO reject is mixed with the once-through cooling water discharge for disposal while regeneration of the mixed bed systems is offsite. This process water system will not change due to the uprate Project.

3.5.4.1 Demineralized Water

The St. Lucie Plant uses demineralized water [i.e., conductivity < 0.1 microsiemens per centimeter ($\mu\text{S}/\text{cm}$)]. Demineralized water is required for:

- Makeup for the Reactor Coolant System,
- Makeup to replace blowdown from the steam cycle,
- Makeup to replace miscellaneous steam losses in the steam cycle, and
- Emergency makeup water.

Water from Fort Pierce Utilities Authority is used as process water treatment system influent and service water.

3.5.4.2 General Service Water

General service water uses, including seal water, cleaning and flushing water, and fire protection water, are provided by the service water system.

3.6 Chemical and Biocide Waste

The wastewaters generated by the St. Lucie Plant include steam cycle blowdown, Process Water Treatment System wastewater (RO reject water), and equipment area storm and wash waters. Contact area stormwater and wash waters are passed through an oil/water separator and then released to the evaporation/percolation ponds. The type and amount of wastewaters will not change as a result of the Project.

Biofouling of the condenser tubes and other system components is controlled exclusively through the use of plastic foam balls (Taprogge® system) and injection of sodium hypochlorite. The foam balls are injected upstream from the condenser, scrubbing the condenser tubes as they pass through the tubes, and are then collected in ball strainers downstream from the condensers. FPL uses best management practices to minimize ball loss to the environment. Sodium hypochlorite injections are controlled to ensure that free available oxidant is at or below 0.5 milligrams per liter (mg/L) at the condenser outlet, and total residual oxidant concentration at the eastern end of the Discharge Canal is at or below 0.10 mg/L, as required by the IWFP for St. Lucie Units 1 and 2.

3.6.1 Cooling System Water Chemical Treatment

Intermittent shock chlorination or other oxidizing or non-oxidizing biocides may be used to prevent biofouling of the heat rejection system.

3.6.2 Steam Cycle Water Treatment

The steam-condensate-feedwater cycle is chemically treated to prevent corrosion or scaling. The steam cycle water is treated with an oxygen scavenger for dissolved oxygen control and with ammonia or an amine for pH control.

3.6.3 Sanitary Wastewater Treatment

Sanitary wastewaters are disposed off-site to the county publicly owned treatment works. There are several septic tanks located on the St Lucie Plant property outside the Site being certified.

3.6.4 Makeup Water Demineralization

As discussed in Subsection 3.5.4, the makeup water to the steam cycle will be demineralized using trailer-mounted RO/MB type demineralizer trains. Regeneration of the mixed-bed ion exchange units will be performed offsite. RO reject is routed to evaporation/percolation ponds.

3.6.5 Chemical Cleaning

The St. Lucie Plant does not discharge chemical cleaning wastewaters to the environment. All such wastewaters are collected and disposed of offsite by the licensed contractors performing the work.

3.6.6 Miscellaneous Drains

Wastewater from cleaning and maintenance operations such as washdown of storage areas are treated as necessary and routed to evaporation/percolation ponds. These flows are intermittent.



3.7 Solid and Hazardous Waste

All non-hazardous and hazardous wastes associated with the St. Lucie Plant are managed according to applicable regulations. The Project will not change the amount or type of solid/hazardous wastes generated.

3.7.1 Solid Waste

Small quantities of solid wastes are generated by the St. Lucie Plant. Solid wastes are primarily municipal solid waste. A licensed solid waste disposal contractor disposes of all solid wastes.

3.7.2 Hazardous Waste

Potential hazardous waste associated with the St. Lucie Plant are less than 100 kilograms (kg) per month and may include spent solvents, chemical cleaning wastes, and other wastes. Any wastes, if hazardous, are collected onsite and disposed of by a licensed hazardous waste contractor. Hazardous waste will continue to be managed according to applicable rules and regulations.

3.8 Site Drainage

Runoff from the St. Lucie Units 1 and 2 is treated as industrial wastewater (Low-volume Waste) and is permitted by the NPDES permit for discharge to the once-through cooling system via internal outfalls. Contact stormwater runoff is routed through an oil/water separator prior to release to the CWS. Stormwater runoff from the potentially oil-contaminated areas (containment areas for transformers, and other oil-containing or handling equipment) is also routed through an oil/water separator prior to release to the CWS. No changes in the site drainage will result from the Project.

3.9 Materials Handling

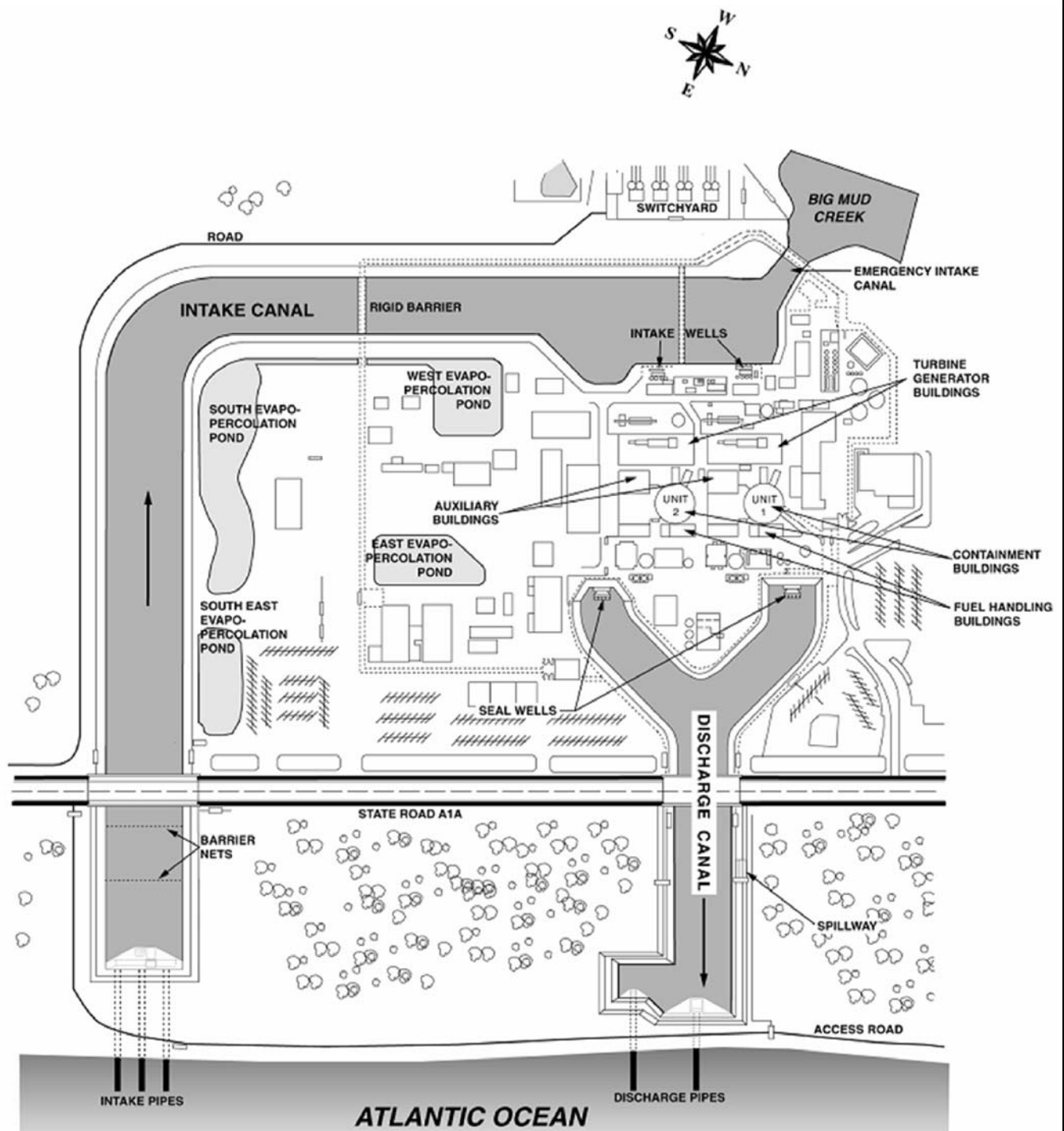
3.9.1 Construction Materials and Equipment

Construction materials and equipment will be delivered to the Project by existing roadways or by barge. The existing State Road A1A is the primary access for the St. Lucie Plant and will be used during construction. The existing barge unloading slip may be used for large items.

Equipment and component parts will be unloaded and moved around the St. Lucie Plant using portable cranes and trucks. Some of the heaviest items may require special transport.

3.9.2 Roads

Traffic associated with the construction activities will travel to the St. Lucie Plant using State Road A1A and use existing access roads to designated parking areas. The LOS of the area roads has proved to be adequate for previous outage activities, and will continue to be adequate after completion of the Project.



LEGEND:

-  = COOLING WATER
-  = EVAPO-PERCOLATION PONDS
-  = MANGROVE IMPOUNDMENTS
-  = PARKING

REFERENCE

1. FPL, 2001

PROJECT

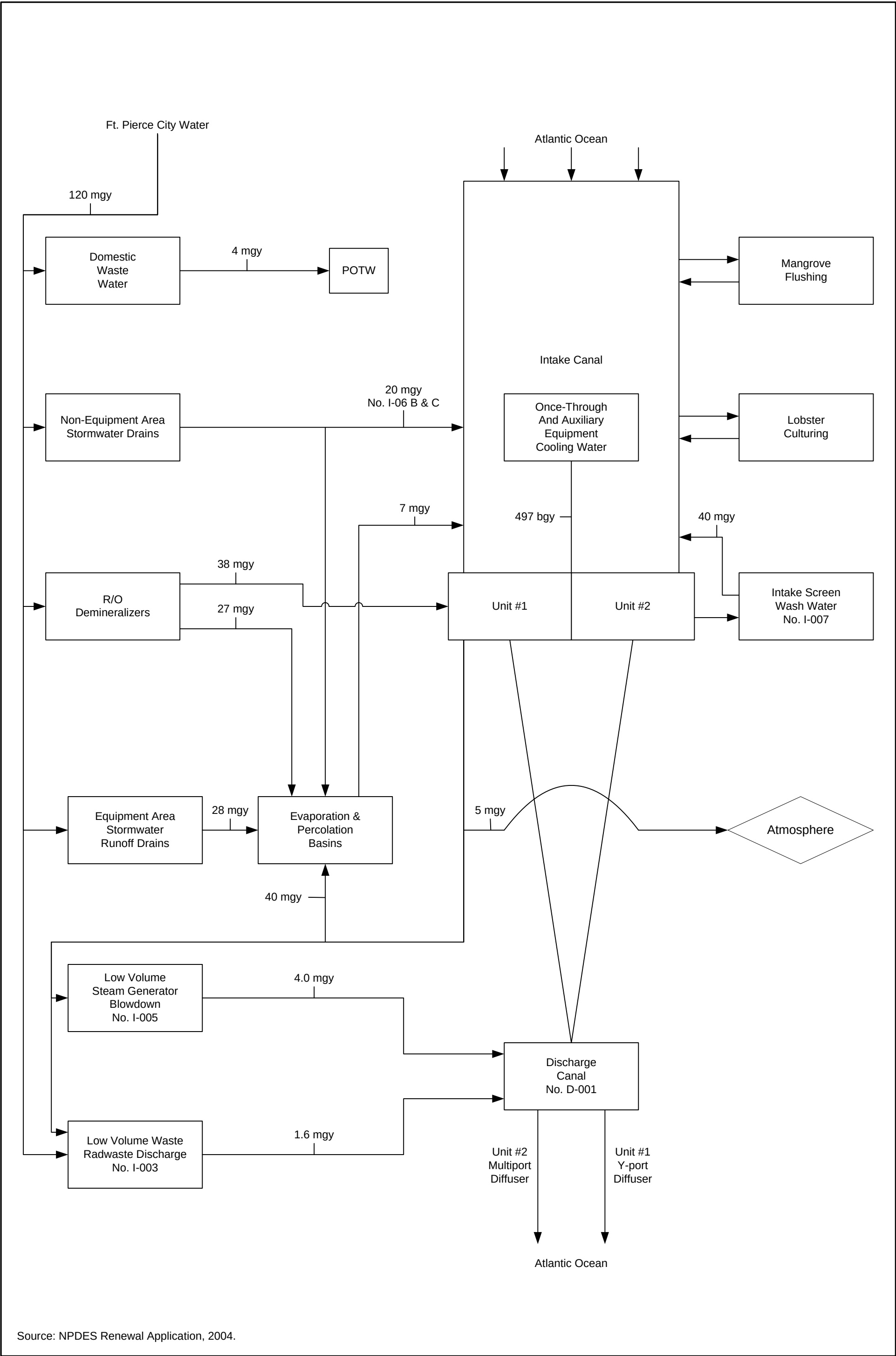
ST. LUCIE
UPRATE PROJECT

TITLE

SITE LAYOUT



PROJECT No. 0738-87685	SCALE AS SHOWN	REV. 0
DESIGN KK 11/28/07	FIGURE 3.2.0-1	
GIS RL 12/4/07		
CHECK SM 12/4/07		
REVIEW RL 12/4/07		



Source: NPDES Renewal Application, 2004.

4.0 ENVIRONMENTAL EFFECTS OF SITE PREPARATION CONSTRUCTION

The purpose of this section is to describe the environmental effects of site preparation and construction of the Project.

The Project will include upgrade and improvement activities to the steam turbine-electric generator, electrical systems, and cooling systems. These upgrade and improvement activities will primarily occur during two outages per unit, each lasting about 50 days. Construction activities associated with Unit 1 upgrades are expected to begin during the spring outage of 2010 and conclude during the fall outage of 2011, while Unit 2 upgrades are expected to begin during the fall outage of 2010 and conclude during the spring outage of 2012. Certain improvements will also be made while the units are operating. All upgrade and improvement activities will occur within the building and structures associated with Units 1 and 2. No external construction activities are required.

The outages at the St. Lucie Plant occur on a periodic basis for maintenance and re-fueling activities. These activities will continue after the Project is completed.

4.1 Land Impacts

4.1.1 General Construction Impacts

The St. Lucie Plant includes the reactor buildings, turbine buildings, access/security building, auxiliary building, maintenance facilities and miscellaneous warehouses and other buildings associated with the operation of Units 1 and 2. The Certified Site boundary comprises approximately 177 acres of developed land within the St. Lucie Plant boundary. During the construction phases associated with the Project, existing parking and laydown areas will be utilized to support construction activities (Figure 4.1.1-1). Existing construction laydown and parking areas will be continue to be used after the Project is completed.

Foundation installation and dewatering activities are not required. Fugitive dust generation is not anticipated to be significant, since no new areas will be impacted. Explosives will not be used during the construction phase of the Project.

Solid waste materials generated during construction will be disposed of in accordance with applicable rules and regulations. Construction and demolition wastes, such as scrap wood and metal, will be transferred to a specified storage area at the St. Lucie Plant where they will be separated for salvage and recycling. General waste materials (i.e., typical of municipal solid wastes) will be collected in appropriate waste collection containers for disposal at an approved offsite location. All hazardous wastes generated during construction activities will be properly stored, transported, and disposed of in accordance with applicable regulations and internal procedures.

During construction, the construction labor force will use existing sanitary facilities or portable chemical toilets. A licensed contractor will pump all sanitary sewage from the portable toilets and holding tanks as needed and will transport the waste to an approved offsite treatment facility.

Potable water for consumption during construction will be obtained from the plant potable water system or bottled potable water.

4.1.2 Roads

Primary access to St. Lucie Plant is provided via State Road A1A, which is located east of the Site. No new roads are proposed to connect with state roads.

4.1.3 Flood Zones

The construction activities associated with the Project will be located in the power block areas that have been elevated to 18 ft above msl. As a result, construction activities associated with the Project will not adversely impact the Site flood elevations for adjacent areas and will not cause any adverse flooding or related impacts to offsite property.

4.1.4 Topography and Soils

Grading and filling activities will not be required for the Project. Site topography will not be affected by construction-related activities. No changes in percolation rates will occur since existing laydown and parking areas will be used.

No effects on existing aesthetics or view shed due to changes in the topography of the St. Lucie Plant will occur since no physical changes will be made to the topography or plant profile. Elevations of the land surface after construction will not change from existing elevations; no changes in



topography will be observable from offsite locations. Offsite groundwater levels will not be affected by the Project.

4.2 Impact on Surface Water Bodies and Uses

4.2.1 Impact Assessment

Due to the existing nature of the St. Lucie Plant, surrounding surface waters will not be adversely affected by the construction of the Project. Stormwater will be handled by the existing facilities and no new areas will be impacted. Equipment modification and retrofit activities associated with the construction of the Project will not impact wetlands and nearby surface waters.

4.2.2 Measuring and Monitoring Program

There are no construction impacts to surface water bodies from the Project; therefore, no new measuring and monitoring programs are proposed.

4.3 Groundwater Impacts

4.3.1 Impact Assessment

Due to the existing nature of the St. Lucie Plant, groundwater will not be adversely affected by the construction of the Project.

4.3.2 Measuring and Monitoring Program

There are no construction impacts to groundwater from the Project; therefore, no new measuring and monitoring programs are proposed.

4.4 Ecological Impacts

4.4.1 Impact Assessment

Due to the existing developed nature of the St. Lucie Plant and use of existing construction facilities (i.e., parking and laydown areas), adverse impacts to ecological habitat or resources or threatened or endangered species are not expected to occur as a result of the construction of the Project.

4.4.2 Measuring and Monitoring Programs

There are no impacts to aquatic/wetland systems or threatened and endangered species from construction of the Project; therefore, no new measuring and monitoring programs are proposed.

4.5 Air Impacts

4.5.1 Air Emissions

Construction activities may result in the generation of fugitive particulate matter (PM) emissions and vehicle exhaust emissions. Fugitive PM emissions will result primarily from vehicular travel over existing paved roads and any unpaved areas within the existing Site. Vehicular traffic will include heavy-equipment traffic and traffic due to construction workers entering and leaving the St. Lucie Plant. Construction personnel and equipment will enter the St. Lucie Plant exclusively via State Road A1A and the existing entrance roadway.

Emissions of fugitive PM from these activities are difficult to quantify because of their variable nature. They can only be estimated since emissions are dependent upon a number of factors, including specific activities conducted, level of activity, meteorological conditions, and control measures utilized.

Both EPA and FDEP have promulgated AAQS for PM₁₀. Fugitive PM₁₀ emissions may result from vehicles entering and leaving the Site. The areas subject to wind erosion will be negligible due to the nature of construction activities and control measures already implemented at the St. Lucie Plant. Most of the areas used for construction parking and laydown are paved, which will minimize fugitive emissions. The estimated fugitive emissions are not expected to significantly affect air quality.

Combustion-related emissions will result from onsite construction equipment and onsite vehicle traffic. Construction equipment will consist of fork lifts, cranes, trucks, and/or compressors. This equipment will produce emissions of PM₁₀, NO_x, SO₂, CO, and VOC. The St. Lucie Plant FESOP, issued by FDEP, limits NO_x emissions to 99.4 tons including construction equipment used in outages. The smaller building and general purpose diesel engines are limited to 190,000 gallons in any 12-month consecutive period. The sulfur content of the diesel fuel is limited to 0.05 percent. There will be no change in the operation of the diesel engines resulting from the construction of the Project.



Given the short-term nature of the construction activities and limitations on fuel usage, the construction activities associated with the Project will not cause significant impacts to air quality in the vicinity of the St. Lucie Plant.

4.5.2 Control Measures

A number of control measures will be implemented, as necessary, during the construction period in order to minimize air emissions and potential impacts. The entrance roads and parking are paved, which minimizes dust emissions from vehicles entering the St. Lucie Plant. The emissions from general purpose engines are limited by the FESOP.

4.6 Impact on Human Populations

Construction projects can affect human populations by altering demographic patterns; by placing demands on infrastructure elements, such as housing, transportation, and educational facilities; and by contributing noise to the environment. Due to the patterns of local employment, traffic patterns and daily commuting, the demographic impact from the construction of the Project is expected to be minimal.

Chapter 7.0 of this SCA provides analysis of the income, employment, tax revenue, and service needs associated with the Project workforce. This Chapter is limited to a discussion of construction workforce requirements and the minor impacts of project-related traffic, housing, education, and noise.

4.6.1 Construction Workforce

Construction is anticipated to commence in 2010 and conclude in 2012, and to be conducted primarily during four scheduled outages lasting about 50 days each. Construction employees will be engaged in both the Project and normal outage activities. The majority of construction workers are expected to commute to the St. Lucie Plant from a maximum of 75 miles. Contractors will be responsible for hiring the construction workforce. During outage and construction activities, FPL will generally implement practices that stagger construction workers and/or stage truck trips to prevent congestion within the St. Lucie Plant. A more detailed discussion of the workforce, payrolls, and economic impacts of the workforce is found in Chapter 7.0.



4.6.2 Construction Traffic

The St. Lucie Plant is designed to accommodate, on an annual basis, operational staff combined with employees associated with refueling/maintenance outages. Previous combined workforces have exceeded 2,200 employees per day. Peak construction employment associated with the Project and outages is estimated to be 1,400 construction workers per day with an average of about 1,000. The peak onsite daily personnel (operational and construction) would increase from approximately 800 to approximately 2,200 workers for each outage. This includes about 800 operational staff and from 1,400 construction workers for the Project and nuclear refueling. The magnitude of the traffic impact will be directly related to the number of construction workers, since current conditions include operational traffic. A traffic analysis was completed to identify the impact of the Project to traffic operations.

Traffic volumes were projected for the Project construction period in 2012. The 2007 existing traffic volume was escalated to 2012 using a linear 2.2 percent annual growth rate, based on the annual average daily traffic volumes for State Road A1A obtained from FDOT. The 2007 traffic volume includes the St. Lucie Plant operational staff, which is expected to remain the same. The construction trips that result from the Project were added to the 2012 traffic. For the evaluation, 1.2 construction workers per trip were assumed to provide a conservative estimate of additional traffic. This represents that 20 percent of the construction workers would carpool, which is an acceptable metric for FDOT analyses. Since there may be up to 1,400 construction workers, the number of additional daily trips would be 2,333, based on 1.2 construction employees per trip. These trips were segregated based on 50 percent coming from the City of Fort Pierce area and 50 percent from the Stuart area. The St. Lucie Plant is about equidistant from these urban areas, where construction workers may originate and both urban areas have populations over 100,000. The results of the evaluation are presented in the following table.

ST. LUCIE PLANT
TRAFFIC VOLUMES STATE ROAD A1A

Year	Site #940116¹	Site #940719²	Average	LOS³	LOS D Standard Service Volume³
2007	5,212	4,497	4,855	B or Better	21,300
2012 Projected	5,811	5,014	5,413	B or Better	21,300
2012 w/Uprates	6,978	6,181	6,580	B or Better	21,300
Note: ¹ FDOT Traffic Count site #940116 State Road A1A/south of Blue Heron Blvd, City of Fort Pierce. ² FDOT Traffic Count site #940719 State Road A1A/south of St. Lucie Plant. ³ Obtained from FDOT Q/LOS Handbook Table 4-1 Generalized Annual Average, Daily Volumes for Florida's Urbanized Areas, 2-Lane Undivided Uninterrupted Flow Highways. Source: Florida Design Consultants, 2007.					

The results of the evaluation indicate that the level of service (LOS) would not change and would remain at a LOS B or better. Roadways with a LOS B have free flow, although presence of other vehicles becomes noticeable. The amount of traffic generated from construction workers for the St. Lucie Project is less than what has historically been generated for nuclear refueling outages and the steam generator replacement project, which did not adversely affect traffic movements. Construction and operation workforce is staggered in several shifts, reducing the number of employees entering and exiting the St. Lucie Plant at any one time. As necessary, traffic management specialists (e.g., off-duty law enforcement) are used to maintain safe traffic flow entering and exiting the St. Lucie Plant.

4.6.3 Housing

The number of construction employees will vary during the Project, with a total construction employment peak of up to 1,400 employees during the outages for the Project. The peak number of construction employees for the Project will be employed during the outages and only during the periods where their skills are required. There is a significant labor pool of construction workers in the surrounding and adjacent counties. As a result, some construction workers will be from these counties for the construction period. Itinerant workers that do relocate will use the available public lodging accommodations in St. Lucie and Martin Counties, which are 9,066 and 5,437 units, respectively (UF/BEBR, 2006).



4.6.4 Education

Because of the relatively short duration of employment, few construction workers are expected to relocate with their families. As a result, there will be little immigration of school-aged children resulting from construction activities. No significant adverse effects on local elementary, middle, or high school enrollment are anticipated.

4.6.5 Construction Noise Impacts

The impacts of noise on human populations are dependent upon the proximity of institutional and residential land uses to the St. Lucie Plant construction activities and the type and extent of noise sources. The nearest locations that could potentially be impacted by noise from the construction are approximately 1.5 to 2 miles from the Units 1 and 2 power block area. The closest residential location is represented by noise monitoring location 1F (see Figure 2.3.8-2). Noise monitoring locations 4F and 5F are about 2 miles from the power block area.

Construction equipment for the Project may include the use of cranes and associated devices to move and position material. However, it should be noted that these activities will be extremely intermittent and transitory, and used to move equipment into the existing Units 1 and 2 buildings. Once inside, construction activities that generate noise will be confined within the buildings. Therefore, overall average noise levels at noise receptors, such as residential boundaries, and noise receptors from construction activities will be either intermittent or attenuated within the existing Units 1 and 2 buildings.

Typical equipment sound pressure levels (SPLs), as provided in *Power Plant Construction Noise Guide* (BBN, 1977), range between 78 and 88 dBA when measured at a reference distance of 50 ft. New and/or well-maintained equipment may generate noise levels even lower than those reported.

The evaluation of noise impacts from construction activities was performed assuming two cranes, two compressors and three trucks operating simultaneously at the same location. Using hemispherical spreading of noise the maximum impacts from construction at noise monitoring location 1F is estimated to be 50 dBA and the maximum impacts at noise monitoring locations 4F and 5F are estimated to be 48 dBA. These maximum estimated impacts are very conservative, since no attenuation from nearby buildings was considered and such sources operate intermittently. As a

result, the construction activities associated with the Project will not change the character of observed noise levels in the vicinity of the St. Lucie Plant.

4.7 Impacts on Landmarks and Sensitive Areas

Construction activities related to the Project will not affect cultural resources, landmarks, or sensitive areas.

4.8 Impacts on Archaeological and Historic Sites

Construction activities related to the Project will not affect any archaeological and historical sites in the area.

4.9 Special Features

There will be no unusual products, raw materials, solid waste disposal, incinerator effluents, or residues produced during the construction activities associated with the Project that will have influence on the environment or ecological systems of the St. Lucie Plant or adjacent areas.

4.10 Benefits of Construction

The construction phase associated with the Project will contribute both short- and long-term economic benefits to the surrounding region. Construction benefits will include construction employment that will average about 1,000 employees and peak at 1,400 employees during the construction periods. Construction wages will increase the demand for goods and services in the region. Direct purchases of construction materials will have both direct and indirect economic benefits. Construction activities will increase tax revenues to the county and state governments due to sales taxes from the purchase of equipment and material to support construction activities. This includes construction materials (e.g., concrete and steel for foundations), rental equipment (e.g., construction cranes, pumps), food, and transportation. These benefits are presented in detail in Chapter 7.0.

4.11 Variances

No variances from applicable regulatory standards due to the construction of the Project are being sought as part of this SCA.



LEGEND

 Construction Laydown / Parking Areas

REFERENCE

1. ESRI Online Imagery 2006. 2. FPL Construction laydown / parking areas, 2007

0 300 600 1,200 Feet



PROJECT		ST. LUCIE UPRATE PROJECT	
TITLE		CONSTRUCTION LAYDOWN AND PARKING AREAS	
		PROJECT No. 073-87685	SCALE AS SHOWN
		DESIGN KK 11/16/07	REV. 0
		GIS RL 11/16/07	FIGURE 4.1.1-1
		CHECK SM 11/16/07	
		REVIEW KK 11/19/07	

5.0 EFFECTS OF PLANT OPERATION

The purpose of this chapter is to describe the environmental effects of operation of the St. Lucie Units 1 and 2 following completion of the Project.

5.1 Effects of the Operation of the Heat Dissipation System

5.1.1 Temperature Effect on Receiving Body of Water

St. Lucie Units 1 and 2 will continue to utilize the existing heat dissipation system that serves the Plant. As described in Subsection 3.5.1, this system consists of three cooling water intake structures located offshore of the Plant in the Atlantic Ocean that supply water to the Plant's once-through CWS. Cooling water is then discharged to the Atlantic Ocean through two discharge pipes.

The effects of the discharge of cooling water via these discharge structures were evaluated and mixing zones were established as a part of the Plant's IWFP (Permit No. 0002208). These mixing zones include the volume of water at the edge of which the water temperature is 17°F above the ambient temperature of the intake water. The following discussion addresses the changes to those existing thermal mixing zones due to the increase of the temperature of the cooling water discharge following the Project. In all cases, these future mixing zones remain within the mixing zone limits already established under the IWFP.

As described in Section 3.5, the final Heat Dissipation System flow rate of the St. Lucie Plant will not be changed by the Project. As described in Subsection 2.3.4.3, the design two-unit flow rate will remain at 1,487 MGD or 1,032,600 gpm. Because the temperature rise (ΔT) is proportional to the heat rejection rate, the existing full load ΔT of 25.7°F will be increased by the uprate an estimated 2.9°F, or a ΔT of approximately 28.6°F. FPL has committed to operate the post-uprate plant within the existing operating limits of the current IWFP.

The thermal discharge was modeled for six cases:

1. Y-Port diffuser during full design two-unit flow rate at full load before the uprate,
2. Y-Port diffuser during full design two-unit flow rate after the uprate, and

3. Y-Port diffuser during maximum discharge temperature at reduced flow rates after the uprate.
4. Multiport Diffuser during full design two-unit flow rate at full load before the uprate,
5. Multiport Diffuser during full design two-unit flow rate after the uprate, and
6. Multiport Diffuser during maximum discharge temperature at reduced flow rates after the uprate.

5.1.1.1 Cases 1 and 4

The first and fourth cases were described in Subsection 2.3.4.3, and represent the baseline against which the impacts from the Project will be compared.

5.1.1.2 Cases 2 and 5

The second and fifth cases were modeled to establish the conditions associated with full flow and Plant capacity. The maximum discharge temperature allowed by the IWFP under these conditions is 113°F. The maximum heat load associated with a discharge at 113°F occurs with the maximum ΔT of 28.6°F, which would occur at an ambient temperature of 84.4°F.

The increase in length for the Y-port diffuser mixing zone relative to the mixing zone for the pre-uprate conditions is predicted to be about 2 ft for each port (Figure 5.1.1-1 and 5.1.1-2) for a total increase in mixing zone volume of 695 cubic feet (ft³) from 13,161 to 13,856 ft³ (see Table 5.1.1-1).

As a result of the Project, the predicted increase in length of the mixing zone (ΔT of 17°F) for each port of the multiport diffuser relative to the pre-uprate conditions is approximately one-half foot in the horizontal direction and no change in the vertical direction (see Figures 5.1.1-3 and 5.1.1-4). This results in a predicted total increase in volume of the multiport mixing zone from 3,006 ft³ for the existing case to approximately 3,109 ft³ after the uprate (see Table 5.1.1-2).

Thus, the total two-unit increase in mixing zone volume relative to the pre-uprate conditions for the full-design two-unit flow condition is predicted to be 798 ft³; from 16,167 to 16,965 ft³. The predicted post-uprate dimensions of the mixing zone are still well within the permitted limits. The small incremental temperature, volume and plume length increases are not expected to result in any measurable thermal impact on the receiving water (Atlantic Ocean).

5.1.1.3 Cases 3 and 6

The third and sixth cases have been modeled by establishing the conditions associated with reduced flow due to "... condenser and/or circulating water pump maintenance, throttling circulating water pumps to minimize use of chlorine, and or fouling of circulating water system," as described in the IWFP. The maximum discharge temperature allowed by the IWFP under these conditions is 117°F. The maximum heat load associated with a discharge at 117°F occurs with the maximum ΔT of 32°F, which would occur at an ambient temperature of 85°F.

The increase in length for the Y-port diffuser relative to the pre-uprate conditions is modeled to be about 8 feet for each port (see Figures 5.1.1-1 and 5.1.1-2) for a total increase in mixing zone volume of 1,688 ft³; from 13,161 to 14,849 ft³ (see Table 5.1.1-1).

As a result of the Project, the predicted increase in length of the mixing zone (ΔT of 17°F) for each port of the multiport diffuser is approximately 1.5 ft in the horizontal direction and no change in the vertical direction (see Figures 5.1.1-3 and 5.1.1-4). The result is a predicted total increase in volume of the multiport mixing zone from 3,006 ft³ for the existing case to approximately 3,334 ft³ after the uprate (see Table 5.1.1-2).

Thus, the total two-unit increase in mixing zone volume for the full-design two-unit flow condition is estimated to be 2,016 ft³; from 16,167 to 18,183 ft³. The predicted post-uprate dimensions of the mixing zone are still well within the permitted limits. The small incremental temperature, volume, and plume length increases are not expected to result in any measurable thermal impact on the receiving water (Atlantic Ocean).

5.1.2 Effects on Aquatic Life

5.1.2.1 Impingement and Entrainment Effects

There will be no increase to the cooling water flow rates at the St. Lucie Plant as part of the Project; therefore the current rates of entrainment and impingement will not change. The Project will not result in increased effects on aquatic life.

5.1.2.2 Effects of Increased Water Temperature on the Marine Biota

There are no expected changes in effects on aquatic biota in the Atlantic Ocean due to changes in the release of heat, because the thermal output and mixing zone changes will be minimal and remain

within the permitted limits. The effects on marine biota of increasing the ΔT from 26°F to 28°F (and higher) were evaluated by FPL prior to St. Lucie Unit 2 becoming operational (ABI, 1980).

The ABI assessment concluded that mobile aquatic organisms would avoid the higher thermal regimes near the discharge and increasing this area would not result in measurable biological impacts. Based on the thermal modeling, the St. Lucie Plant after completion of the Project is predicted to have a slightly larger mixing zone than pre-uprate conditions during full flow and capacity. This increase in mixing zone volume is less than 5 percent and equivalent to the area of about 9.3 ft³ (about 3 cubic meters). Based on the dimensions of the receiving water (Atlantic Ocean), this increase in area of elevated temperature would not result in a measurable biological impact.

5.1.3 Biological Effects of Modified Circulation

The Project is not expected to cause any significant modification to water circulation in the Site vicinity. As described in Subsection 5.1.2 above, there will be no change to the velocity entering the offshore velocity caps or exiting the discharge diffusers.

5.1.4 Effects of Offstream Cooling

The St. Lucie Plant, after the Project is completed, will not utilize offstream cooling.

5.1.5 Measurement Program

The field measurement programs utilized to describe the thermal discharge are described in Appendix 10.6.

5.2 Effects of Chemical and Biocide Discharge

5.2.1 Industrial Wastewater Discharges

Compliance with applicable state and federal discharge regulations and water quality standards for industrial wastewaters, is presently being achieved through the implementation of the NPDES permit. The Project will not cause any changes in the quantity or characteristics of industrial wastewaters generated by the facility; therefore, no change in that compliance achievement status due to the Project is expected.

5.2.2 Cooling Tower Blowdown

The St. Lucie Plant has no cooling towers; therefore, it produces no cooling tower blowdown. The Project will not add any cooling towers.

5.3 Impacts on Water Supplies

The consumptive water use after the Project is completed will remain unchanged, as described in Section 3.5. The St. Lucie Plant will continue to use the existing water supplies as described in Section 3.5.

5.3.1 Surface Water

The Project will not cause any changes in hydrologic or water quality conditions due to diversion, interception, or additions to surface water flow.

5.3.2 Groundwater

The St. Lucie Plant does not directly withdraw groundwater under its current operations and it will not withdraw groundwater as a part of this Project. The use of water supplied by the City of Fort Pierce, which does withdraw groundwater, will remain unchanged by the Project, as described in Section 3.5. There will be no changes to the groundwater discharges as a result of this Project.

5.3.3 Drinking Water

There will be no quality, quantity, or hydrological changes due to the St. Lucie Project water use, either by withdrawal or discharge to a drinking water source. Therefore, the Project will have no impacts on drinking water.

The Project will not result in any additional staff at the St. Lucie Plant; therefore, the use of drinking water at the facility will not increase.

5.3.4 Leachate and Runoff

The Project does not include materials that are stored onsite that can potentially generate leachate and runoff. Therefore, the Project will have no impacts on groundwater or surface water quality or on terrestrial and aquatic environments, due to leachate or runoff from such facilities.

5.3.5 Measurement Programs

No measurement or monitoring programs are applicable to the Project.

5.4 Solid/Hazardous Waste Disposal Impacts

5.4.1 Solid Waste

The Project will not increase the generation of solid wastes associated with power generation. No increase in municipal solid waste will occur as a result of the Project that would potentially impact municipal solid waste facilities. When the Project is completed, solid waste will continue to be handled in the same manner as discussed in Subsection 3.7.1.

5.4.2 Hazardous Wastes

The Project will have no impact on hazardous waste handling and/or disposal at the St. Lucie Plant. Hazardous wastes will continue to be handled after the Project is completed in the same manner as discussed in Subsection 3.7.2.

5.5 Sanitary and Other Waste Discharges

The Project will not result in any increase of onsite staff, so it will not generate any additional domestic wastewater. The sanitary wastewater will continue to be handled after the Project is completed in the same manner as discussed in Subsection 3.5.2.

5.6 Air Quality Impacts

5.6.1 Impact Assessment

The St. Lucie Plant will remain a minor source of air emissions. As discussed in Subsection 3.4.2, the St. Lucie Plant is classified as a minor source of air pollution, since FDEP has issued a FESOP to keep emissions to less than 100 tons per year for any air pollutant regulated under the Clean Air Act (Permit No. 1110071-005-AF). The St. Lucie Plant will continue to operate under the authorized limits in the FESOP.

Table 5.6.1-1 presents the latest annual fuel usage and air emissions for the St. Lucie Plant reported to FDEP. The fuel usage for the four large main plant emergency diesel engines was 37,500 gallons in 2006, which is less than the 97,000 gallons in any 12-month consecutive period authorized by the

FESOP. The fuel usage for the building emergency generators and general purpose diesel engines was 51,140 gallons in 2006, which was less than the 190,000 gallons in any 12-month consecutive period authorized by the permit. The total emissions of NO_x for 2006 were 31.66 tons, which is less than the amount authorized by FDEP.

As demonstrated for 2006, the air emissions for the St. Lucie Plant remain below the limits authorized by FDEP as a minor source. The Project will not increase air emissions from the St. Lucie Plant. As a result of the minor source designation, the air impacts are expected to be well within the ambient air quality standards that protect public health and welfare.

5.6.2 Monitoring Programs

The fuel usage will continue to be monitored under the FDEP issued FESOP.

5.7 Noise Impacts

5.7.1 Impacts

The noise levels in the daytime and nighttime were determined at six far-field and four boundary locations in September 2007 while the St. Lucie Plant was operating. The far-field monitoring locations were selected to delineate the noise levels beyond the boundary of the St. Lucie Plant while the boundary locations were selected to measure noise levels near the operating units.

The Project will not result in an increase of noise levels from the St. Lucie Plant. As discussed in Subsection 2.3.9, the daytime and nighttime noise levels at monitoring sites near the St. Lucie Plant boundary were less than the maximum permissible noise levels in the St. Lucie County ordinance. These monitoring sites were located between the St. Lucie Plant and far-field noise monitoring sites. The results of the noise survey demonstrated that the noise levels from the existing St. Lucie Plant did not exceed the maximum permissible noise levels in the St. Lucie County noise ordinance. The Project will not change the noise profile of the plant since all changes are being made within the existing buildings and structures. The St. Lucie Plant will continue to comply with the St. Lucie County noise ordinance.

5.8 Changes to Non-Aquatic Species Population

5.8.1 Impacts

No adverse impacts to non-aquatic species are anticipated during the operation of the St. Lucie Plant following completion of the Project. All of the facilities being upgraded will be located upon or within previously-impacted areas, which do not provide suitable natural areas for wildlife. The existing Site has been disturbed during prior construction of the existing facilities, including removal of vegetative communities, topographic grading, and hydrologic alteration. The facility does not provide critical habitat for wildlife; therefore, the operation of the St. Lucie Plant is not anticipated to result in the reduction of any populations of non-aquatic species after the Project is completed.

No adverse impacts to federal- or state-listed terrestrial plants or animals are expected during facility operations, due to the existing developed nature of the habitat. No long-term change in the populations of any threatened or endangered species is anticipated as a result of operation of the St. Lucie Plant.

No changes in wildlife populations at the adjacent undeveloped areas are anticipated, including listed species. Noise and lighting impacts will not change; the Project is not anticipated to deter the continued use by wildlife of the undeveloped areas within the St. Lucie Plant boundary.

5.8.2 Monitoring

Because no significant impacts to non-aquatic species populations are anticipated, no monitoring program is proposed.

5.9 Other Plant Operation Effects

5.9.1 Operations Traffic

It is anticipated that no increase in operations personnel will occur beyond the conclusion of the construction activities in 2012. The 2012 operations traffic volume assumes that no new trips are projected as compared to the 2007 existing conditions, except for predicted traffic increases due to general growth of the area. The 2007 existing traffic volume was escalated to 2012 using a linear 2.2-percent annual growth rate based on the annual average daily traffic volumes for State Road A1A. These data were obtained from FDOT. The 2007 traffic volume includes the St. Lucie Plant operational staff, which is expected to remain the same in 2012. The results of the analysis are

presented in Table 5.9.1-1. As shown in the table, the traffic on State Road A1A is expected to remain at an acceptable LOS (LOS B or better).

5.10 Archaeological Sites

No sites of historic or archaeological significance will be impacted due to the operation of St. Lucie Plant after the Project is complete. No sites listed or eligible for listing in the *National Register of Historic Places* are on the Site. No direct or indirect impacts are anticipated from any operational aspect of the St. Lucie Plant.

5.11 Resources Committed

There are no irreversible and irretrievable commitments of national, State, and local resources due to the Project because the plant operation will not change.

5.12 Variances

No variances from any applicable standards of any State, regional or local government agency are being requested as part of this application.

TABLE 5.1.1-1
PREDICTED MIXING ZONE FOR ST. LUCIE PLANT Y-PORT DIFFUSER

	Permitted	Case 1 (existing)	Case 2 (113°F)	Case 3 (117°F)
Acre-feet	283.9	0.31	0.32	0.34
Cubic meters	350,202	373	392	420
Cubic feet	12,367,168	13,161	13,856	14,849
Seaward extent (feet)	380.0	63.20	65.3	70.8
Height above bottom of discharge (feet)	27.26	7.6	7.6	7.6
Length (meters)^a	115.82	19.3	19.9	21.6
Height above bottom (meters)^a	8.31	2.32	2.32	2.32
Square meters^a	42,142	199	125	132
Square feet^a	453,613	1,285	1,341	1,425

^aNPDES Permit 0002208

Source: Golder, 2007

TABLE 5.1.1-2
PREDICTED MIXING ZONE FOR ST. LUCIE PLANT MULTIPOINT DIFFUSER

	Permitted	Case 4 (Existing)	Case 5 (113°F)	Case 6 (117°F)
Acre-feet^a	10.7	0.069	0.071	0.077
Cubic meters^a	13,198	85	88	94
Cubic feet^a	466,092	3,006	3,109	3,334
Seaward extent (feet)^a	1,385.5	1,379	1,380	1,381
Width perpendicular to pipe axis (feet)^a	21.0	5.2	5.5	5.92
Height above bottom of discharge (feet)^a	8.0	0.04	0.04	0.06
Square meters	5,406	137	141	150
Square feet	58,191	1,478	1,521	1,617

^aNPDES permitted 0002208

Source: Golder, 2007.

TABLE 5.6.1-1
ST. LUCIE PLANT FUEL USAGE AND AIR EMISSIONS FOR 2006

Category	Units	Main Plant Emergency Generators	Building Emergency Generators	Miscellaneous Diesel Engines	Total Plant
FDEP Emission Unit		001	002	003	
Diesel Fuel Usage	gallons	37,500	1,240	49,900	88,640
Emissions					
Nitrogen Oxides	tons/year	16.32	0.37	14.96	31.66
Carbon Monoxide	tons/year	2.17	0.08	3.22	5.47
Particulate Matter/PM ₁₀	tons/year	0.26	0.03	1.05	1.33
Sulfur Dioxide	tons/year	0.13	0.02	0.98	1.14
Volatile Organic Compounds	tons/year	0.23	0.03	1.19	1.45

Source: FPL, 2007 (Annual Operating Report)

**TABLE 5.9.1-1
ST. LUCIE PLANT
TRAFFIC VOLUMES**

Year	Site #940116¹	Site #940719²	Average	LOS³	LOS D Standard Service Volume³
2012	5,811	5,014	5,413	B or better	21,300

Notes:

- 1) FDOT Traffic Count site #940116 SR A1A/South of Blue Heron Blvd, Fort Pierce.
- 2) FDOT Traffic Count site #940719 SR A1A/South of FPL Power Plant.
- 3) Obtained from FDOT Q/LOS Handbook table 4-1 Generalized Annual Average. Daily Volumes for Florida's Urbanized Areas, 2-Lane Undivided Uninterrupted Flow Highways.

Source: Golder, 2007.

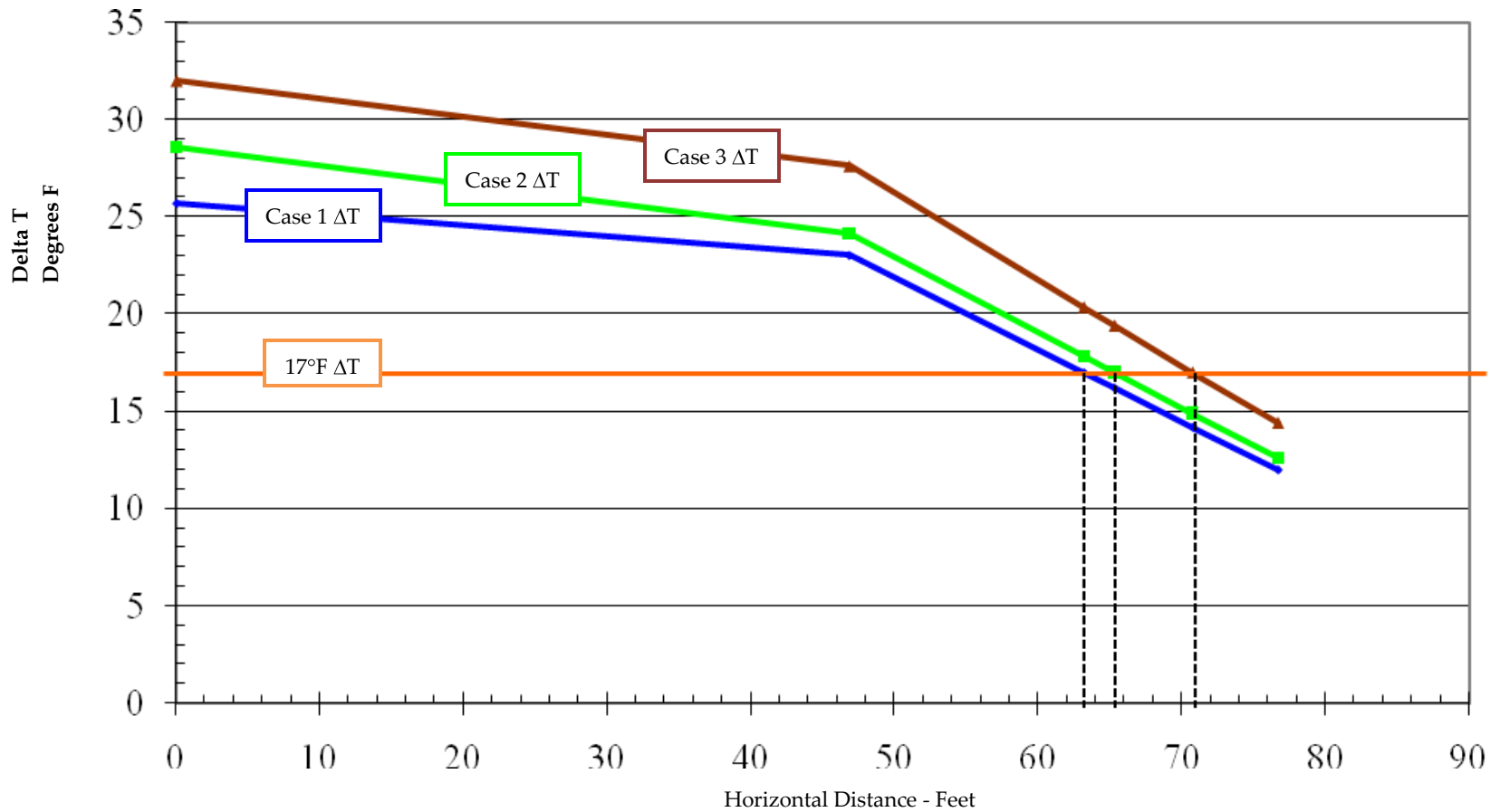


Figure 5.1.1-1
Temperature Rise as a Function of Horizontal Distance for St. Lucie Plant Y-Port Diffuser

Source: Golder, 2007.

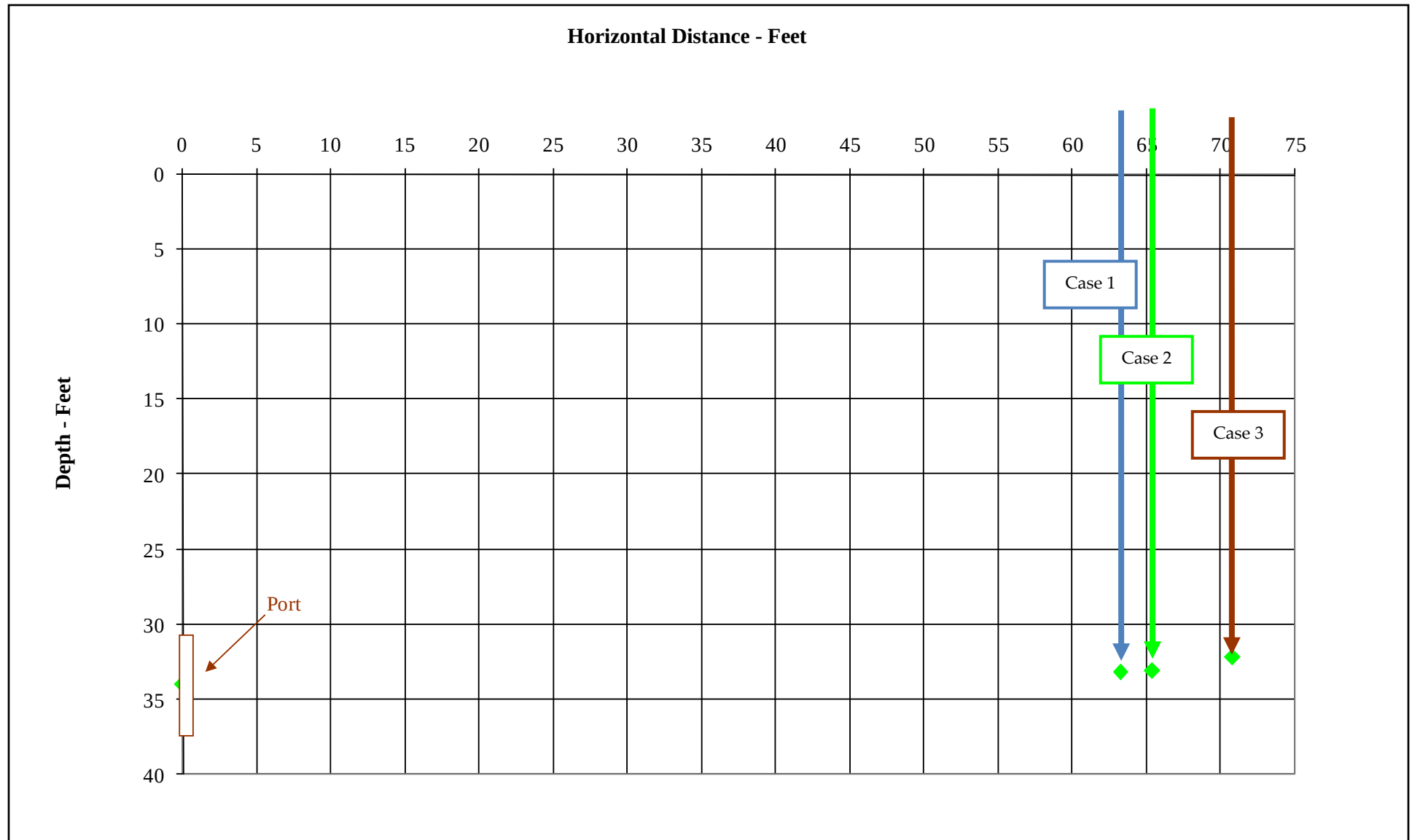


Figure 5.1.1-2
Predicted Centerline Location of 17°F Isotherm for St. Lucie Plant Y-Port Diffuser

Source: Golder, 2007.

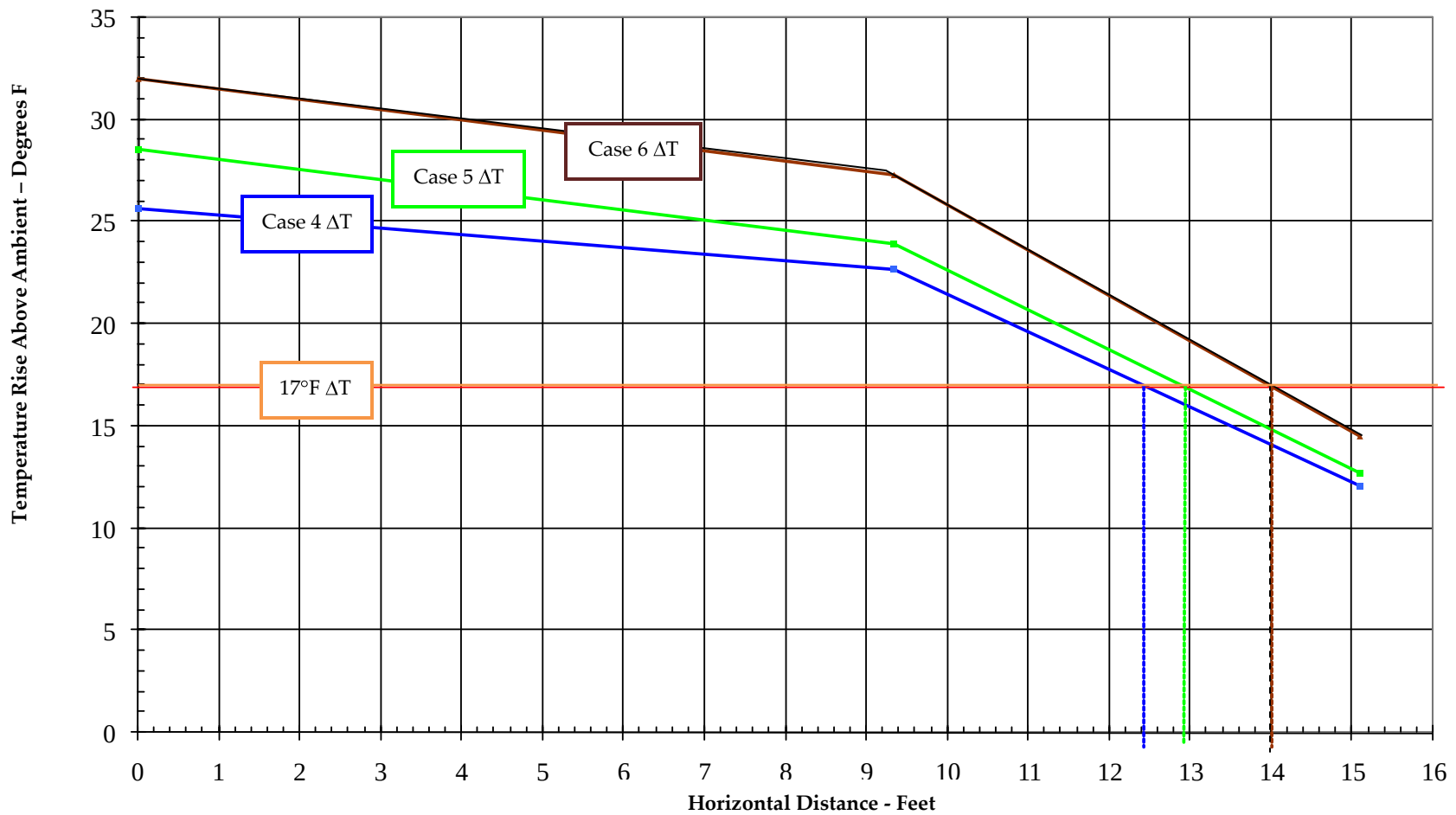


Figure 5.1.1-3
Temperature Rise as a Function of Horizontal Distance for St. Lucie Plant Multiport Diffuser

Source: Golder, 2007.

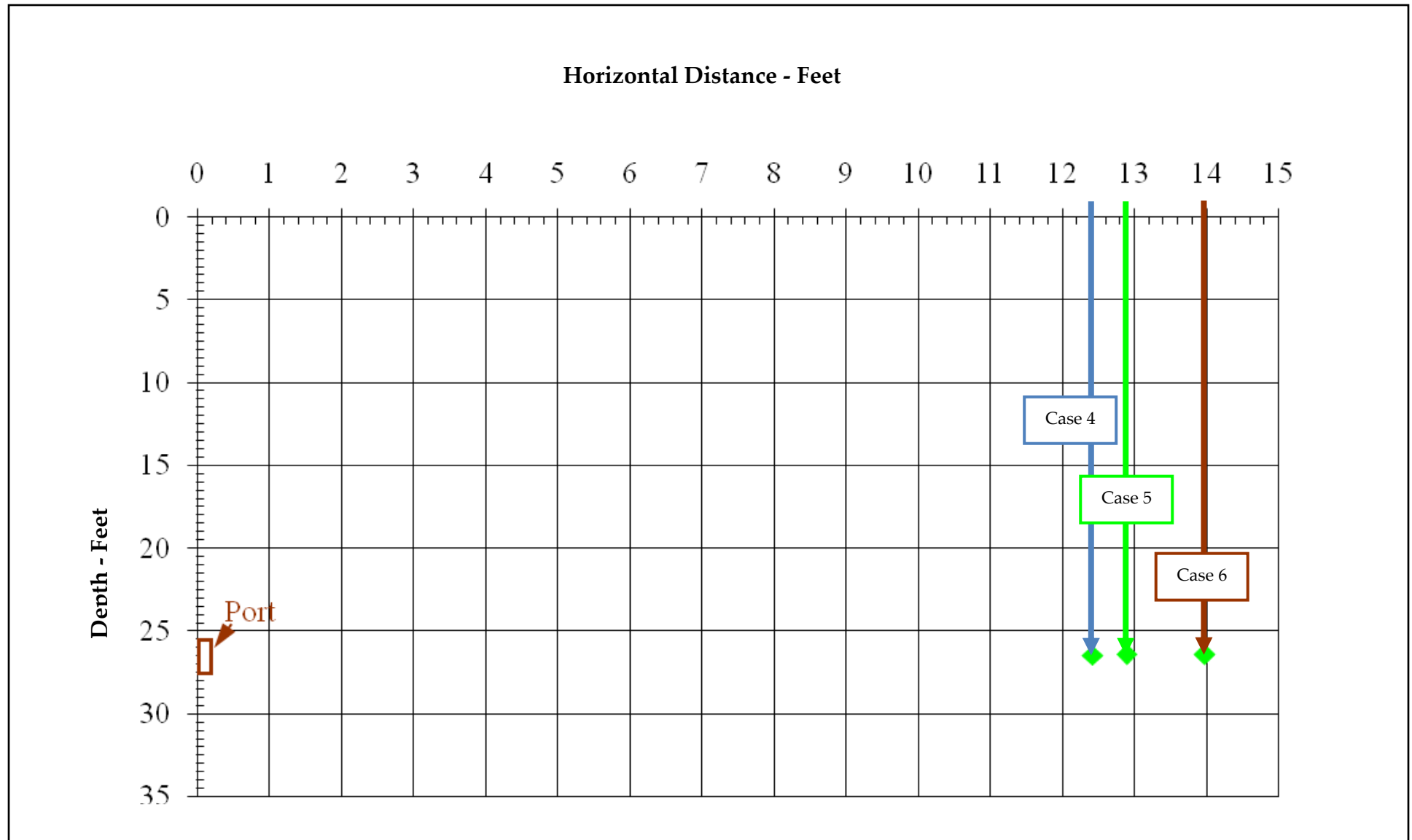


Figure 5.1.1-4
Predicted Centerline Location of 17°F Isotherm for St. Lucie Plant Multiport Diffuser

Source: Golder, 2007.

6.0 TRANSMISSION LINES AND LINEAR FACILITIES

The Project will not require certification of any associated linear facilities, such as electrical transmission lines or rail lines. Therefore, Chapter 6 is not necessary for this application.

7.0 ECONOMIC AND SOCIAL EFFECTS OF PLANT CONSTRUCTION AND OPERATION

This chapter is divided into two parts. Section 7.1 deals with socio-economic benefits and consists of an analysis of the Project construction and operational expenditures. Section 7.2 addresses temporary and long-term indirect costs involving the construction and operational personnel's use of private and public services in the vicinity of the Site. All cost and benefit values are based on nominal dollar values.

7.1 Socio-economic Benefits

The purposes of this chapter are to:

- Identify the economic and social effects of construction and operation of the Project, and
- Quantify the Project benefits and costs to the groups affected in the area surrounding the Site as well as other people and businesses in St. Lucie County and the State of Florida.

Socio-economic effects can be classified as either direct or indirect effects. Direct effects are those that are the direct result of the construction or operation of the Project. Indirect costs and benefits affect people and business interests in the vicinity of the Project who, because of their proximity to the plant site, may experience changes in their local environment, such as increased spending by the Project construction and operation personnel. Many of these effects are difficult to measure, and qualitative assumptions must be made to assess the relative values of expected costs and benefits.

7.1.1 Direct Socio-Economic Benefits

The Project is expected to benefit the economies of St. Lucie County and surrounding areas. Direct benefits from the Project include employment opportunities created by the construction and continued operation of the St. Lucie Plant. Construction of the Project is anticipated to begin in 2010 and conclude in 2012 and occur within two planned outages for each unit. The peak construction workforce is estimated to be 1,400 people per outage with an average construction workforce estimated at 1,000 employees per outage. Previous refueling outages at the St. Lucie Plant have ranged from 600 to 900 construction employees. Outages involving replacement of major components have had a peak construction workforce of about 1,750 people. Employment



opportunities will result from construction job opportunities as well as jobs indirectly generated through the purchase of goods and services in the area. See Table 7.1.1-1.

The current operation staff is about 800 employees, and no additional staff is required once the Project is complete. Population and housing impacts from construction is expected to be minimal since the amount of construction for the Project is within the additional labor requirements of previous outages.

The construction cost for the Project will be about \$550 million. The major cost associated with construction will be the major equipment and materials (about \$360 million) and labor (about \$190 million).

Among the primary direct benefits of the Project will be the increase in skilled job opportunities within the region associated with plant construction.

Sales and income tax benefits will accrue to the State of Florida as a result from the construction of the Project. These taxes will be placed in the State's general fund and will be available for any use deemed appropriate by the State.

The operational employment of the St. Lucie Plant is approximately 800 people with a payroll of about \$65 million and will continue after the Project is complete.

The ongoing operation of the St. Lucie Plant contributes about \$16 million in *ad valorem* revenue to St. Lucie County. This revenue directly benefits the various County agencies as well as other taxing agencies.

7.1.2 Indirect Economic Benefits

The purchase of goods and services to support the construction of the Project is anticipated to occur over a 3-year period beginning in 2010 and ending in 2012. It is expected that the majority of the \$190 million in construction wages paid for the Project will be spent within St. Lucie County and the surrounding region. These wages will create additional demands for goods and services. As this money is spent, it will create a multiplier effect within the area, thereby generating additional jobs and earnings. These earnings are indirect or secondary benefits of the Project, which will be enjoyed



by other companies whose payrolls will increase from the construction of the Project. Rental of construction equipment would be obtained locally.

The direct wages from ongoing operations will continue to generate indirect economic benefits. The direct wages will be spent mostly within the region and will increase the demand for goods and services. Wages paid direct to plant personnel will continue to generate economic benefits in the region.

7.1.3 Other Economic Benefits

The major expenditures for the Project will be equipment to be installed. This equipment will be delivered to the site by either existing roadways or barge. Some of the payments for equipment transportation will benefit the region through additional employment, taxes, and materials.

7.1.4 Recreational and Environmental Values

Construction and operation of the Project will not impact the recreational value and visual qualities of any public facilities in the vicinity of the Site. During construction of the Project there will be insignificant to non-existent effects on recreational facilities. All of the construction activities, other than construction laydown, will occur within the existing structures. Aesthetic and visual impacts to nearby recreational facilities are expected to be minimal.

7.1.5 Onsite Enhancements

FPL desires to minimize the Project's impacts on the environment and the community. Accordingly, the Project will be constructed during relatively short-term outages over a 3-year period. Once complete, there will be no additional visual nor other impacts to the local community since all the Project changes are contained within existing structures. There will be minimal transportation impacts to the local roadways during construction of the Project, and during operation there will be no increase in traffic.

7.1.6 Other Environmental Benefits

The Project maximizes beneficial use of an existing facility since all the construction will occur within existing facilities. Existing laydown areas will be used.



7.1.7 Summary of Benefits

Overall impacts to the economy associated with construction and operation of the Project are expected to be positive. Labor demands associated with the construction and operation of the Project are not expected to create any labor shortages. Expenditures for materials and construction employment will contribute to the economy of St. Lucie County and surrounding counties. Population and housing impacts associated with the Project will be slight, due to minimal immigration into the area.

Construction activities will increase tax revenues to the county and state governments due to sales taxes from the purchase of equipment and material to support construction activities.

Although the local community may experience some temporary impacts during the short-term construction periods, overall socioeconomic impacts associated with the construction and operation of the Project will be favorable.

7.2 Socio-Economic Costs

7.2.1 Temporary External Costs

Over 45,000 construction workers reside within the region, with the majority of these workers located in St. Lucie, Martin, and Palm Beach Counties. Since ample labor supply exists within commuting distance, and since a labor surplus exists within the region, it is anticipated that many workers will be hired either from within the region, or come from farther distances for the short duration outages. Consequently, construction should have no adverse effect on permanent housing.

As is typical with shorter duration construction projects, some workers commuting from longer distances may choose to live in transient accommodations (motels, hotels) on a weekly basis, returning to their permanent homes and families on some weekends. Transient accommodations are plentiful in the area. During the construction periods, peak activities are anticipated to take place during regularly scheduled refueling outages. Minimal to no impacts are anticipated to traffic, air and noise conditions within the surrounding areas, as discussed in Subsections 4.6.2, 4.5, and 4.6.5, respectively. Since workers will mostly be commuting and not relocating permanently into the region, it is not anticipated that construction will create any new or unusual impacts or demands on public facilities or services. In addition, the majority of the construction-related activities will be

conducted within the existing buildings and therefore, not create impacts to the natural resources surrounding the St. Lucie Plant.

The Project construction will occur over a 3-year period with peak construction employment occurring during four outages lasting about 50 days per outage. The roadways utilized for the construction traffic associated with the Project will continue to operate at an acceptable LOS. Impacts from construction traffic entering and leaving the Site, will be the same as it has during other outages with similar and higher construction employment demands.

7.2.2 Long-Term External Costs

The proposed Project's external cost impacts will be minimal and localized. The Project will consist of system modifications to accommodate additional nuclear fuel and steam-electric turbine uprates, resulting in increased generation capacity from the company's lowest cost fuel source. The modifications will occur within existing buildings located at the St. Lucie Plant. These system modifications will improve the operation and will not cause any impairment to recreational values, result in any deterioration of aesthetic and scenic values, or restrict access to areas of scenic values. The Project also will not displace any persons or result in any significant costs to local government.

Since there will not be an increase in operational workforce, no changes are anticipated from the direct and indirect impacts upon the local services (e.g., schools, police). The *ad valorem* revenue paid to St. Lucie County associated with the St. Lucie Plant will continue to be greater than the cost for county-provided services. Overall, the St. Lucie Plant, after completion of the Project, will continue to have a long-term economic benefit for St. Lucie County and the surrounding communities.

TABLE 7.1.1-1
FPL ST. LUCIE PLANT EMPLOYEE DATA
(Permanent and Temporary)

	2007	2008	2009	2010	2011	2012	2013
Existing							
OPERATIONAL	800	800	800	800	800	800	800
Refueling Outages ¹	600-900	600-900	600-900	600-900	600-900	600-900	600-900
Steam Generator Replacement Project ²	1,250						
St. Lucie Project							
Unit 1 ³				500-800	500-800		
Unit 2 ⁴				500-800		500-800	
¹ Employees for refueling. ² Construction employees associated with Unit 2 Steam Turbine. ³ Anticipated to occur Spring 2010 and Fall 2011. ⁴ Anticipated to occur Fall 2010 and Spring 2012.							

Source: FPL, 2007.

8.0 SITE AND DESIGN ALTERNATIVES

This optional Chapter of the SCA will not be submitted as part of this application because it is not anticipated that an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) would be required for the Project.

9.0 COORDINATION

State, regional, and local governmental agencies were contacted by FPL representatives to inform these agencies about the St. Lucie Uprate Project and to solicit input regarding the Project. The Agency staff contacted is listed below:

Florida Department of Environmental Protection, Siting Office (Tallahassee)

Michael Halpin
Cindy Mulkey
Karen Skinner

Florida Department of Environmental Protection, Water Assessment Section (Tallahassee)

Douglas Gilbert

Florida Department of Environmental Protection, Wastewater Section (Tallahassee)

Marc Harris
Allen Hubbard
Edward Smith
Bala Nori

Florida Department of Environmental Protection, Southeast District Office (West Palm Beach)

Timothy Gray
Tim Rach
Linda Brian
Joe Lurix
Lee Hefert
Bruce Offord
William Forrest
Indar Jagnarine

Florida Fish and Wildlife Conservation Commission (Tallahassee)

Lisa Gregg
Kipp Frohlich
Ron Mezich
Rick McCann
Mary Ann Poole

Florida Fish and Wildlife Conservation Commission (West Palm Beach)

Ricardo Zambrano

St. Lucie County

Robin Meyer



Appendix No.	Title
10.1	Federal Permit Applications and Approvals
10.1.1	316 Demonstration
10.1.2	NPDES Application/Permits
10.1.2.1	NPDES Wasterwater Application Fact Sheet
10.1.2.2	NPDES Wastewater Permit #FL0002208-003-IWIS/NR
10.1.2.3	NPDES Wastewater Permit #FL0002208-003 Mod Req 11/30/05
10.1.2.4	NPDES Wastewater Permit #FL0002208 Minor Permit Revision Req 10/25/07
10.1.2.5	NPDES Wastewater Permit #FL0002208 Minor Permit Revision Req 10/15/07
10.1.2.6	NPDES Wastewater Permit #FL0002208 Minor Permit Revision Req Pending
10.1.3	Hazardous Waste Disposal Application Permit
10.1.4	Federal Permits
10.1.4.1	USACE Permit #199301803 (IP-BL)
10.1.4.2	USACE Permit #SAJ-1993-1803(IP-TKW) Mod Req 8/12/2002
10.1.4.3	USACE Permit #SAJ-1993-1803(IP-TKW) Mod Req 10/10/2003
10.1.4.4	USACE Permit #SAJ-1993-01803 Mod Req 12/22/2004
10.1.4.5	USACE Permit #SAJ-1993-1803(IP-BL) Mod Req 1/11/2007
10.1.4.6	USACE Permit #SAJ-1993-1803(IP-BL) Mod Req 8/20/2007
10.1.5	Air Construction/PSD Permit
10.1.6	Coastal Zone
10.1.7	Other Federal Approvals
10.1.7.1	Special Purpose Salvage Permit #MB697722-0
10.1.7.2	Special Purpose Salvage Permit #MB697722-1
10.1.7.3	Depredation Permit #MB135540-0
10.1.7.4	Permit #70-410: Private Aid to Navigation
10.1.7.5	Notification of "Obstruction" beacon marking requirement for Unit 1
10.1.7.6	Permit #72-0083: Private Aid to Navigation
10.1.7.7	Notification of "Obstruction" beacon marking requirement for Unit 2
10.1.7.8	Permit #79K-1019: Private Aid to Navigation
10.2	St. Lucie County Zoning Ordinance
10.2.1	Letter from St. Lucie County Growth Management
10.2.2	St. Lucie County Comprehensive Plan
10.3	St. Lucie County Land Development Code
10.4	Easements & Conditions of Certification
10.4.0.1	St. Lucie Plant Easements
10.4.0.2	Conditions of Certification - Unit 2 (1976-1986)
10.4.0.3	Conditions of Certification – Unit 2 Mod (09/25/1987)
10.4.0.4	Conditions of Certification – Unit 2 Mod (08/08/1990)
10.4.0.5	Conditions of Certification – Unit 2 Mod (05/16/1994)
10.4.0.6	Conditions of Certification – Unit 2 Mod (06/09/1994)
10.4.0.7	Conditions of Certification – Unit 2 Mod (04/22/1996)

10.4.1	Existing Permits: Air & Water
10.4.1.1	General Water Use Permit #56-01238-W
10.4.1.2	Air Pollution Permit #1110071-005-AF (EU 001, 002, 003)
10.4.2	Existing Permits: Construction and Maintenance
10.4.2.1	ERP # 56-0041384-001
10.4.2.2	Standard ERP #SI 56-0041384-003
10.4.2.3	Standard ERP #SI 56-0041384-005
10.4.2.4	ERP # 56-0041384-006
10.4.3	Existing Permits: Fish and Wildlife
10.4.3.1	Scientific Collecting/Institutional Permit #WS04246
10.4.3.2	Special Activity License #05SR-018A
10.4.3.3	Marine Turtle Permit, IP#125
10.4.3.4	Marine Turtle Permit, TP #026
10.4.3.5	Migratory Bird Nest Permit #WN07311
10.5	Monitoring Programs
10.5.1	Octave Bank Measurements and Noise Level Charts
10.5.2	Equipment Calibration Certificates
10.6	Thermal Discharge Modeling Report
10.7	Petition to Determine Need

APPENDIX 10.1.1

316 DEMONSTRATION

NOTE: The Project does not involve an increase in flow or thermal discharge from that currently authorized in the Industrial Wastewater Facility Permit (Permit No. 002208)

APPENDIX 10.1.2.01

NPDES WASTEWATER APPLICATION FACT SHEET

**FACT SHEET
FOR
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
INDUSTRIAL WASTEWATER FACILITY PERMIT**

Permit No.: FL0002208 (Major)

Permit Writers: Bala Nori, Allen Hubbard

Application No.: FL0002208-003-IW1S

Application Date: June 29, 2004

Additional Information: September 23, 2004 & December 10, 2004

1. SYNOPSIS OF APPLICATION

- a. Florida Power & Light Company
6501 S. Ocean Drive
Jensen Beach, Florida 34957

For:
St. Lucie Power Plant
Units 1 and 2
Hutchinson Island
St. Lucie County, Florida

- b. Type of Facility
Primary SIC 4911 Electrical Services

The plant is located on a 1,132 acre site on Hutchinson Island, St. Lucie County, approximately 12 miles north of the town of Stuart, and has two nuclear-fired steam electric power generating units (Units 1 and 2). Commercial operation of Unit 1 began in March 1976 and Unit 2 began in May 1983. The plant has a non-contact once through condenser cooling water (OTCW) system that uses water from the Atlantic Ocean. OTCW is chlorinated for biofouling control. OTCW, auxiliary equipment cooling water (AECW), low volume wastes (LVW), and other industrial wastewaters are discharged via an enclosed canal which discharges through two piping systems to the Atlantic Ocean (a Class III marine water), approximately 1,500 feet offshore.

- c. Design Capacity of Facility
Number of Units - 2
Unit 1 Nameplate Rating - 850 MW
Unit 2 Nameplate Rating - 850 MW

- d. Applicant's Receiving Water

Atlantic Ocean, a Class III marine water

- e. Description of Wastewater Treatment Facilities

Note: The radioactive component of the discharge from nuclear power plants is regulated by the U.S. Nuclear Regulatory Commission under the Atomic Energy Act, and not by the Department or the U.S. Environmental Protection Agency under the Clean Water Act.

Facility discharge and treatment include the following. Once-through non-contact condenser cooling water (OTCW) and auxiliary equipment cooling water (AECW) are chlorinated. Low volume waste (LVW) (consisting of water treatment system wastewater, steam generator/boiler blowdown, and equipment area floor drainage), non-radioactive wastes/liquid radiation waste, and stormwater associated with industrial activity are treated by chemical/physical processes including neutralization, settling, ion exchange and micro filtration. Non-industrial stormwater and intake screen wash water are discharged without treatment.

f. Description of Discharges (as reported by applicant)

D-001 – Non-contact once-through condenser cooling water (OTCW) and auxiliary equipment cooling water for Units 1&2

Parameters	Units	Reported Data			
		Max Daily	Max 30 Day	Annual Avg	Long-Term Avg
Flow	MGD	1,478		1,362	
pH	SU	7.93			
Temp (winter)	C/F	38/100.4			
Temp (Summer)	C/F	43/109			

I-003 – Liquid radiation waste

Parameters	Units	Reported Data			
		Max Daily	Max 30 Day	Annual Avg	Long Term Avg
Flow	MGD	0.040			
pH	SU	6.04			
Temp (winter)	C/F	48.9/120			

I-005 --Steam Generator Blowdown

Parameters	Units	Reported Data			
		Max Daily	Max 30 Day	Annual Avg.	Long-Term Avg
Flow	MGD	0.776			
pH	SU	8.55			
Temp. (summer)	C/F	42/107.6			

2. PROPOSED EFFLUENT WATER LIMITATIONS

1. Outfall D-001- Non-contact once-through condenser cooling water and auxiliary equipment cooling water for Units 1&2

Parameters	Effluent Limitations		
	Instantaneous Maximum	Daily Maximum	Daily Minimum
Flow (MGD)	Report.	--	--
Discharge Temperature, F	113 See item 2.2	--	--
Temperature Rise, F	30	--	--
Oxidants, Total Residual (MG/L)	0.10	--	--
Time of Condenser Chlorine Addition, Minutes/day/unit		120	--
Free Available Oxidants	0.5	--	
Whole Effluent Toxicity	See permit		

2. At the point of discharge, the heated water temperature from the diffusers shall not exceed 113 °F or 30 °F above ambient at any time except that the maximum discharge temperature shall be limited to 117 °F or 32 °F above ambient during condenser and/or circulating water pump maintenance, throttling circulating water pumps to minimize use of chlorine and/or fouling of circulating water system. This temperature may be measured at a point within the discharge canal. (in determining the temperature differential, the time of travel through the plant may be considered). In the event that discharge temperature exceeds 113 °F the permittee shall notify the Department within 5 days.
3. Discharge from Outfall D-001 shall not cause the ocean surface temperature to exceed 97° F as an instantaneous maximum at any point. The heated water discharged from the multi-port diffuser shall not exceed 17° F above ambient temperature in the receiving body of water outside a thermal mixing zone of 10.7 acre-feet (13,198 cubic meters, 466,092 cubic feet). The mixing zone shall be bounded by an area extending 1,385.5 feet seaward from the most landward discharge port, 21.0 feet to each side of the discharge pipe axis and 8.0 feet in height above the bottom of the discharge, with an area of 58,191 square feet (5,406 square meters).

Heated water discharged from the Y-diffuser shall also not exceed 17° F above ambient temperature in the receiving body of water outside a thermal mixing zone bounded by a circle with a radius of 115.82 meters, centered on the terminus of the Y-Port diffuser and extending upward from the bottom 8.31 meters, with an area of 453,613 square feet (42,142 square meters).

The total area of the thermal mixing zone for the facility (multi-port and Y-port diffusers) shall not exceed 511,804 square feet (47,548 square meters).

4. Internal Outfall I-003- liquid radiation waste . Such discharge shall be limited and monitored by the permittee as specified below:

Parameters	Effluent Limitations		
	Daily Average	Daily Maximum	Daily Minimum
Flow (MGD)	Report	Report	--

Parameters	Effluent Limitations		
	Daily Average	Daily Maximum	Daily Minimum
Oil and Grease, mg/l	15.0	20.0	--
Total suspended Solids	30.0	100.0	--

5. Internal Outfall I-005- Steam Generator blowdown- Such discharge shall be limited and monitored by the permittee as specified below:

Parameters	Effluent Limitations		
	Daily Average	Daily Maximum	Daily Minimum
Intake Flow (MGD)	Report	Report	--
Oil and Grease, mg/l	15.0	20.0	--
Total Suspended Solids, mg/l	30.0	100.0	--
Boron, mg/l	--	4.0	--
Hydrazine, mg/l	--	0.30	--
Dimethylamine, mg/l	--	Report	--
Carbohydrazide, mg/l	--	Report	--

6. Internal Outfall I-06B- Former Oil storage area- Such discharges shall be limited and monitored by the permittee as specified below.

Parameters	Effluent Limitations		
	Daily Average	Daily Maximum	Daily Minimum
Flow (MGD)	Report	Report	--
Solids, Total Suspended (mg/l)	Report	Report	--
Oil and Grease, mg/l	Report	Report	--

7. Internal Outfall I-06C- Non-industrial related storm water

Parameters	Effluent Limitations		
	Daily Average	Daily Maximum	Daily Minimum
Flow (MGD)	Report	Report	--
Oil and Grease, mg/l	Report	Report	--

8. Internal Outfall I-007- Intake screen washwater

- a. Discharge of intake screen wash water is permitted without limitations or monitoring requirements

9 Internal Outfall I-008- Evaporation Percolation Ponds- Industrial related storm water.

Parameters	Effluent Limitations		
	Daily Average	Daily Maximum	Daily Minimum
Flow (MGD)	Report	Report	--
Solids, Total Suspended (mg/l)	30.0	100.0	--
Oil and Grease, mg/l	15.0	20.0	--

3. BASIS FOR EFFLUENT LIMITS AND MONITORING REQUIREMENTS

- a. The following tables provide the basis for Part I A. provisions.

Outfall D-001-Non-contact once through condenser cooling water and auxiliary equipment cooling water.

Parameter	Units	Limit	Statistical Basis	Rationale
Flow (MGD)	MGD	Report	Instantaneous Maximum	Based on BPJ and 308 (a) of the CWA
Discharge Temperature	DEG F	113	Instantaneous Maximum	Based on BPJ and 308 (a) of the CWA
Temperature Rise	DEG F	Report	Instantaneous Maximum	Based on 62-302.520 (6) F.A.C.
Oxidants, Total Residual	MG/L	0.10	Instantaneous Maximum	Based on 62-302.530 (19) F.A.C.
Time of Condenser Chlorine addition	Minutes/day/unit	120	Daily Maximum	Based on 40 CFR Part 423 12(b)(8)
Free Available Oxidants	MG/l	0.5	Instantaneous Maximum	Based on BPJ and 308(a) of the CWA.
Whole Effluent Toxicity		See Permit		Based on BPJ

Total Residual Oxidants: The 0.1 mg/l limit for once-through cooling water (OTCW) discharge is retained from the previous permit. TRO is monitored within the enclosed discharge canal before the flow enters the two pipelines to the discharge points approximately 1,500 and 2,000 to 3,500 feet (respectively) offshore in the Atlantic Ocean. This limit was determined to provide reasonable assurance for the permit issued by the Department on January 10, 2000, and was approved by USEPA in NPDES permits prior to that time, as first referenced in the EPA fact sheet dated April 24, 1987. The Permittee's current renewal application demonstrates that the quality and flow of the current discharge are not substantively different from discharge in previous permits. Moreover, DMR monitoring data for instantaneous maximum TRO at D-001 for the period of January 2000 through February 2005 indicates a mean TRO value of 0.026 mg/l and a maximum of 0.08 mg/l within the enclosed discharge canal, which supports the current operating conditions. Therefore, the information provided in the renewal application, previously submitted information, and monitoring data provide reasonable assurance that the discharge will meet the WQS for TRO in the receiving water, as discharged via the two pipelines with multi-port and Y-shaped diffuser systems.

Internal Outfall: I-003 Liquid radiation waste

Parameter	Units	Limit	Statistical Basis	Rationale
Flow	MGD	Report	Daily Maximum	Based on BPJ and previous permit
Oil and Grease	MG/L	20.0	Daily Maximum	Based on 423.12 (b)(5)
Total Suspended Solids	MG/L	100.0	Daily maximum	Based on 423.12 (b)(5)

Internal Outfall: I-005 Steam generator blowdown

Parameter	Units	Limit	Statistical Basis	Rationale
Intake Flow	MGD	Report	Daily Maximum	Based on BPJ and 308 (a) of the CWA.
Oil and Grease	MG/l	20.0	Daily Maximum	Based on 423.12(b)(5)
Solids, Total Suspended	MG/l	100.0	Daily Maximum	Based on 423.12(b)(5)
Boron	MG/l	0.30	Daily Maximum	BPJ
Hydrazine	MG/l	Report	Daily Maximum	BPJ
Carbohydrazide	MG/l	Report	Daily maximum	BPJ

Internal Outfall: I-008

Parameter	Units	Limit	Statistical Basis	Rationale
Flow	MGD	Report	Daily Maximum	Based on BPJ and previous permit
Oil and Grease	MG/L	20.0	Daily Maximum	Based on 423.12 (b)(5)
Total Suspended Solids	MG/L	30.0	Daily maximum	Based on 423.12 (b)(5)

b. **Reasonable Assurance:** The facility has provided reasonable assurance that the discharge will not adversely affect the designated use of receiving water. Available monitoring data, permit application monitoring data, 2004 Fifth Year Inspection Report, and compliance inspection reports have been evaluated in accordance with the Department's reasonable assurance procedures to ensure that no limits other than those included in this permit are needed to maintain Florida water quality standards.

c. **WOBEL Considerations:** A Level 1 WOBEL was performed for the discharge, and is embodied in this Fact Sheet. Based on historical discharge monitoring data, effluent characterization, and available inspection report information, the current effluent limitations are protective of water quality and meet water quality standards.

d. **Impaired Waters Considerations:** The receiving water is within Water Body Identification (WBID) 8103, which encompasses the coastal ocean in the vicinity of Hutchinson Island near the facility. Industrial Wastewater Section Staff consulted with Watershed Assessment Section Staff determine potential impairment. The 2004 Group 2 Verified 303d list identifies WBID 8103 as impaired for bacteria in shellfish. Since the St. Lucie plant does not discharge wastewaters contaminated by bacteria, it is unlikely that the facility contributes to this impairment.

e. **Thermal Considerations:** The facility must comply with Rule 62-302.520(4)(c), F.A.C. which is the water quality standard (WQS) for thermal discharge to open waters of the state. The rule requires that a heated water discharge must not be more than 17 °F higher than the ambient temperature of the receiving body of water (RBW) at the point where it is discharged to an open water. Furthermore, the rule requires that a heated water discharge must not raise the temperature at the surface of the RBW to more than 97 °F, and must be located a sufficient distance offshore to ensure that adjacent coastal waters are not heated above their temperature requirements. The term "open waters" is defined in Rule 62-302.520(3)(f), F.A.C. as "all waters of the state extending seaward from the most seaward 18-foot depth contour line (three-fathom bottom depth contour) which is offshore from any island; exposed bar or submerged reef; or mouth of any embayment or estuary which is narrowed by headlands."

The temperature limitations in Conditions I.A.1., 3, and 4 for Outfall D-001 are monitored at a sampling location within the enclosed discharge canal and are developed to enable the heated water discharge to meet the requirements of Rule 62-302.520(4)(c), F.A.C. at the edge of the mixing zones in Condition I.A.4. The temperature limitations and mixing zone dimensions are based on thermal discharge modeling studies conducted by the Permittee and reviewed by the Department and USEPA. A Final Order dated September 25, 1987 and signed by Secretary of the Department Twachtman approved these thermal limitations as a modification of the Conditions of Certification (COC), PA74-02-8012, for St. Lucie Power Plant Unit 2, under Florida's Power Plant Siting Act (PPSA). The limitations have been

incorporated into previous Department industrial wastewater/NPDES permits based on a determination that they provide reasonable assurance of compliance with Rule 62-302.520(4)(c), F.A.C. Moreover, the limitations have been accepted by USEPA in previous NPDES permits issued by USEPA Region IV.

The delineation of the thermal mixing zone associated with the limitations in the COC was not included in previous NPDES permits, but is included in this permit. The Permittee requested that the Department continue the existing mixing zone developed as part of the COC for the multi-port diffuser, and delineate a mixing zone for the Y-port diffuser. Both mixing zones would be subject to the existing thermal limitations from the previous permit. The Permittee provided data from the original modeling effort, current and historical data for discharge and ambient temperatures, and technical information on the discharge structure configuration. The Department's Watershed Assessment Section reviewed the data and information and evaluated thermal mixing. This evaluation indicates that the discharge is capable of meeting the WQS at the edge of the mixing zone for both diffusers, based on meeting the thermal limitations at D-001. Therefore, the Department has reasonable assurances with regard to the thermal discharge.

f. Cooling Water Intake Structure Considerations: Section 316(b) CWA requires that the location, design, construction, and capacity of cooling water intake structures (CWIS) reflect the best technology available (BTA) for minimizing environmental impacts to the source waterbody. Previous permit renewals for this and other existing steam electric power plants were guided by BPI on a site-specific basis in the absence of specific rules developed pursuant to Section 316(b). On July 9, 2004, however, USEPA published the *Final Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities*, Final Rule implementing Section 316(b) for existing facilities, with an effective date of September 7, 2004. The Department is in the process of adopting the federal rule by reference in Rule 62-620.100, F.A.C.

Permit requirements under the 316(b) Phase II Existing Facility Rule are located in the Schedules section of the permit under condition VI 3. Since the facility meets the definition of a "Phase II Existing Facility," in 40 CFR Part 125.91, and the previous permit expired after the effective date of the Phase II existing facilities rule (September 7, 2004), the proposed permit includes a compliance schedule that requires the facility to submit a Comprehensive Demonstration Study (CDS) and other required information pursuant to 40 CFR 125.95(a)(1) and (2) not later than January 7, 2008.

4. GROUND WATER MONITORING REQUIREMENTS

This Section is not applicable to this facility.

5. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

No variances were requested for this facility.

6. COMPLIANCE SCHEDULE AND EFFECTIVE DATE OF PROPOSED EFFLUENT LIMITS

This section is not applicable to this facility.

7. DISCUSSION OF PREVIOUS PERMIT EFFLUENT LIMITS

The wastewater permit for this facility, FL0002208, expired on January 9, 2005 and contains the same effluent limits as described in Item 2 of this fact sheet. Aside from formatting changes in the limitations tables, effluent limits and monitoring requirements for this renewal permit have not been changed from the previous permit.

8. NEW OR EXPANDED DISCHARGES TO SURFACE WATERS: ANTIDEGRADATION INFORMATION

The permit does not include any new or expanded discharges.

9. EFFECTS OF SURFACE WATER DISCHARGE ON THREATENED OR ENDANGERED SPECIES

The Department does not anticipate adverse impacts on threatened or endangered species as a result of permit issuance.

10. CHANGES FROM THE PREVIOUS PERMIT

The delineation of the thermal mixing zones discussed in section 3.e. of this fact sheet was not specifically outlined in the previous permit issued on January 10, 2000, but was reflected in the permit's thermal limitations. Condition I A.4. of this permit includes the delineation of the thermal mixing zones.

11. FDEP CONTACT

Additional information concerning the permit may be obtained during normal business hours from:

Allen Hubbard, P.E.
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Telephone Number: (850) 245-8589
Fax Number: (850) 245-8669

12. THE ADMINISTRATIVE RECORD

The administrative record including application, draft permit, fact sheet, public notice (after release), comments received and additional information is available by writing FDEP or for public inspection during normal business hours at the location specified in item 11. Copies will be provided at a minimal charge per page.

13. PROPOSED SCHEDULE FOR PERMIT ISSUANCE

Draft permit to Applicant and EPA	July 1, 2005
Applicant to Publish Public Notice	July 9, 2005
Beginning of Proposed Public Comment Period	July 9, 2005
Ending of Proposed Public Comment Period	August 9, 2005
Proposed Permit to EPA	August 23, 2005
Notice of Agency Action	August 23, 2005
Proposed Issuance Date of Permit	August 23, 2005

14. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

a. Public Comment Period

The Department of Environmental Protection proposes to issue a wastewater facility permit to this applicant subject to the aforementioned effluent limitations and conditions. This decision is tentative and open to comment from the public.

Interested persons are invited to submit written comments regarding permit issuance on the draft permit limitations and conditions to the following address:

Department of Environmental Protection
Industrial Wastewater Section, Mail Station 3545
2600 Blair Stone Road
Tallahassee, FL 32399-2400

All comments received within 30 days following the date of public notice, pursuant to Rule 62-620.550, F.A.C., will be considered in the formulation of the final decision with regard to permit issuance.

Any interested person may submit written comments on the Department's proposed permitting decision or may submit a written request for a public meeting to the address specified above, in accordance with Rule 62-620.555, F.A.C. The comments or request for a public meeting must contain the information set forth below and must be received in the above named District office of the Department within 30 days of receipt or publication of the public notice. Failure to submit comments or request a public meeting within this time period will constitute a waiver of any right such person may have to submit comments or request a public meeting under Rule 62-620.555, F.A.C.

The comments or request for a public meeting shall contain the following information:

- (1) The commenter's name, address and telephone number, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (2) A statement of how and when notice of the draft permit was received;
- (3) A description of any changes the commenter proposes for the draft permit;
- (4) A full explanation of the factual and legal reasons for each proposed change to the draft permit; and
- (5) A request that a public meeting be scheduled (if applicable) including a statement of the nature of the issues proposed to be raised at the meeting.

b. Public Meeting

The Department will hold a public meeting if there is a significant degree of public interest in the draft permit or if it determines that useful information and data may be obtained thereby. Public notice of such a meeting shall be published by the applicant at least 30 days prior to the meeting.

If a public meeting is scheduled the public comment period is extended until the close of the public meeting. If a public meeting is held any person may submit oral or written statements and data at the meeting on the Department's proposed action.

c. Issuance of the Permit

The Department will make its decision regarding permit issuance after consideration of all written comments, including comments from the United States Environmental Protection Agency on surface water discharge (NPDES) aspects of the draft or proposed permit; the requirements of Chapter 403, F.S., and appropriate rules; and, if a public meeting is held, after consideration of all comments, statements and data presented at the public meeting. The Department will respond to all significant comments in writing. The Department's response to significant comments will be included in the administrative record of the permit and will be available for public inspection at the above named District office of the Department.

Unless a request for an administrative hearing, or an extension of time to file a petition for an administrative hearing, pursuant to Chapter 120, F.S., as indicated in d. below, is granted, the Department will take final agency action by issuing the permit or denying the permit application. If an administrative hearing is convened, final agency action will be based on the outcome of the hearing.

d. Administrative Hearing

A person whose substantial interests are affected by the Department's proposed permitting decision has the opportunity to petition for an administrative proceeding (hearing) to challenge the Department's decision in accordance with Section 120.57, F.S.

An administrative hearing is an evidentiary proceeding in which evidence is presented by testimony and exhibits before an independent hearing officer. The result of an administrative hearing is the issuance of the hearing

officer's recommended order to the Department, including the hearing officer's findings of fact, based on the evidence presented at the hearing. The Department will issue a final order, granting or denying the permit, based on the hearing officer's recommended order.

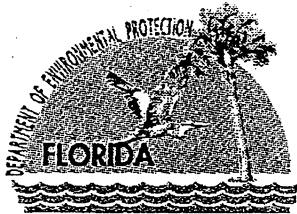
The petition for an administrative hearing must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, within 14 days of publication of notice of agency action or within 14 days of personal receipt of notice of agency action, whichever occurs first. The petitioner is to mail a copy of the petition to the applicant at the time of filing. Failure to file a petition within this time period will constitute a waiver of any right such person may have to request an administrative determination (hearing) under section 120.57, F.S. The petition is to contain the following information:

- (1) The name, address and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (2) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (3) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (4) A statement of the material facts which the petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (5) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (6) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in the notice of agency action. Persons whose substantial interests will be affected by any decision of the Department on the application have the right to petition to become a party to the proceeding, regardless of their agreement or disagreement with the Department's proposed action indicated in the notice of agency action.

APPENDIX 10.1.2.2

NPDES WASTEWATER PERMIT #FL0002208-003 – IWIS/NR



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

NOTICE OF PERMIT

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

In the Matter of an
Application for Permit by:
Florida Power & Light Company
6501 South Ocean Drive
Jensen Beach, FL 34957

DEP File # FL0002208-003-IW1S/NR

Attention: Mr. Ed Benken

Enclosed is Permit FL002208, issued under Section 403 0885, Florida Statutes, and DEP Chapter 62-620, Florida Administrative Code, authorizing wastewater discharge from the FPL St. Lucie Power Plant, St. Lucie County to the Atlantic Ocean, a Class III marine water.

Any party to this order (permit) has the right to seek judicial review of the permit under Section 120.68, Florida Statutes, by the filing of a Notice of Appeal under Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection, Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000 and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within thirty days after this notice is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Mimi Drew
Director
Division of Water Resource Management
2600 Blair Stone Road
Tallahassee, FL 32399-2400
(850) 245-8336

"More Protection Less Process"

Printed on recycled paper

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 01-18-06 to the listed persons.

[Clerk Stamp]

FILING AND ACKNOWLEDGMENT

FILED, on this date, under Section 120.52 (9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

U. Shields 01-18-06
(Clerk) (Date)

Copies furnished to:

Chairman, Board of St. Lucie County Commissioners
Ron Hix, FPL, Juno Beach
Hamilton Owen, P E., DEP Tallahassee
Tim Powell, P E. DEP SED West Palm Beach
Betsy Hewitt, DEP Tallahassee

**STATE OF FLORIDA
INDUSTRIAL WASTEWATER FACILITY PERMIT**

PERMITTEE:

FPL - St Lucie Power Plant
6501 S. Ocean Drive
Jensen Beach, FL 34957

PERMIT NUMBER:

PA FILE NUMBER:

ISSUANCE DATE:

EXPIRATION DATE:

FI 0002208

FL0002208-003-IW1S

January 20, 2006

January 19, 2011

RESPONSIBLE AUTHORITY:

William Jefferson, Jr
Vice President

FACILITY:

St. Lucie Power Plant
Units 1 and 2
Hutchinson Island
St. Lucie County, Florida

Latitude: See Note Below Longitude: See Note Below

Note: Latitude and longitude are not shown at the Permittee's request, for purposes of Homeland Security pursuant to federal regulations found at 18 CFR 388.113(c)(i) and (ii) and by Presidential Directive dated December 17, 2003

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.) and applicable rules of the Florida Administrative Code (F.A.C.). The above named Permittee is hereby authorized to operate the facilities shown on the application and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

The facility consists of two nuclear powered steam electric generating units (Unit 1 and Unit 2) each with a nominal rating of 850 MW. The radioactive component of the discharge is regulated by the U.S. Nuclear Regulatory Commission under the Atomic Energy Act, and not by the Department or the U.S. Environmental Protection Agency under the Clean Water Act.

WASTEWATER TREATMENT:

Facility discharge and treatment include the following. Once-through non-contact condenser cooling water (OTCW) and auxiliary equipment cooling water (AECW) are chlorinated. Low volume waste (LVW) (consisting of water treatment system wastewater, steam generator/boiler blowdown, and equipment area floor drainage), non-radioactive wastes/liquid radiation waste, and stormwater associated with industrial activity are treated by chemical/physical processes including neutralization, settling, ion exchange and micro filtration. Non-industrial stormwater and intake screen wash water are discharged without treatment.

PERMITTEE:

FPL - St Lucie Power Plant
6501 S. Ocean Dr
Jensen Beach, FL34957

PERMIT NUMBER: FL0002208

Issuance date: January 20, 2006
Expiration date: January 19, 2011

EFFLUENT DISPOSAL:

Surface Water Discharge:

An existing discharge (1,478 MGD permitted maximum daily flow, 1,362 reported annual average daily flow) of OTCW and AECW via outfall D-001 to the onsite discharge canal to the point of discharge (POD) thence to the Atlantic Ocean, a Class III marine water.

Internal Outfalls:

Existing intermittent discharges from internal outfalls I-003 (Liquid Radiation Waste), I-005 (Steam Generator Blowdown), I-007 (Intake Screen Wash Water) and I-008 (Evaporation/Percolation Basin).

Stormwater Discharges:

Existing intermittent stormwater discharges from internal outfalls I-06B (Former Oil Storage Area) and I-06C (Non-Industrial Related Storm water)

IN ACCORDANCE WITH: The limitations, monitoring requirements and other conditions as set forth in Part I through Part VIII on pages 3 through 18 of this permit.

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St. Lucie Power Plant
6501 S. Ocean Dr
Jensen Beach, FL 34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

I. Effluent Limitations and Monitoring Requirements

A. Surface Water Discharges

- During the period beginning on the issuance date and lasting through the expiration date of this permit, the Permittee is authorized to discharge via Outfall D-001 (OICW and AECW from Units 1 and 2). Such discharge shall be limited and monitored by the Permittee as specified below:

Parameters (units)	Discharge Limitations		Monitoring Requirements		
	Daily Average	Instantaneous Maximum	Monitoring Frequency	Sample Type	Sample Point
Flow (MGD)	--	Report	Hourly	Pump logs	FLW-1
Discharge Temperature Water (DEG F)	--	113 See Cond. 1A.3 and 1A.4.	Hourly	Recorder	EFF-2
Temp. Diff. Between Intake and Discharge (DEG F)	--	30 See Cond. 1A.3 and 1A.4.	Hourly	Calculated	INT-1, EFF-2
Oxidants, Total Residual (MG/L)	--	0.10 See Cond. 1A.7.	Continuous	Recorder See Cond. 1A.5.	EFF-2
Oxidants, Free Available (MG/L)	0.2 See Cond. 1A.7	0.5 See Cond. 1A.7	Every Other Month	Multiple Grabs See Cond. 1A.6.	EFF-1
Chlorination Duration (Minutes)	120, See Cond. 1A.7		Daily	Logs	EFF-1
Whole Effluent Toxicity (Acute)	See Cond. 1A.8				EFF-2

- Effluent samples shall be taken at the monitoring site locations listed in permit condition I A.1 and as described below:

Sample Point	Description of Monitoring Location
FLW-1	Pump log or recorder
INT-1	At plant intake structure within the intake canal
EFF-1	Outlet corresponding to the individual condenser from Unit 1 or Unit 2
EFF-2	Within the discharge canal upstream of the discharge piping to the Atlantic Ocean

- At the point of discharge, the heated water temperature from the diffusers shall not exceed 113° F or 30° F above ambient at any time except that the maximum discharge temperature shall be limited to 117° F or 32° F above ambient during condenser and/or circulating water pump maintenance, throttling circulating water pumps to

PERMITTEE:

FPL - St. Lucie Power Plant
6501 S. Ocean Dr.
Jensen Beach, FL 34957

PERMIT NUMBER: FL0002208

Issuance date: January 20, 2006
Expiration date: January 19, 2011

minimize use of chlorine, and or fouling of circulating water system. This temperature may be measured at a point within the discharge canal (in determining the temperature differential, the time of travel through the plant may be considered). In the event that discharge temperature exceeds 113° F the Permittee shall notify the Department within 5 days.

4. Discharge from Outfall D-001 shall not cause the ocean surface temperature to exceed 97° F as an instantaneous maximum at any point. Heated water discharged from the multi-port diffuser shall not exceed 17° F above ambient temperature in the receiving body of water outside a thermal mixing zone of 10.7 acre-feet (13,198 cubic meters, 466,092 cubic feet). The mixing zone shall be bounded by an area extending 1,385.5 feet seaward from the most landward discharge port, 21.0 feet to each side of the discharge pipe axis and 8.0 feet in height above the bottom of the discharge. Heated water discharged from the Y-diffuser shall not exceed 17° F above ambient temperature in the receiving body of water outside a thermal mixing zone bounded by a circle with a radius of 115.82 meters, centered on the terminus of the Y-Port diffuser and extending upward from the bottom 8.31 meters, encompassing a mixing zone that shall not exceed 453,613 square feet (42,142 square meters). The total area of the thermal mixing zone for the facility (multi-port and Y-port diffusers) shall not exceed 511,804 square feet (47,548 square meters).
5. If automated IRO monitors are inoperable for more than 7 days, IRO monitoring shall be conducted at least one time per week on not less than three grab samples during daylight hours. Additional grab samples shall be obtained during periods of IRO discharge from condensers.
6. A "multiple grab" sample for FAO from Outfall D-001 for FAO/TRO monitoring shall consist of individual grab samples collected at the approximate beginning of FAO/TRO discharge and once every 15 minutes thereafter until the end of FAO/TRO discharge.
7. Free available oxidants (FAO) shall not exceed an average concentration of 0.2 mg/l and a maximum instantaneous concentration of 0.5 mg/l at the outlet corresponding to an individual condenser during any chlorination period. Additionally, IRO shall not exceed a maximum instantaneous concentration of 0.10 mg/l at any one time as measured at the POD prior to discharge to the Atlantic Ocean. Auxiliary equipment cooling water may receive continuous low-level chlorination. Neither FAO nor total residual oxidants (TRO) may be discharged from either unit condensers for more than two hours in any one day and not more than one unit may discharge FAO or IRO from its condensers at any one time.
8. The Permittee shall conduct the routine tests described below during 1) the first refueling outage after permit issuance and 2) during the first use of ethanolamine in the steam generator while steam generator blowdown is being discharged from Internal Outfall I-005. For both tests effluent from Internal Outfall I-005 will be collected and mixed with effluent from the once through cooling water discharged from either Unit 1 or Unit 2 to mimic the proportion of I-005 effluent in the Outfall D-001 effluent. This effluent mixture shall be termed "final" effluent.
 - a. Whole effluent acute toxicity shall not exceed in any "routine" or in any "additional follow-up" test an LC50 of less than 30% effluent. [Rule 62-302.200(1), Rule 62-302.500(1)(a)4, and Rule 62-424.4(3)(a), F.A.C.
 - b. Monitoring frequency
 - (1) The "routine" tests described in condition I 8 a. shall be conducted once during the term of this permit provided each test meets the acute toxicity requirement in condition I 8 a.
 - c. Test Requirements:

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St. Lucie Power Plant
6501 S. Ocean Dr.
Jensen Beach, FL34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

(1) Routine Test: All "routine" tests shall be conducted using a control (0% effluent) and a minimum of five test concentrations: 100%, 50%, 30%, 12.5%, and 6.25% "final" effluent.

(2) Additional, Follow-up Testing Requirements, if required:

(a) If a routine test does not meet the acute toxicity limitation in 8 a above, the permittee shall conduct two additional follow-up tests on each species that failed the test.

(b) The first additional follow-up test shall be conducting using a control (0% "final" effluent) and a minimum of five dilutions: 100%, 50%, 30%, 12.5%, and 6.25% "final" effluent. The dilution series may be modified in the second test to more accurately identify the toxicity, such that at least two dilutions above (not to exceed 100% "final" effluent) and two dilutions below the target toxicity and a control (0% "final" effluent) are run.

(c) The first test shall begin within two weeks of the end of the failed routine test. The remaining additional follow-up test shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.

(3) The Permittee shall conduct 96-hour acute static renewal multi-concentration toxicity tests using the mysid shrimp, Americamysis (Mysidopsis) bahia, and the inland silverside, Menidia beryllina, concurrently.

(4) All test species, procedures and quality assurance criteria used shall be in accordance with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th ed., EPA-821-R-02-012. In the event the above method is revised, the permittee shall conduct acute toxicity testing in accordance with the revised method.

(5) The control water and the effluent used will be adjusted to the test salinity using artificial sea salts as described in EPA-821-R-02-012, Section 7.2.4. The test salinity shall be the salinity resulting from the mixture of 30% effluent concentration and the artificial seawater adjusted to the salinity of the receiving water at the time of sampling.

d. Sampling Requirements

(1) Routine tests shall be conducted on four separate grab samples collected at evenly spaced (6-hr) intervals over a 24-hour period and used in four separate tests in order to catch any peaks of toxicity and to account for daily variations in effluent quality. If the duration of the discharge is less than 24-hours, the duration of the discharge shall be documented on the chain of custody. Samples from Internal Outfall I-005 shall be collected at Sampling Location OUI-2. Samples representing Outfall D-001 shall be collected from the discharge canal upstream of OUI-2, at a location that (to the extent practicable) captures the condenser cooling water stream and discharge from I-003, but not discharge from I-005. The two samples shall be blended as described in condition I.A.8, above.

(2) For additional follow-up tests, the first test shall be conducted on four separate grab samples collected at evenly-spaced (6 hr) intervals over a 24-hour period. Each sample shall be run as a separate test. The second additional follow-up test shall be run on a single grab sample collected on the day and time when the greatest toxicity was identified in the first additional follow-up test. Results for each additional test shall include the determination of LC50 values with 95% confidence limits.

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St Lucie Power Plant
6501 S Ocean Dr
Jensen Beach, FL 34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

e. Quality Assurance Requirements

- (1) A standard reference toxicant (SRT) quality assurance (QA) acute toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or started no more than 30 days before the date of the "routine" test, or follow-up test conducted. The SRT-QA data shall be included in the reports for each companion "routine" or additional test required.
- (2) If the mortality in the control (0% effluent) exceeds 10% for either species in any test, the test for that species (including the control) shall be invalidated and the test repeated.
- (3) If, during any separate grab sample test, 100% mortality occurs prior to the end of the test, and control mortality is less than 10% at that time, that test (including the control) shall be terminated with the conclusion that the test fails and constitutes non-compliance.
- (4) Additional, follow-up tests shall be evaluated for acceptability based on the concentration-response relationship, as required by EPA-821-R-02-012, Section 12.2.6.2 and included with the submitted bioassay reports.

f. Reporting Requirements

- (1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:
 - (a) Routine Test Results: The lowest calculated LC50 effluent concentration for the four separate tests shall be entered on the DMR for that test species.
 - (b) Additional Follow-up Test Results: For each additional test required, the calculated LC50 value should be entered on the DMR for that test species and the 95% confidence limits.
- (2) A bioassay laboratory report for the routine test shall be prepared according to EPA-821-R-02-012, Section 12, Report Preparation and Test Review and mailed to the Department at the address below within 30 days of the completion of the test.
- (3) For additional, follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-012, Section 12, Report Preparation, and mailed within 45 days of completion of the second additional, valid test. If any additional test fails to meet the effluent limitation in 8 a. above, the permittee shall contact the Department within 30 days of the bioassay report submittal to discuss the corrective actions necessary to remedy the observed acute toxicity.
- (4) All bioassay reports shall be sent to

Florida Department of Environmental Protection
Southeast District Office
Industrial Wastewater Section
1801 SE Hillmoor Drive, Suite C-204
Port St Lucie, Florida 34952
(772) 871-7662

- 9 During the period beginning on the issuance date and lasting through the expiration date of this permit, the Permittee is authorized to discharge process wastewater from Internal Outfall I-003 to the onsite discharge canal. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameters (units)	Discharge Limitations		Monitoring Requirements		
	Daily Average	Daily Maximum	Monitoring Frequency	Sample Type	Sample Point
Flow (MGD)	Report	Report	1/Batch	Calculated	OUI-1

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St. Lucie Power Plant
6501 S Ocean Dr.
Jensen Beach, FL34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

Parameters (units)	Discharge Limitations		Monitoring Requirements		
	Daily Average	Daily Maximum	Monitoring Frequency	Sample Type	Sample Point
Oil and Grease (MG/L)	15.0	20.0	Annually	Grab	OUI-1
Solids, Total Suspended (MG/L)	30.0	100.0	1/Batch	Grab	OUI-1

10. Effluent samples shall be taken at the monitoring site locations listed in permit condition I.A.9 and as described below:

Sample Point	Description of Monitoring Location
OUI-1	Discharge from the radiation waste system prior to mixing with any other waste stream

11. During the period beginning on the issuance date and lasting through the expiration date of this permit, the Permittee is authorized to discharge process wastewater from Internal Outfall I-005 Steam Generator Blowdown (i.e. boiler blowdown) to the onsite discharge canal. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameters (units)	Discharge Limitations		Monitoring Requirements		
	Daily Average	Daily Maximum	Monitoring Frequency	Sample Type	Sample Point
Flow (MGD)	Report	Report	See Cond. I.A.13	Calculated	OUI-2
Oil and Grease (MG/L)	15.0	20.0	See Cond. I.A.13	Grab	OUI-2
Solids, Total Suspended (MG/L)	30.0	100.0	See Cond. I.A.13	Grab	OUI-2
Hydrazine, mg/l	--	0.30	See Cond. I.A.14	See Cond. I.A.15.	EFF-2
Carbohydrazide, mg/l	--	Report	See Cond. I.A.14	See Cond. I.A.15.	EFF-2

12. Effluent samples shall be taken at the monitoring site locations listed in permit condition I.A.11 and as described below:

Sample Point	Description of Monitoring Location
OUI-2	Discharge from I-005 prior to entering the discharge canal
EFF-2	Within the discharge canal upstream of the discharge piping to the Atlantic Ocean

13. Internal Outfall I-005 shall be monitored once per discharge event or once per week when discharging, whichever is more frequent, unless there is no discharge for that week. Total volume of batch and period of discharge shall be reported.
14. Hydrazine and Carbohydrazide shall be monitored once per batch by a grab sample during wet lay-up discharges that result from the start-up of a unit following a refueling outage.

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St. Lucie Power Plant
6501 S. Ocean Dr.
Jensen Beach, FL 34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

- 15 A grab sample shall be taken at the discharge of the steam generator to the discharge canal and the following calculations shall be used to determine the concentration from the discharge canal to the Atlantic Ocean [point of discharge (POD)].

Steam Generator Blowdown Flow x Blowdown Hydrazine Concentration = Hydrazine at the POD
Once Through Cooling Water Flow

Steam Generator Blowdown Flow x Blowdown Carbohydrazide Concentration = Carbohydrazide at the POD
Once Through Cooling Water Flow

- 16 During the period beginning on the issuance date and lasting through the expiration date of this permit, the Permittee is authorized to discharge stormwater associated with industrial activity from Internal Outfall I-06B Former Oil Storage Area to the onsite intake canal. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameters (units)	Discharge Limitations		Monitoring Requirements		
	Daily Average	Daily Maximum	Monitoring Frequency	Sample Type	Sample Point
Flow (MGD)	Report	Report	Annually	Estimated	OUI-3
Solids, Total Suspended (MG/L)	--	Report	Annually	Grab	OUI-3
Oil and Grease (MG/L)	--	Report	Annually	Grab	OUI-3

- 17 Effluent samples shall be taken at the monitoring site locations listed in permit condition I A 16. and as described below:

Sample Point	Description of Monitoring Location
OUI-3	Discharge from the Former Oil Storage Area prior to entering the intake canal

- 18 During the period beginning on the issuance date and lasting through the expiration date of this permit, the Permittee is authorized to discharge stormwater from Internal Outfall I-06C to the Mangrove Impoundment. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameters (units)	Discharge Limitations		Monitoring Requirements		
	Daily Average	Daily Maximum	Monitoring Frequency	Sample Type	Sample Point
Flow (MGD)	Report	Report	Annually	Estimated	OUI-4
Oil and Grease (MG/L)	--	Report	Annually	Grab	OUI-4

- 19 Effluent samples shall be taken at the monitoring site locations listed in permit condition I A 18. and as described below:

Sample Point	Description of Monitoring Location
OUI-4	Stormwater discharge prior to entering the mangrove impoundment area

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St. Lucie Power Plant
6501 S. Ocean Dr
Jensen Beach, FL 34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

20. During the period beginning on the issuance date and lasting through the expiration date of this permit, the Permittee is authorized to discharge stormwater from Internal Outfall I-008 to intake canal. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameters (units)	Discharge Limitations		Monitoring Requirements		
	Daily Average	Daily Maximum	Monitoring Frequency	Sample Type	Sample Point
Flow (MGD)	Report	Report	Weekly when discharging	Calculated	OUI-5
Solids, Total Suspended (MG/L)	30.0	100.0	Weekly, when discharging	Grab	OUI-5
Oil and Grease (MG/L)	15.0	20.0	Weekly, when discharging	Grab	OUI-5

21. Effluent samples shall be taken at the monitoring site locations listed in permit condition I.A.20. and as described below:

Sample Point	Description of Monitoring Location
OUI-5	Stormwater discharge prior to entering the intake canal

22. Discharge of intake screen wash water from Internal Outfall I-007 is permitted without limitation or monitoring requirements.
23. There shall be no discharge of floating solids or visible foam in other than trace amounts.
24. The discharge shall not cause a visible sheen on the receiving water.

B. Underground Injection Control Systems

This section is not applicable to this facility.

C. Land Application Systems

This section is not applicable to this facility.

D. Other Methods of Disposal or Recycling

1. There shall be no discharge of industrial wastewater from this facility to ground or surface waters, except as authorized by this permit.

E. Other Limitations and Monitoring and Reporting Requirements

1. The sample collection, analytical test methods and method detection limits (MDLs) applicable to this permit shall be in accordance with Rule 62-4.246, Chapters 62-160 and 62-601, F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantification limits), which is titled "Florida Department of Environmental Protection Table as Required By Rule 62-4.246(4) Testing Methods for Discharges to Surface Water" dated June 21, 1996, is available from the Department on request. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St. Lucie Power Plant
6501 S. Ocean Dr
Jensen Beach, FL 34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

approved by the Department for this permit. Any method included in the list may be used for reporting as long as it meets the following requirements:

- a. The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;
- b. The laboratory reported PQL for the specific parameter is less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the permit shall use methods that provide a PQL, which is equal to or less than the applicable water quality criteria stated in 62-302 FAC; and
- c. If the PQLs for all methods available in the approved list are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest stated PQL shall be used.

Where the analytical results are below method detection or practical quantification limits, the Permittee shall report the actual laboratory MDL and/or PQL values for the analyses that were performed following the instructions on the applicable discharge monitoring report. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. However, where necessary, the Permittee may request approval for alternative methods or for alternative MDLs and PQLs for any approved analytical method, in accordance with the criteria of Rules 62-160.520 and 62-160.530, F.A.C.

2. Parameters which must be monitored as a result of a surface water discharge shall be analyzed using a sufficiently sensitive method in accordance with 40 CFR Part 136.
3. Monitoring requirements under this permit are effective on the first day of the second month following permit issuance. Until such time, the Permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any. During the period of operation authorized by this permit, the Permittee shall complete and submit to the Southeast District Office Discharge Monitoring Reports (DMRs) in accordance with the frequencies specified by the REPORT type (i.e., monthly, toxicity, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this permit. Monitoring results for each monitoring period shall be submitted in accordance with the associated DMR due dates below.

REPORT Type on DMR	Monitoring Period	DMR Due Date
Monthly or Toxicity	first day of month – last day of month	28 th day of following month
Quarterly	January 1 – March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	April 28 July 28 October 28 January 28
Semiannual	January 1 – June 30 July 1 – December 31	July 28 January 28
Annual	January 1 – December 31	January 28

DMRs shall be submitted for each required monitoring period including months of no discharge

PERMITTEE:

PERMIT NUMBER: FL0002208

FPI - St. Lucie Power Plant
6501 S. Ocean Dr.
Jensen Beach, FL34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

The Permittee shall make copies of the attached DMR form(s) and shall submit the completed DMR form(s) to the Department at the address specified below:

Florida Department of Environmental Protection
Wastewater Compliance Evaluation Section, Mail Station 3551
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

4. Unless specified otherwise in this permit, all reports and notifications required by this permit, including twenty-four hour notifications, shall be submitted to or reported to the Southeast District Office at the address specified below:

Florida Department of Environmental Protection
Southeast District Office
Industrial Wastewater Section
1801 SE Hillmoor Drive, Suite C-204
Port St. Lucie, Florida 34952
(772) 871-7662

5. All reports and other information shall be signed in accordance with requirements of Rule 62-620 305, F.A.C.
6. The Permittee shall provide safe access points for obtaining representative samples which are required by this permit.
7. If there is no discharge from the facility on a day scheduled for sampling, the sample shall be collected on the day of the next discharge.
8. Bypasses subject to General Conditions VIII.20 and VIII.22 shall be monitored or estimated daily, or as approved by the Department for flow and other parameters required for the specific outfall that is bypassed. Monitoring results shall be reported to the Department.
9. Discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream, which ultimately may be released, to waters of the State is prohibited unless specifically authorized elsewhere in this permit. This requirement is not applicable to products used for lawn and agricultural purposes or to the use of herbicides if used in accordance with labeled instructions and any applicable State permit. The Permittee shall notify the Department in writing no later than six (6) months prior to instituting use of any biocide or chemical used in the cooling systems or any other portion of the treatment system which may be toxic to aquatic life. Such notification shall include:
- a. Name and general composition of biocide or chemical
 - b. Frequencies of use
 - c. Quantities to be used
 - d. Proposed effluent concentrations
 - e. Acute and/or chronic toxicity data (laboratory reports shall be prepared according to Section 12 of EPA document no. EPA/600/4-90/027 entitled, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters for Freshwater and Marine Organisms, or most current addition)
 - f. Product data sheet
 - g. Product label

The Department shall review the above information to determine if a major or minor permit revision is necessary. Discharge associated with the use of such biocide or chemical is not authorized without a permit revision by the Department. Permit revisions shall be processed in accordance with the requirements of Chapter 62-620, F.A.C.

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St. Lucie Power Plant
6501 S. Ocean Dr.
Jensen Beach, FL 34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

10. There shall be no discharge of polychlorinated biphenyl compounds
11. The Permittee is authorized to utilize Ammonium Hydroxide, Carbohydrazide, Boric Acid, Dimethylamine, Hydrazine, Sodium Molybdate, Sodium Nitrite, Tolytriazole, Glutaraldehyde, Isothiazolin, Polyglycol, Sodium Hypochlorite, Boron, Lithium Hydroxide, as previously approved.

II. Industrial Sludge Management Requirements

This section not applicable to this facility.

III. Ground Water Monitoring Requirements

This section is not applicable to this facility.

IV. Other Land Application Requirements

This section is not applicable to this facility.

V. Operation and Maintenance Requirements

A. Operation of Treatment and Disposal Facilities

1. The Permittee shall ensure that the operation of this facility is as described in the application and supporting documents
2. The operation of the pollution control facilities described in this permit shall be under the supervision of a person who is qualified by formal training and/or practical experience in the field of water pollution control.

B. Record keeping Requirements:

1. The Permittee shall maintain the following records on the site of the permitted facility and make them available for inspection:
 - a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, including, if applicable, a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;
 - b. Copies of all reports, other than those required in items a and f of this section, required by the permit for at least three years from the date the report was prepared, unless otherwise specified by Department rule;
 - c. Records of all data, including reports and documents used to complete the application for the permit for at least three years from the date the application was filed, unless otherwise specified by Department rule;
 - d. A copy of the current permit;
 - e. A copy of any required record drawings;
 - f. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date on the logs or schedule.

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St Lucie Power Plant
6501 S Ocean Dr
Jensen Beach, FL 34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

VI. Schedules

- 1 A Best Management Practices Pollution Prevention (BMP3) Plan shall be prepared and implemented in accordance with Part VII of this permit and the following schedule:

Action Item		Scheduled Completion Date
1	Continue Implementing Existing BMP3 Plan	Issuance Date of Permit

- 2 The Permittee shall achieve compliance with the other conditions of this permit as follows:
Operational level attained Issuance Date of permit
- 3 The Permittee shall comply with the requirements of 40 CFR Part 125.95(a)(1) and (2) no later January 7, 2008.
- 4 The Permittee shall conduct an evaluation to verify the need to continue the thermal mixing zone for Outfall D-001 and the appropriateness of the mixing zone dimensions with the timely submittal of a permit renewal application.

VII. Other Specific Conditions

A. Specific Conditions Applicable to All Permits

- 1 Drawings, plans, documents or specifications submitted by the Permittee, not attached hereto, but retained on file at the Southeast District Office, are made a part hereof
- 2 Where required by Chapter 471 (P.E.) or Chapter 492 (P.G.) Florida Statutes, applicable portions of reports to be submitted under this permit, shall be signed and sealed by the professional(s) who prepared them.
- 3 This permit satisfies Industrial Wastewater program permitting requirements only and does not authorize operation of this facility prior to obtaining any other permits required by local, state or federal agencies.

B. Specific Conditions Related to Construction

This section is not applicable to this facility

C. Duty to Reapply

- 1 The Permittee shall submit an application to renew this permit at least 180 days before the expiration date of this permit.
- 2 The Permittee shall apply for renewal of this permit on the appropriate form listed in Rule 62-620.910, F.A.C., and in the manner established in Chapter 62-620, F.A.C., and the Department of Environmental Protection Guide to Wastewater Permitting including submittal of the appropriate processing fee set forth in Rule 62-4.050, F.A.C.
- 3 An application filed in accordance with subsections 1. and 2. of this part shall be considered timely and sufficient. When an application for renewal of a permit is timely and sufficient, the existing permit shall not expire until the Department has taken final action on the application for renewal or until the last day for seeking judicial review of the agency order or a later date fixed by order of the reviewing court.

PERMITTEE:

PERMIT NUMBER: FL0002208

FPI - St. Lucie Power Plant
6501 S Ocean Dr
Jensen Beach, FL34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

4. The late submittal of a renewal application shall be considered timely and sufficient for the purpose of extending the effectiveness of the expiring permit only if it is submitted and made complete before the expiration date

D. Specific Conditions Related to Existing Manufacturing, Commercial, Mining, and Silviculture Wastewater Facilities or Activities

1. Existing manufacturing, commercial, mining, and silvicultural wastewater facilities or activities that discharge into surface waters shall notify the Department as soon as they know or have reason to believe:
 - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following levels
 - (1) One hundred micrograms per liter,
 - (2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony, or
 - (3) Five times the maximum concentration value reported for that pollutant in the permit application.
 - b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following levels
 - (1) Five hundred micrograms per liter,
 - (2) One milligram per liter for antimony, or
 - (3) Ten times the maximum concentration value reported for that pollutant in the permit application

E. Reopener Clause

1. The permit shall be revised, or alternatively, revoked and reissued in accordance with the provisions contained in Rules 62-620 325 and 62-620 345 F.A.C., if applicable, or to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2) and 307(a)(2) of the Clean Water Act (the Act), as amended, if the effluent standards, limitations, or water quality standards so issued or approved:
 - a. Contains different conditions or is otherwise more stringent than any condition in the permit/or;
 - b. Controls any pollutant not addressed in the permit

The permit as revised or reissued under this paragraph shall contain any other requirements then applicable.

2. The permit may be reopened to adjust effluent limitations or monitoring requirements should future Water Quality Based Effluent Limitation determinations, water quality studies, DEP approved changes in water quality standards, or other information show a need for a different limitation or monitoring requirement
3. The Department may develop a Total Maximum Daily Load (TMDL) during the life of the permit. Once a TMDL has been established and adopted by rule, the Department shall revise this permit to incorporate the final findings of the TMDL.

VIII. General Conditions

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, F.S. Any permit noncompliance constitutes a violation of Chapter 403,

PERMITTEE:

FPL - St Lucie Power Plant
6501 S. Ocean Dr
Jensen Beach, FL34957

PERMIT NUMBER: FL0002208

Issuance date: January 20, 2006
Expiration date: January 19, 2011

F S , and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. [62-620 610(1), F A C]

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications or conditions of this permit constitutes grounds for revocation and enforcement action by the Department [62-620 610(2), F A C]
3. As provided in Subsection 403 087(6), F S , the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor authorize any infringements of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit. [62-620 610(3), F A C]
4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title. [62-620 610(4), F A C]
5. This permit does not relieve the Permittee from liability and penalties for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted source; nor does it allow the Permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department. The Permittee shall take all reasonable steps to minimize or prevent any discharge, reuse of reclaimed water, or residuals use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [62-620 610(5), F A C]
6. If the Permittee wishes to continue an activity regulated by this permit after its expiration date, the Permittee shall apply for and obtain a new permit [62-620 610(6), F A C]
7. The Permittee shall at all times properly operate and maintain the facility and systems of treatment and control, and related appurtenances, that are installed and used by the Permittee to achieve compliance with the conditions of this permit. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to maintain or achieve compliance with the conditions of the permit. [62-620 610(7), F A C]
8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [62-620 610(8), F A C]
9. The Permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, including an authorized representative of the Department and authorized EPA personnel, when applicable, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to
 - a. Enter upon the Permittee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under the conditions of this permit;
 - b. Have access to and copy any records that shall be kept under the conditions of this permit;
 - c. Inspect the facilities, equipment, practices, or operations regulated or required under this permit; and
 - d. Sample or monitor any substances or parameters at any location necessary to assure compliance with this permit or Department rules.

[62-620 610(9), F A C]

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St Lucie Power Plant
6501 S. Ocean Dr
Jensen Beach, FL34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

10. In accepting this permit, the Permittee understands and agrees that all records, notes, monitoring data, and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except as such use is proscribed by Section 403.111, Florida Statutes, or Rule 62-620.302, F.A.C. Such evidence shall only be used to the extent that it is consistent with the Florida Rules of Civil Procedure and applicable evidentiary rules. *[62-620.610(10), F.A.C.]*
11. When requested by the Department, the Permittee shall within a reasonable time provide any information required by law which is needed to determine whether there is cause for revising, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The Permittee shall also provide to the Department upon request copies of records required by this permit to be kept. If the Permittee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted or corrections promptly reported to the Department. *[62-620.610(11), F.A.C.]*
12. Unless specifically stated otherwise in Department rules, the Permittee, in accepting this permit, agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided however, the Permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. *[62-620.610(12), F.A.C.]*
13. The Permittee, in accepting this permit, agrees to pay the applicable regulatory program and surveillance fee in accordance with Rule 62-4.052, F.A.C. *[62-620.610(13), F.A.C.]*
14. This permit is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C. The Permittee shall be liable for any noncompliance of the permitted activity until the Department approves the transfer. *[62-620.610(14), F.A.C.]*
15. The Permittee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment. *[62-620.610(15), F.A.C.]*
16. The Permittee shall apply for a revision to the Department permit in accordance with Rule 62-620.300, F.A.C., and the Department of Environmental Protection Guide to Wastewater Permitting at least 90 days before construction of any planned substantial modifications to the permitted facility is to commence or with Rule 62-620.325(2), F.A.C., for minor modifications to the permitted facility. A revised permit shall be obtained before construction begins except as provided in Rule 62-620.300, F.A.C. *[62-620.610(16), F.A.C.]*
17. The Permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The Permittee shall be responsible for any and all damages which may result from the changes and may be subject to enforcement action by the Department for penalties or revocation of this permit. The notice shall include the following information:
 - a. A description of the anticipated noncompliance;
 - b. The period of the anticipated noncompliance, including dates and times; and
 - c. Steps being taken to prevent future occurrence of the noncompliance.*[62-620.610(17), F.A.C.]*
18. Sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246, Chapters 62-160 and 62-601, F.A.C., and 40 CFR 136, as appropriate.
 - a. Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10)

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St. Lucie Power Plant
6501 S. Ocean Dr
Jensen Beach, FL 34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

- b. If the Permittee monitors any contaminate more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.
 - c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in this permit.
 - d. Any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health (DOH) under Chapter 64E-1, F.A.C., where such certification is required by Rule 62-160.300(4), F.A.C. The laboratory must be certified for any specific method and analyte combination that is used to comply with this permit. For domestic wastewater facilities, the on-site test procedures specified in Rule 62-160.300(4), F.A.C., shall be performed by a laboratory certified test for those parameters or under the direction of an operator certified under Chapter 62-602, F.A.C.
 - e. Field activities including on-site tests and sample collection, whether performed by a laboratory or a certified operator, must follow the applicable procedures described in DEP-SOP-001/01 (January 2002). Alternate field procedures and laboratory methods may be used where they have been approved according to the requirements of Rules 62-160.220, 62-160.330, and 62-160.600, F.A.C. [62-620.610(18), F.A.C.]
19. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule detailed elsewhere in this permit shall be submitted no later than 14 days following each schedule date [62-620.610(19), F.A.C.]
20. The Permittee shall report to the Department's Southeast District Office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- a. The following shall be included as information which must be reported within 24 hours under this condition:
 - (1) Any unanticipated bypass which causes any reclaimed water or effluent to exceed any permit limitation or results in an unpermitted discharge,
 - (2) Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,
 - (3) Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and
 - (4) Any unauthorized discharge to surface or ground waters
 - b. Oral reports as required by this subsection shall be provided as follows:
 - (1) For unauthorized releases or spills of untreated or treated wastewater reported pursuant to subparagraph a.4 that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the Department by calling the STATE WARNING POINT TOLL FREE NUMBER (800) 320-0519, as soon as practical, but no later than 24 hours from the time the Permittee becomes aware of the discharge. The Permittee, to the extent known, shall provide the following information to the State Warning Point:
 - (a) Name, address, and telephone number of person reporting;
 - (b) Name, address, and telephone number of Permittee or responsible person for the discharge;
 - (c) Date and time of the discharge and status of discharge (ongoing or ceased);
 - (d) Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);
 - (e) Estimated amount of the discharge;
 - (f) Location or address of the discharge;
 - (g) Source and cause of the discharge;
 - (h) Whether the discharge was contained on-site, and cleanup actions taken to date;
 - (i) Description of area affected by the discharge, including name of water body affected, if any; and
 - (j) Other persons or agencies contacted.

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St Lucie Power Plant
6501 S. Ocean Dr.
Jensen Beach, FL 34957

Issuance date: January 20, 2006
Expiration date: January 19, 2011

- (2) Oral reports, not otherwise required to be provided pursuant to subparagraph b(1) above, shall be provided to Department's Southeast District Office within 24 hours from the time the Permittee becomes aware of the circumstances.
 - c. If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department's Southeast District Office shall waive the written report. [62-620 610(20), F A C.]
- 21. The Permittee shall report all instances of noncompliance not reported under Conditions VIII 18 and 19 of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Condition VIII 20 of this permit [62-620 610(21), F A C.]
- 22. Bypass Provisions
 - a. Bypass is prohibited, and the Department may take enforcement action against a Permittee for bypass, unless the Permittee affirmatively demonstrates that:
 - (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
 - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (3) The Permittee submitted notices as required under Condition VIII 22 b. of this permit
 - b. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least 10 days before the date of the bypass. The Permittee shall submit notice of an unanticipated bypass within 24 hours of learning about the bypass as required in Condition VIII 20 of this permit. A notice shall include a description of the bypass and its cause; the period of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.
 - c. The Department shall approve an anticipated bypass, after considering its adverse effect, if the Permittee demonstrates that it will meet the three conditions listed in Condition VIII 22 a (1) through (3) of this permit.
 - d. A Permittee may allow any bypass to occur which does not cause reclaimed water or effluent limitations to be exceeded if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of Condition VIII 22 a. through c. of this permit. [62-620 610(22), F A C.]

PERMITTEE:

PERMIT NUMBER: FL0002208

FPL - St Lucie Power Plant
6501 S. Ocean Dr
Jensen Beach, FL 34957

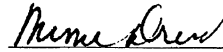
Issuance date: January 20, 2006
Expiration date: January 19, 2011

23. Upset Provisions

- a. A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:
 - (1) An upset occurred and that the Permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The Permittee submitted notice of the upset as required in Condition VIII 20. of this permit; and
 - (4) The Permittee complied with any remedial measures required under Condition VIII 5. of this permit
- b. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof
- c. Before an enforcement proceeding is instituted, no representation made during the Department review of a claim that noncompliance was caused by an upset is final agency action subject to judicial review
[62-620.610(23), F A C]

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION



Mimi Drew
Director
Division of Water Resource Management

2600 Blair Stone Road
Tallahassee, FL 32399-2400
(850) 245-8336

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A DRAFT

When Completed mail this report to: Department of Environmental Protection, Mail Station 3551, 2600 Blair Stone Road, Tallahassee, FL 32399

PERMITTEE NAME: FPL- St. Lucie Power Plant
MAILING ADDRESS: 6501 S Ocean Dr.
Jensen Beach, FL 34957

PERMIT NUMBER: FL0002208-003-IW1S

LIMIT: Final
CLASS SIZE:

REPORT: Monthly
GROUP: Industrial

FACILITY: St. Lucie Power Plant
LOCATION: 6501 S Ocean Dr.
Jensen Beach, FL 34957

MONITORING GROUP NUMBER: D-001
MONITORING GROUP DESC: Condenser once through cooling water

COUNTY: St. Lucie

NO DISCHARGE FROM SITE: ☐

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading	Units	Quality or Concentration	Units	No. Ex.	Frequency of Analysis	Sample Type
Flow	Sample Measurement							
PARM Code 50050 Mon. Site No. FLW-1	Permit Requirement	Report (Inst. Max.)	MGD				Hourly	Pump logs
Chlorination Duration (Unit 1)	Sample Measurement							
PARM Code 78739 Mon. Site No. EFF-1	Permit Requirement			120 (Day Max.)	MINUTES		Daily	logs
Chlorination Duration (Unit 2)	Sample Measurement							
PARM Code 50068 Mon. Site No. EFF-1	Permit Requirement			120 (Day Max.)	MINUTES		Daily	logs
Oxidants, Free Available (Unit 1)	Sample Measurement							
PARM Code 34045 Mon. Site No. EFF-1	Permit Requirement			0.2 (Day Avg) 0.5 (Inst. Maximum)	MG/L		1/2 Months	Multiple Grabs
Oxidants, Free Available (Unit 2)	Sample Measurement							
PARM Code 34045 Mon. Site No. EFF-1	Permit Requirement			0.2 (Day Avg) 0.5 (Inst. Maximum)	MG/L		1/2 Months	Multiple Grabs
Discharge Temperature (F), (Normal Operations)	Sample Measurement							
PARM Code 00011 Mon. Site No. EFF-2	Permit Requirement			115 (Inst. Max.) See Permit	DEG F		Hourly	Recorder
Discharge Temperature (F), (Maintenance Operations)	Sample Measurement							
PARM Code 00011 Mon. Site No. EFF-2	Permit Requirement			117 (Inst. Max.) See Permit	DEG F		Hourly	Recorder
Temp. Diff. between Intake and Discharge (Normal operations)	Sample Measurement							
PARM Code 61576 Mon. Site No. EFF-2	Permit Requirement			30 (Inst. Max.) See Permit	DEG F		Hourly	Calculated
Temp. Diff. between Intake and	Sample Measurement							

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Discharge(maintenance operations)											
PARM Code 61576 Q Mon. Site No. INT-2	Permit Requirement					32 (Inst. Max.) See Permit		DEG.F		Hourly	Calculated
Oxidants, Total Residual	Sample Measurement										
PARM Code 34044 I Mon. Site No. EFF-2	Permit Requirement					0.10 (Inst. Max.)		MG/L		Continuous	Recorder

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (YY/MM/DD)
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COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A DRAFT

When Completed mail this report to: Department of Environmental Protection, Mail Station 3551, 2600 Blair Stone Road, Tallahassee, FL 32399

PERMITTEE NAME: FPL- St. Lucie Power Plant
MAILING ADDRESS: 6501 S Ocean Dr.
Jensen Beach, FL 34957

PERMIT NUMBER: FL0002208-003-IW1S

LIMIT: Final
CLASS SIZE:

REPORT: Toxicity
GROUP: Industrial

FACILITY: St. Lucie Power Plant
LOCATION: 6501 S Ocean Dr.
Jensen Beach, FL 34957

MONITORING GROUP NUMBER: D-001
MONITORING GROUP DESC: Condenser once through cooling water

COUNTY: St. Lucie

NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
LC50 STATRE 96HOUR ACUTE Menidia beryllina(Routine) PARM Code TAN6B P Mon. Site No. EFF-2	Sample Measurement										
	Permit Requirement				100 (Min.)			PER-CENT		Once during the Permit	4 grabs/ 24 hour
LC50 STATRE 96HOUR ACUTE Menidia beryllina(Additional) PARM Code TAN6B Q Mon. Site No. EFF-2	Sample Measurement										
	Permit Requirement				100 (Min.)			PER-CENT		As needed	As required by the permit
LC50 STATRE 96HOUR ACUTE Mysidopsis bahia(Routine) PARM Code TAN3E P Mon. Site No. EFF-2	Sample Measurement										
	Permit Requirement				100 (Min.)			PER-CENT		Once during the Permit	4 grabs/ 24 hour
LC50 STATRE 96HOUR ACUTE Mysidopsis bahia(Additional) PARM Code TAN3E Q Mon. Site No. EFF-2	Sample Measurement										
	Permit Requirement				100 (Min.)			PER-CENT		As needed	As required by the permit
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

*IF A SECOND DEFINITIVE TEST IS REQUIRED, ENTER THE RESULT IN AN EMPTY ROW.

**ENTER NODI=C IN THE RESULTS COLUMN IF NO DISCHARGE OCCURRED DURING THIS REPORTING PERIOD.

ENTER NODI=9 IN THE RESULTS COLUMN IF NO DEFINITIVE TESTS ARE REQUIRED.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (YY/MM/DD)
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DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A DRAFT

When Completed mail this report to: Department of Environmental Protection, Mail Station 3551, 2600 Blair Stone Road, Tallahassee, FL 32399

PERMITTEE NAME: FPL- St. Lucie Power Plant
MAILING ADDRESS: 6501 S Ocean Dr.
Jensen Beach, FL 34957

PERMIT NUMBER FL0002208-003-IW1S

LIMIT: Final
CLASS SIZE:

REPORT: Monthly
GROUP: Industrial

FACILITY: St. Lucie Power Plant
LOCATION: 6501 S Ocean Dr.
Jensen Beach, FL 34957

MONITORING GROUP NUMBER: I-003
MONITORING GROUP DESC: Liquid radiation waste discharge

COUNTY: St. Lucie

NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow	Sample Measurement										
PARM Code 50050 P Mon. Site No. OUI-1	Permit Requirement	Report (Day.Avg.)	Report (Day.Max.)	MGD						1 / Per Batch of Process	Calculated
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 P Mon. Site No. OUI-1	Permit Requirement				30.0 (Day.Avg.)		100.0 (Day.Max.)	MG/L		1 / Per Batch of Process	Grab
Oil and Grease	Sample Measurement										
PARM Code 00556 P Mon. Site No. OUI-1	Permit Requirement				15.0 (Day. Avg.)		20.0 (Day. Max)	MG/L		Annually	Grab
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

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NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (YY/MM/DD)
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COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A DRAFT

When Completed mail this report to: Department of Environmental Protection, Mail Station 3551, 2600 Blair Stone Road, Tallahassee, FL 32399

PERMITTEE NAME: FPL- St.Lucie Power Plant
MAILING ADDRESS: 6501 S Ocean Dr.
Jensen Beach, FL 34957

PERMIT NUMBER

FL0002208-003-IW1S

LIMIT:
CLASS SIZE:

Final

REPORT:
GROUP:

Monthly
Industrial

FACILITY: St. Lucie Power Plant
LOCATION: 6501 S Ocean Dr.
Jensen Beach, FL 34957

MONITORING GROUP NUMBER: I-005

MONITORING GROUP DESC: Steam generator blowdown to the discharge canal

COUNTY: St. Lucie

NO DISCHARGE FROM SITE: ☐

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow	Sample Measurement										
PARM Code 50050 P Mon. Site No. OUI-2	Permit Requirement	Report (Day.Avg.)	Report (Day.Max.)	MGD						See Permit	Calculated
Oil and Grease	Sample Measurement										
PARM Code 00556 P Mon. Site No. OUI-2	Permit Requirement				15.0 (Day.Avg.)	20.0 (Day.Max.)		MG/L		See Permit	Grab
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 P Mon. Site No. OUI-2	Permit Requirement				30.0 (Day.Avg.)	100.0 (Day.Max.)		MG/L		See Permit	Grab
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

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DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A DRAFT

When Completed mail this report to: Department of Environmental Protection, Mail Station 3551, 2600 Blair Stone Road, Tallahassee, FL 32399

PERMITTEE NAME: FPL- St. Lucie Power Plant
MAILING ADDRESS: 6501 S Ocean Dr.
Jensen Beach, FL 34957

PERMIT NUMBER FL0002208-003-IW1S

LIMIT: Final
CLASS SIZE:

REPORT: Monthly
GROUP: Industrial

FACILITY: St. Lucie Power Plant
LOCATION: 6501 S Ocean Dr.
Jensen Beach, FL 34957

MONITORING GROUP NUMBER: I-005
MONITORING GROUP DESC: Steam generator blowdown to the discharge canal

COUNTY: St. Lucie

NO DISCHARGE FROM SITE: ☐

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Hydrazine, Chemical Additive	Sample Measurement										
PARM Code 81313 Mon. Site No. EFF-2	Permit Requirement				0.30 Maximum		mg/l			See Permit	Calculation
Carbohydrazide, Chemical Additive	Sample Measurement										
PARM Code 61916 Mon. Site No. EFF-2	Permit Requirement				Report Maximum		mg/l			See Permit	Calculation
	Sample Measurement										
	Permit Requirement										

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DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A DRAFT

When Completed mail this report to: Department of Environmental Protection, Mail Station 3551, 2600 Blair Stone Road, Tallahassee, FL 32399

PERMITTEE NAME: FPL- St. Lucie Power Plant
MAILING ADDRESS: 6501 S Ocean Dr.
Jensen Beach, FL 34957

PERMIT NUMBER: FL0002208-003-IW1S

LIMIT: Final
CLASS SIZE:

REPORT: Annual
GROUP: Industrial

FACILITY: St. Lucie Power Plant
LOCATION: 6501 S Ocean Dr.
Jensen Beach, FL 34957

MONITORING GROUP NUMBER: I-06B
MONITORING GROUP DESC: Former oil storage area s storm water

COUNTY: St. Lucie

NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow	Sample Measurement										
PARM Code 50050 P Mon. Site No. OUI-3	Permit Requirement	Report (Day.Avg.)	Report (Day.Max.)	MGD						Annually	Estimated
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 P Mon. Site No. OUI-3	Permit Requirement					Report (Day.Max.)	MG/L			Annually	Grab
Oil and Grease	Sample Measurement										
PARM Code 00556 P Mon. Site No. OUI-3	Permit Requirement					Report (Day.Max.)	MG/L			Annually	Grab
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

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NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (YY/MM/DD)
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COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A DRAFT

When Completed mail this report to: Department of Environmental Protection, Mail Station 3551, 2600 Blair Stone Road, Tallahassee, FL 32399

PERMITTEE NAME: FPL- St. Lucie Power Plant
MAILING ADDRESS: 6501 S Ocean Dr.
Jensen Beach, FL 34957

PERMIT NUMBER FL0002208-003-IW1S

LIMIT: Final
CLASS SIZE:

REPORT: Annual
GROUP: Industrial

FACILITY: St. Lucie Power Plant
LOCATION: 6501 S Ocean Dr.
Jensen Beach, FL 34957

MONITORING GROUP NUMBER: I-06C
MONITORING GROUP DESC. Non-industrial storm water to mangrove impoundment

COUNTY: St. Lucie

NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow PARM Code 50050 P Mon. Site No. OUI-4	Sample Measurement										
	Permit Requirement	Report (Day.Avg.)	Report (Day.Max.)	MGD						Annually	Estimated
Oil and Grease PARM Code 00556 P Mon. Site No. OUI-4	Sample Measurement										
	Permit Requirement					Report (Day.Max.)	MG/L			Annually	Grab
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

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DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A DRAFT

When Completed mail this report to: Department of Environmental Protection, Mail Station 3551, 2600 Blair Stone Road, Tallahassee, FL 32399

PERMITTEE NAME: FPL- St.Lucie Power Plant
MAILING ADDRESS: 6501 S Ocean Dr.
Jensen Beach, FL 34957

PERMIT NUMBER FL0002208-003-IW1S

LIMIT: Final
CLASS SIZE:

REPORT: Monthly
GROUP: Industrial

FACILITY: St. Lucie Power Plant
LOCATION: 6501 S Ocean Dr
Jensen Beach, FL 34957

MONITORING GROUP NUMBER: I-008

MONITORING GROUP DESC. Evaporation and percolation basin

COUNTY: St. Lucie

NO DISCHARGE FROM SITE: ☐

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow	Sample Measurement										
PARM Code 50050 P Mon. Site No. OUI-5	Permit Requirement	Report (Day.Avg.)	Report (Day.Max)	MGD						Weekly when discharging	Calculated
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 P Mon. Site No. OUI-5	Permit Requirement				30.0 (Day. Avg.)	100.0 (Day.Max.)		MG/L		Weekly when Discharging	Grab
Oil and Grease	Sample Measurement										
PARM Code 00556 P Mon. Site No. OUI-5	Permit Requirement				15.0 (Day. Avg.)	20.0 (Day.Max.)		MG/L		Weekly when Discharging	Grab
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (YY/MM/DD)
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COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

INSTRUCTIONS FOR COMPLETING THE WASTEWATER DISCHARGE MONITORING REPORT

Read these instructions as well as the SUPPLEMENTAL INSTRUCTIONS FOR COMPLETING THE WASTEWATER DISCHARGE MONITORING REPORT before completing the DMR. Hard copies and/or electronic copies of the required parts of the DMR were provided with the permit. All required information shall be completed in full and typed or printed in ink. A signed, original DMR shall be mailed to the address printed on the DMR by the 28th of the month following the monitoring period. The DMR shall not be submitted before the end of the monitoring period.

The DMR consists of three parts--A, B, and D--all of which may or may not be applicable to every facility. Facilities may have one or more Part A's for reporting effluent or reclaimed water data. All domestic wastewater facilities will have a Part B for reporting daily sample results. Part D is used for reporting ground water monitoring well data.

When results are not available, the following codes should be used on parts A and D of the DMR and an explanation provided where appropriate. Note: Codes used on Part B for raw data are different.

CODE	DESCRIPTION/INSTRUCTIONS
ANC	Analysis not conducted.
DRY	Dry Well
FLD	Flood disaster.
IFS	Insufficient flow for sampling.
LS	Lost sample.
MNR	Monitoring not required this period.

CODE	DESCRIPTION/INSTRUCTIONS
NOD	No discharge from/to site.
OPS	Operations were shutdown so no sample could be taken.
OTH	Other. Please enter an explanation of why monitoring data were not available.
SEF	Sampling equipment failure.

When reporting analytical results that fall below a laboratory's reported method detection limits or practical quantification limits, the following instructions should be used:

1. Results greater than or equal to the PQL shall be reported as the measured quantity.
2. Results less than the PQL and greater than or equal to the MDL shall be reported as the laboratory's MDL value. These values shall be deemed equal to the MDL when necessary to calculate an average for that parameter and when determining compliance with permit limits.
3. Results less than the MDL shall be reported by entering a less than sign (" $<$ ") followed by the laboratory's MDL value, e.g. < 0.001 . A value of one-half the MDL or one-half the effluent limit, whichever is lower, shall be used for that sample when necessary to calculate an average for that parameter. Values less than the MDL are considered to demonstrate compliance with an effluent limitation.

PART A -DISCHARGE MONITORING REPORT (DMR)

Part A of the DMR is comprised of one or more sections, each having its own header information. Facility information is preprinted in the header as well as the monitoring group number, whether the limits and monitoring requirements are interim or final, and the required submittal frequency (e.g. monthly, annually, quarterly, etc.). Submit Part A based on the required reporting frequency in the header and the instructions shown in the permit. The following should be completed by the permittee or authorized representative:

No Discharge From Site: Check this box if no discharge occurs and, as a result, there are no data or codes to be entered for all of the parameters on the DMR for the entire monitoring group number; however, if the monitoring group includes other monitoring locations (e.g., influent sampling), the "NOD" code should be used to individually denote those parameters for which there was no discharge.

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.

Sample Measurement: Before filling in sample measurements in the table, check to see that the data collected correspond to the limit indicated on the DMR (i.e. interim or final) and that the data correspond to the monitoring group number in the header. Enter the data or calculated results for each parameter on this row in the non-shaded area above the limit. Be sure the result being entered corresponds to the appropriate statistical base code (e.g. annual average, monthly average, single sample maximum, etc.) and units.

No. Ex.: Enter the number of sample measurements during the monitoring period that exceeded the permit limit for each parameter in the non-shaded area. If none, enter zero.

Frequency of Analysis: The shaded areas in this column contain the minimum number of times the measurement is required to be made according to the permit. Enter the actual number of times the measurement was made in the space above the shaded area.

Sample Type: The shaded areas in this column contain the type of sample (e.g. grab, composite, continuous) required by the permit. Enter the actual sample type that was taken in the space above the shaded area.

Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.

Comment and Explanation of Any Violations: Use this area to explain any exceedances, any upset or by-pass events, or other items which require explanation. If more space is needed, reference all attachments in this area.

PART B - DAILY SAMPLE RESULTS

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.

Daily Monitoring Results: Transfer all analytical data from your facility's laboratory or a contract laboratory's data sheets for all day(s) that samples were collected. Record the data in the units indicated. Table i in Chapter 62-160, F.A.C., contains a complete list of all the data qualifier codes that your laboratory may use when reporting analytical results. However, when transferring numerical results onto Part B of the DMR, only the following data qualifier codes should be used and an explanation provided where appropriate.

CODE	DESCRIPTION/INSTRUCTIONS
<	The compound was analyzed for but not detected.
A	Value reported is the mean (average) of two or more determinations.
J	Estimated value, value not accurate.
Q	Sample held beyond the actual holding time.
Y	Laboratory analysis was from an unpreserved or improperly preserved sample.

Add the results to get the Total and divide by the number of days in the month to get the Monthly Average.

Plant Staffing: List the name, certificate number, and class of all state certified operators operating the facility during the monitoring period. Use additional sheets as necessary.

PART D - GROUND WATER MONITORING REPORT

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.

Date Sample Obtained: Enter the date the sample was taken. Also, check whether or not the well was purged before sampling.

Time Sample Obtained: Enter the time the sample was taken.

Sample Measurement: Record the results of the analysis. If the result was below the minimum detection limit, indicate that.

Detection Limits: Record the detection limits of the analytical methods used.

Analysis Method: Indicate the analytical method used. Record the method number from Chapter 62-160 or Chapter 62-601, F.A.C., or from other sources.

Sampling Equipment Used: Indicate the procedure used to collect the sample (e.g. airlift, bucket/bailer, centrifugal pump, etc.)

Samples Filtered: Indicate whether the sample obtained was filtered by laboratory (L), filtered in field (F), or unfiltered (N).

Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.

Comments and Explanation: Use this space to make any comments on or explanations of results that are unexpected. If more space is needed, reference all attachments in this area.

SPECIAL INSTRUCTIONS FOR LIMITED WET WEATHER DISCHARGES

Flow (Limited Wet Weather Discharge): Enter the measured average flow rate during the period of discharge or divide gallons discharged by duration of discharge (converted into days). Record in million gallons per day (MGD).

Flow (Upstream): Enter the average flow rate in the receiving stream upstream from the point of discharge for the period of discharge. The average flow rate can be calculated based on two measurements; one made at the start and one made at the end of the discharge period. Measurements are to be made at the upstream gauging station described in the permit.

Actual Stream Dilution Ratio: To calculate the Actual Stream Dilution Ratio, divide the average upstream flow rate by the average discharge flow rate. Enter the Actual Stream Dilution Ratio accurate to the nearest 0.1.

No. of Days the SDF > Stream Dilution Ratio: For each day of discharge, compare the minimum Stream Dilution Factor (SDF) from the permit to the calculated Stream Dilution Ratio. On Part B of the DMR, enter an asterisk (*) if the SDF is greater than the Stream Dilution Ratio on any day of discharge. On Part A of the DMR, add up the days with an "*" and record the total number of days the Stream Dilution Factor was greater than the Stream Dilution Ratio.

CBOD₅: Enter the average CBOD₅ of the reclaimed water discharged during the period shown in duration of discharge.

TKN: Enter the average TKN of the reclaimed water discharged during the period shown in duration of discharge.

Actual Rainfall: Enter the actual rainfall for each day on Part B. Enter the actual cumulative rainfall to date for this calendar year and the actual total monthly rainfall on Part A. The cumulative rainfall to date for this calendar year is the total amount of rain, in inches, that has been recorded since January 1 of the current year through the month for which this DMR contains data.

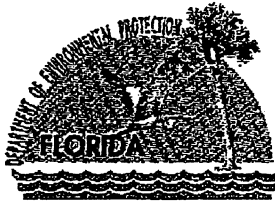
Rainfall During Average Rainfall Year: On Part A, enter the total monthly rainfall during the average rainfall year and the cumulative rainfall for the average rainfall year. The cumulative rainfall for the average rainfall year is the amount of rain, in inches, which fell during the average rainfall year from January through the month for which this DMR contains data.

No. of Days LWWD Activated During Calendar Year: Enter the cumulative number of days that the limited wet weather discharge was activated since January 1 of the current year.

Reason for Discharge: Attach to the DMR a brief explanation of the factors contributing to the need to activate the limited wet weather discharge.

APPENDIX 10.1.2.3

NPDES WASTEWATER PERMIT #FL0002208-003 – MOD REQ 11/30/05



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

March 29, 2006

BY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. William Jefferson Jr.
Vice President - St. Lucie Plant
Florida Power & Light Company
6501 S Ocean Drive
Jensen Beach, Florida 34957

RE: Florida Power & Light Company (FP&L)
DEP File FL0002208-004-IWB/MR
St. Lucie Power Plant, St. Lucie County

Dear Mr. Jefferson:

The Department has received FP&L's application dated November 30, 2005 for a minor revision of wastewater permit FL0002208. The minor revision requests the discharge of dewatering effluent associated with the construction of an on-site spent nuclear fuel dry storage facility, also known as an Independent Spent Fuel Storage Installation (ISFSI).

The Department has determined that this activity qualifies as a minor modification of the operations at the St. Lucie Plant pursuant to Rule 62-620 200(24), Florida Administrative Code (F.A.C.), and can be authorized by a minor permit revision pursuant to Rule 62-620 325(2), F.A.C. This letter and attachment constitute a minor revision to the referenced wastewater permit. Approval of this permit revision is based on characterization and flow data for cooling water canal intake from the Atlantic Ocean and the proposed internal discharge of ground water from dewatering activities provided by the applicant and included in the revision application. The requested internal discharge is authorized only when all circulator pumps from at least one of the two generating units are in operation.

This letter and attachment shall be attached to Permit FL0002208. All other conditions of this permit shall remain in effect. If FP&L objects to this permit revision it may petition for an administrative hearing in accordance with the enclosed Notice of Rights. Although not required, FP&L may elect to provide publication of appropriate Public Notice of Rights language in a local newspaper. If so, please contact the Department for appropriate public notice language.

If a petition is filed, then this permit revision does not become effective. If you have any questions about this permit revision, please contact Allen Hubbard of the Industrial Wastewater Section at (850) 245-8592.

Sincerely,

Mimi A. Drew
Director
Division of Water Resource Management

MAD/wfi/mh

cc: Tim Powell, P.E. - FDEP West Palm Beach
Paul Wierzbicki - FDEP West Palm Beach

"More Protection. Less Process."

Printed on recycled paper

NOTICE OF RIGHTS

A person whose substantial interests are affected by this permit revision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 14 days of receipt of this Permit. A petitioner, other than the applicant, shall mail a copy of the petition to the applicant at the address indicated in the attached letter at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the Department case identification number and the county in which the subject matter or activity is located;
- (b) A statement of how and when each petitioner received notice of the Department action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department action;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A statement of facts that the petitioner contends warrant reversal or modification of the Department action;
- (f) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Statement of Basis
For
Minor Permit Revision

Permit Number: FL0002208

Application Date: November 30, 2005
Additional Information: December 21, 2005;
January 18, 2006; February 7, 2006

Application No: FL0002208-004-IWB/MR

Name and Address of Applicant:

Florida Power & Light Company
6451 South Ocean Drive
Jensen Beach, FL 34957

St. Lucie Plant
Hutchinson Island
St. Lucie County, Florida

The Department received a minor revision application dated November 30, 2005 (application complete February 7, 2006) requesting the discharge of dewatering effluent resulting from the dewatering of a 450-foot by 450-foot excavation area adjacent to the on-site cooling canal. The dewatering and excavation are required as part of a proposed project by FP&L to construct an on-site dry storage facility to store some of its spent nuclear fuel. The on-site dry storage facility requires the construction of two concrete pads on which the dry storage containers or casks will rest. This minor revision only covers short-term discharge of ground water resulting from dewatering activities. It does not address or include construction of any plant facilities.

As discussed below, the Permittee has presented data as part of the revision application which provide reasonable assurances that the internal discharge of ground water into the facility cooling (intake) canal will not result in exceedences of the applicable discharge limitations and water quality standards for existing electric power plants.

Wastewater Discharges:

A 450-foot by 450-foot area will be excavated to a depth of approximately 18 feet and replaced with "engineered" fill. Dewatering of the excavation area will require approximately 30 dewatering wells located around the perimeter of the excavation area at a depth of approximately 40 feet. The maximum initial dewatering flow will be approximately 4,500 gallons per minute (gpm), which after reaching steady state within about two weeks will be reduced to approximately 1,500 gpm for the duration of dewatering (approximately 90-120 days). This dewatering effluent will be discharged directly to plant's intake canal. The flow in the intake canal is approximately 1,000,000 gpm with both units operating and approximately 500,000 gpm with one unit operating. The dewatering effluent will combine with the high volume intake water and be routed through the plant's discharge canal to Atlantic Ocean via the combined plant discharge at Outfall D-001.

In addition to the dewatering effluent, there exists an on-site ground water "mixed plume" of petroleum and chlorinated solvents located immediately north of the proposed dewatering area. Management of the mixed plume has been addressed in a 1999 Consent Order (OGC # 93-2924-56-CU) with the Waste Clean-up Section of the Southeast District DEP. At the present time, the remaining contaminant of concern is vinyl chloride. During the period of dewatering, a Pump and Treat (P&T) approach will be conducted by the facility to ensure that the mixed plume will not be significantly impacted by the dewatering process. From 1 to 3 mixed plume control wells will be placed on the north side of the dewatering area and pumped at a combined rate of approximately 25 to 200 gpm. The water withdrawn from these wells will be treated using air stripping. The treated water will then be directed to one of the on-site industrial wastewater treatment ponds and may eventually be discharged to the intake canal via existing Outfall I-008.

Projected water quality impacts at Outfall D-001 POD

Projected water quality data at Outfall D-001 was evaluated based on mass balance calculations and available dilution in the intake canal assuming worst case flow contributions from the dewatering effluent, P&I mixed plume discharge, and plant intake water. Recent groundwater sampling data taken from the proposed dewatering area was used to characterize the discharge quality of the dewatering effluent and mixed plume discharge. The quality of the intake water was based on other historical monitoring data previously provided to the Department. Except as noted for Beryllium and Gross Alpha below, evaluation and analysis of the data indicate that the combined discharge at Outfall D-001 is expected to meet applicable water quality standards (WQS) for Class III marine waters at the end of the discharge canal (Outfall D-001).

It should be noted that discharge limitations for existing steam electric power plants are subject to the requirements contained in 62-660 44(1)(q)3 F.A.C., as follows:

"Discharges from steam electric generating plants existing or licensed by July 1, 1984, shall not be required to be treated to a greater extent than may be necessary to assure

1. That the quality of nonthermal components of discharges from nonrecirculated cooling water systems is as high as the quality of the make-up waters"

Beryllium: The maximum unfiltered groundwater sample result was 0.84 ug/l. However, the filtered (i.e. dissolved) fraction for ground water samples was below the analytical detection limit of 0.15 ug/l. This indicates that the solids in the samples are the major source of the Beryllium. It is reasonable that there will be a low concentration of solids in the discharge to the onsite cooling canal. The most recent plant intake value reported by the facility is 0.34 ug/l, which represents the receiving water background. Using this intake value and the dissolved Beryllium value of 0.15 ug/l, the resultant combined discharge at Outfall D-001 would be 0.339 ug/l based on mass balance calculations assuming an intake Beryllium concentration of 0.34 ug/l. Therefore, the discharge concentration is expected to be no greater than the receiving water background, and provides reasonable assurances that it will meet the discharge requirement for steam electric power plants contained in 62-660.44(1)(q)3 F.A.C.

Gross Alpha: Groundwater was analyzed for gross alpha particle activity using two analytical methods: 900 0, and 00-02. Results using 900 0 had a broad range of variability while data from method 00-02 were consistent with one another. Industrial Wastewater Section Staff consulted with the Department's Bureau of Laboratories who indicated that method 900 0 can be highly variable and unreliable for analyses of high salt content samples such as the onsite ground water and seawater. They indicated that method 00-02 may provide more consistent and reliable data for high-salt content waters.

The maximum groundwater sample result using Method 00-02 was 68 ± 9 pCi/l, representing the internal discharge within the onsite cooling water canal. Recent intake sampling reported by the facility using this method is 2.5 ± 0.4 pCi/l, which represents the receiving water background. The resultant combined discharge at D-001 (using the upper range of these report values) is 3.14 pCi/l based on mass balance calculations, which is below the WQS of 15 pCi/l, and therefore provides reasonable assurance that the discharge will meet the water quality standard.

Additional environmental monitoring by the Florida Department of Health

The Florida Department of Health (DOH), Bureau of Radiation Control routinely performs on-site and off-site environmental monitoring of St. Lucie Power Plant as required by the Nuclear Regulatory Commission (NRC) for radiological parameters that may be attributable to radiological release from nuclear power plants. DOH collects surface water and sediment for Gamma isotopic analysis and tritium analysis. Gamma isotopic analysis is the identification and quantification of gamma-emitting radionuclides that may be attributable to the effluents from nuclear power plants.

Chemicals to be used in the P&I System

Due to the potential for growth of iron reducing bacteria, water treatment chemicals may be used to prevent the air strippers from scaling and fouling. The chemical that may be used are Redux 380, a blended scaling control agent, and Redux B-15, a glutaraldehyde based water treatment microbiocide. Based on proposed dosage rate, travel time of the discharge, and available dilution, no adverse toxicity impacts are expected at the point of discharge, Outfall D-001.

The Department's Toxicity coordinator was consulted regarding the proposed use these chemicals in the P&I system and dilution calculation were performed. The facility will also evaluate the potential effect of these chemicals in the effluent as part of the toxicity testing already required in the facility's current NPDES discharge permit.

APPENDIX 10.1.2.4

**NPDES WASTEWATER PERMIT #FL0002208
MINOR PERMIT REVISION REQ 7/3/07**



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

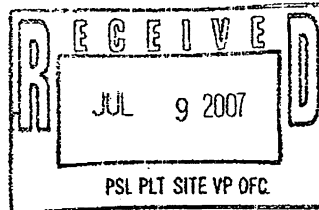
Jeff Kottkamp
Lt Governor

Michael W. Sole
Secretary

July 3, 2007

BY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Gordon L. Johnston
Site Vice President - St. Lucie Plant
Florida Power & Light Company
6501 S. Ocean Drive
Jensen Beach, Florida 34957



RE: Florida Power & Light Company
NPDES Permit FL0002208
St. Lucie Power Plant, St. Lucie County
Minor Permit Revision

Dear Mr. Johnston:

On October 25, the Department received a minor permit revision application for the Florida Power & Light Company (FPL) St. Lucie Power Plant. The proposed permit revision is to authorize the discharge of stormwater and occasional wash-down water to the plant's intake canal through a new outfall from the on-site dry cask storage site for spent nuclear fuel. After review of the application, the Department has determined that the proposed revision to permit number FL0002208 does not change the characteristics of the effluent or increase the potential for adverse impact on the aquatic system. Because the proposed modification is not expected to result in any water quality degradation, the permit is hereby revised pursuant to Rules 62-620.200(24), 62-620.200(25), and 62-620.325(2), Florida Administrative Code. Note, this letter does not alter the expiration date, other Specific or General Conditions, or monitoring requirements of the permit. This letter and accompanying revised permit pages must be attached to the original permit.

The permit is revised as stated in the attached revised permit pages unless FPL decides to file a timely, sufficient petition for an administrative hearing under Section 120.57, Florida Statutes. The procedures for petitioning for a hearing are set forth in the attachment titled "Notice of Rights." If you have any questions regarding this permit revision, please contact Marc Harris, P.E., in the Industrial Wastewater Section at (850) 245-8589.

Sincerely,

Janet G. Llewellyn
Director
Division of Water Resource Management

JGL/wfr/bn

Attachment

cc: Tim Powell, P.E., DEP West Palm Beach
Mike Halpin, P.E., DEP Office of Siting Coordination

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www.dep.state.fl.us

NOTICE OF RIGHTS

A person whose substantial interests are affected by this permit revision may petition for an administrative proceeding (hearing) in accordance with Section 120 57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 14 days of receipt of this Permit. A petitioner, other than the applicant, shall mail a copy of the petition to the applicant at the address indicated in the attached letter at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120 57, Florida Statutes.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the Department case identification number and the county in which the subject matter or activity is located;
- (b) A statement of how and when each petitioner received notice of the Department action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department action;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A statement of facts that the petitioner contends warrant reversal or modification of the Department action;
- (f) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120 57, F S, and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5 207, F A C.

PERMITTEE:

FPL - St Lucie Power Plant
6451 S Ocean Dr
Jensen Beach, FL 34957

PERMIT NUMBER: FL0002208 (Rev C)

Issuance date: December 9, 2005
Expiration date: December 8, 2010

Additions to the permit are identified by italics and underline. Deletions are identified by strikethrough.

EFFLUENT DISPOSAL:

Surface Water Discharge:

An existing discharge (1,478 MGD permitted maximum daily flow, 1,362 reported annual average daily flow) of OTCW and AECW via outfall D-001 to the onsite discharge canal to the point of discharge (POD) thence to the Atlantic Ocean, a Class III marine water

Internal Outfalls:

Existing intermittent discharges from internal outfalls I-003 (Liquid Radiation Waste), I-005 (Steam Generator Blowdown), I-007 (Intake Screen Wash Water) and I-008 (Evaporation/Percolation Basin).

Stormwater Discharges:

Existing intermittent stormwater discharges from internal outfalls I-06B (Former Oil Storage Area) and I-06C (Non-Industrial Related Stormwater) and I-06D (Spent Nuclear Fuel Dry Storage Area) to the intake canal via an outlet control structure. Discharge from I-06D will intermittently include wash-down water consisting of potable water with no additives.

IN ACCORDANCE WITH: The limitations, monitoring requirements and other conditions as set forth in Part I through Part VIII on pages 3 through 18 of this permit

PERMITTEE:

FPI - St Lucie Power Plant
6451 S Ocean Dr
Jensen Beach, FL 34957

PERMIT NUMBER: FI.0002208 (Rev C)

Issuance date: December 9, 2005
Expiration date: December 8, 2010

Additions to the permit are identified by italics and underline. Deletions are identified by strikethrough.

20. During the period beginning on the issuance date and lasting through the expiration date of this permit, the Permittee is authorized to discharge stormwater from Internal Outfall I-008 to intake canal. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameters (units)	Discharge Limitations		Monitoring Requirements		
	Daily Average	Daily Maximum	Monitoring Frequency	Sample Type	Sample Point
Flow (MGD)	Report	Report	Weekly when discharging	Calculated	OUI-5
Solids, Total Suspended (MG/L)	30.0	100.0	Weekly, when discharging	Grab	OUI-5
Oil and Grease (MG/L)	15.0	20.0	Weekly, when discharging	Grab	OUI-5

21. Effluent samples shall be taken at the monitoring site locations listed in permit condition I A 20 and as described below:

Sample Point	Description of Monitoring Location
OUI-5	Stormwater discharge prior to entering the intake canal

22. Discharge of intake screen wash water from Internal Outfall I-007 is permitted without limitation or monitoring requirements.
23. There shall be no discharge of floating solids or visible foam in other than trace amounts.
24. The discharge shall not cause a visible sheen on the receiving water.
25. Discharge of stormwater and wash-down water consisting of potable water with no chemical additives discharge from Spent Nuclear Fuel Dry Storage Area to the intake canal through Internal Outfall I-06D is permitted without limitations or monitoring requirements.

B. Underground Injection Control Systems

This section is not applicable to this facility.

C. Land Application Systems

This section is not applicable to this facility.

D. Other Methods of Disposal or Recycling

1. There shall be no discharge of industrial wastewater from this facility to ground or surface waters, except as authorized by this permit.

E. Other Limitations and Monitoring and Reporting Requirements

1. The sample collection, analytical test methods and method detection limits (MDLs) applicable to this permit shall be in accordance with Rule 62-424.6, Chapters 62-160 and 62-601, F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantification limits), which is titled "Florida Department of Environmental Protection Table as

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

STATEMENT OF BASIS FOR MINOR PERMIT REVISION

Permit Number: FL0002208
DEP File No: FL0002208-006-IWB/MR
Designation: Major
Permit Writer: Bala Nori

Application Date: October 25, 2006

1. SYNOPSIS OF APPLICATION

A Name and Address of Applicant

Florida Power & Light Company
Post Office Box 14000
Juno Beach, Florida 33408

For

St Lucie Plant
6451 S Ocean Drive
Jensen Beach, Florida 34957

B Description of Proposed Activity:

The Department received a minor revision application dated October 25, 2006 (application complete June 1, 2007) requesting that the Department revise the permit to include internal discharge of non-contaminated stormwater and wash-down water from a newly constructed concrete pad within the plant site into the facility's cooling water intake canal. Previously, on March 29, 2006 the Department approved a minor permit revision for internal discharge from dewatering during construction of the concrete pad

The concrete pad will be used for on-site storage of some of the facility's spent nuclear fuel rods in "dry casks". The dry casks are leak-tight steel cylinders filled with inert gas and encased in concrete vaults which will be located on the specially engineered concrete storage pad. The concrete pad with radiological monitoring instrumentation is called the "**Independent Spent Fuel Storage Installation**" (ISFSI). Construction, maintenance and radiological monitoring of the ISFSI is regulated by the U.S. Nuclear Regulatory Commission (NRC) in accordance with 10 CFR 72. Non-radiological stormwater discharge from the ISFSI is regulated under the facility's NPDES permit. This minor revision only covers discharge of stormwater and wash-down water, and does not address or include any other aspects of ISFSI operations or activities.

The Permittee has presented information in the revision application providing reasonable assurances that the internal discharge of stormwater and occasional discharge of wash water from the concrete pad into the facility's cooling water intake canal will not result in exceedences of the applicable discharge limitations and water quality standards.

Discharge of Stormwater and Occasional Discharge of Wash Water:

Uncontaminated stormwater and wash-down water will be discharged from new Internal Outfall I-06D within the facility to the cooling water intake canal through a stormwater management system. The stormwater management system was approved by the Department's Southeast District in environmental resource permit (ERP), permit no SI 56-0041384-003 dated June 1, 2006. Wash water will consist of potable water used to rinse incidental sand and dirt from the concrete pad. The revision does not authorize the use of any detergents or other chemical additives to the wash-down water.

This constitutes Revision C (Rev C) to the permit. All changes to the permit are noted in Rev C by underline or strike-through, with a margin bar indicating lines where changes have been made for this revision

APPENDIX 10.1.2.5

**NPDES WASTEWATER PERMIT #FL0002208
MINOR PERMIT REVISION REQ 10/15/07**



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

October 15, 2007

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

Mr. Gordon L. Johnston
Site Vice President - St. Lucie Plant
Florida Power & Light Company
6501 S. Ocean Drive
Jensen Beach, Florida 34957

BY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: Florida Power & Light Company
NPDES Permit FL0002208
St. Lucie Power Plant, St. Lucie County
Minor Permit Revision

Dear Mr. Johnston:

The Department received a minor permit revision application for the Florida Power & Light Company (FPL) St. Lucie Power Plant. The application proposed 1) the discharge of non-radiological laboratory wastes to the onsite evaporation and percolation basins; and 2) the discharge of purge water from monitoring well sampling through internal Outfall I-003. After review of the application and subsequent information, the Department has determined that the proposed revisions to permit number FL0002208 do not substantially change the characteristic of the effluent or increase the potential for adverse impact on the aquatic system. Because the proposed modifications are not expected to result in any water quality degradation, the permit is hereby modified pursuant to Rules 62-620.200(24), 62-620.200(25), and 62-620.325(2), Florida Administrative Code. Note, this letter does not alter the expiration date, other Specific or General Conditions, or monitoring requirements of the permit. This letter and accompanying revised permit page must be attached to the original permit.

The permit is revised as stated in the attached permit pages unless FPL decides to file a timely, sufficient petition for an administrative hearing under Section 120.57, Florida Statutes. The procedures for petitioning for a hearing are set forth in the attachment titled "Notice of Rights." If you have any questions regarding this permit revision, please contact Marc Harris, P.E., in the Industrial Wastewater Section at (850) 245-8589.

Janet G. Llewellyn

Director
Division of Water Resource Management

JGL/wfi/bn

Attachment

cc: Tim Powell, P.E., DEP West Palm Beach
Mike Halpin, P.E., DEP Office of Siting Coordination
John Williamson, DOH Bureau of Radiation Control

NOTICE OF RIGHTS

A person whose substantial interests are affected by this permit revision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within 14 days of receipt of this Permit. A petitioner, other than the applicant, shall mail a copy of the petition to the applicant at the address indicated in the attached letter at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the Department case identification number and the county in which the subject matter or activity is located;
- (b) A statement of how and when each petitioner received notice of the Department action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department action;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A statement of facts that the petitioner contends warrant reversal or modification of the Department action;
- (f) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

**STATE OF FLORIDA
INDUSTRIAL WASTEWATER FACILITY PERMIT**

PERMITTEE:

FPL - St. Lucie Power Plant
6501 S. Ocean Drive
Jensen Beach, FL 34957

PERMIT NUMBER:

FL0002208 (Rev C)

PA FILE NUMBER:

FL0002208-003-IW1S

ISSUANCE DATE:

January 20, 2006

EXPIRATION DATE:

January 19, 2011

RESPONSIBLE AUTHORITY:

William Jefferson, Jr
Vice President

FACILITY:

St Lucie Power Plant
Units 1 and 2
Hutchinson Island
St Lucie County, Florida

Latitude: See Note Below Longitude: See Note Below

Note: Latitude and longitude are not shown at the Permittee's request, for purposes of Homeland Security pursuant to federal regulations found at 18 CFR 388.113(c)(i) and (ii) and by Presidential Directive dated December 17, 2003.

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.) and applicable rules of the Florida Administrative Code (F.A.C.). The above named Permittee is hereby authorized to operate the facilities shown on the application and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

The facility consists of two nuclear powered steam electric generating units (Unit 1 and Unit 2) each with a nominal rating of 850 MW. The radioactive component of the discharge is regulated by the U.S. Nuclear Regulatory Commission under the Atomic Energy Act, and not by the Department or the U.S. Environmental Protection Agency under the Clean Water Act.

WASTEWATER TREATMENT:

Facility discharge and treatment include the following. Once-through non-contact condenser cooling water (OICW) and auxiliary equipment cooling water (AECW) are chlorinated. Low volume waste (LVW) (consisting of water treatment system wastewater, steam generator/boiler blowdown, laboratory waste and equipment area floor drainage), non-radioactive wastes/liquid radiation waste, and stormwater associated with industrial activity are treated by chemical/physical processes including neutralization, settling, ion exchange and micro filtration. Non-industrial stormwater and intake screen wash water are discharged without treatment.

PERMITTEE:

PERMIT NUMBER: FL0002208 (Rev. C)

FPL - St Lucie Power Plant
6451 S Ocean Dr.
Jensen Beach, FL 34957

Issuance date: December 9, 2005
Expiration date: December 8, 2010

Additions to the permit are identified by italics and underline. Deletions are identified by strikethrough.

e Quality Assurance Requirements

(1) A standard reference toxicant (SRT) quality assurance (QA) acute toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or started no more than 30 days before the date of the "routine" test, or follow-up test conducted. The SRT-QA data shall be included in the reports for each companion "routine" or additional test required.

(2) If the mortality in the control (0% effluent) exceeds 10% for either species in any test, the test for that species (including the control) shall be invalidated and the test repeated.

(3) If, during any separate grab sample test, 100% mortality occurs prior to the end of the test, and control mortality is less than 10% at that time, that test (including the control) shall be terminated with the conclusion that the test fails and constitutes non-compliance.

(4) Additional, follow-up tests shall be evaluated for acceptability based on the concentration-response relationship, as required by EPA-821-R-02-012, Section 12.2.6.2, and included with the submitted bioassay reports.

f Reporting Requirements

(1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:

(a) Routine Test Results: The lowest calculated LC50 effluent concentration for the four separate tests shall be entered on the DMR for that test species.

(b) Additional Follow-up Test Results: For each additional test required, the calculated LC50 value should be entered on the DMR for that test species and the 95% confidence limits.

(2) A bioassay laboratory report for the routine test shall be prepared according to EPA-821-R-02-012, Section 12, Report Preparation and Test Review and mailed to the Department at the address below within 30 days of the completion of the test.

(3) For additional, follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-012, Section 12, Report Preparation, and mailed within 45 days of completion of the second additional, valid test. If any additional test fails to meet the effluent limitation in 8 a. above, the permittee shall contact the Department within 30 days of the bioassay report submittal to discuss the corrective actions necessary to remedy the observed acute toxicity.

(4) All bioassay reports shall be sent to

Florida Department of Environmental Protection
Southeast District Office
Industrial Wastewater Section
1801 SE Hillmoor Drive, Suite C-204
Port St. Lucie, Florida 34952
(772) 871-7662

9. During the period beginning on the issuance date and lasting through the expiration date of this permit, the Permittee is authorized to discharge process wastewater and monitoring well sample purge water from Internal Outfall I-003 to the onsite discharge canal. Such discharge shall be limited and monitored by the Permittee as specified below:

Parameters (units)	Discharge Limitations		Monitoring Requirements		
	Daily Average	Daily Maximum	Monitoring Frequency	Sample Type	Sample Point
Flow (MGD)	Report	Report	1/Batch	Calculated	OUI-1

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

STATEMENT OF BASIS

Permit Number:	FL0002208	Application Date:	November 27, 2006
Application No:	FL0002208-006-IWB/MR	Additional Information:	February 19, 2007 &
Permit Writer:	Bala Nori		May 16, 2007

1. SYNOPSIS OF APPLICATION

A. Name and Address of Applicant

Florida Power & Light Company
Post Office Box 14000
Juno Beach, Florida 33408

For

St. Lucie Plant
6451 S. Ocean Drive
Jensen Beach, Florida 34957

B. Description of Proposed Activity:

The Department received a minor revision application dated November 27, 2006 requesting the following: 1) authorization to discharge 5,000 gallons of secondary non-radiological laboratory wastes to the onsite evaporation and percolation (E/P) basins, which occasionally discharge to the facility's intake canal through internal outfall I-008; and 2) authorization to discharge purge water from monitoring well sampling to internal outfall I-003.

Discharge Non-radiological Laboratory Wastes to E/P Basins

During a recent internal audit, FPL discovered that an existing discharge of wastewater from the onsite "secondary" laboratory to the evaporation/percolation (E/P) basins was inadvertently omitted from the St. Lucie Plant industrial wastewater permit application. The secondary laboratory monitors the secondary non-radiological systems at the plant (similar to those systems monitored by the laboratories at FPL fossil-fueled plants). In accordance with 40 CFR 423.11(b), laboratory waste is a low volume waste and can be commingled with the other low volume wastes such as stormwater or plant wash water that also discharge to these E/P basins. The average daily volume of laboratory waste discharged to the E/P basins is approximately 5,000 gallons. This volume is minor compared to storm and wash water from floor drains and other low volume waste sources that are discharged to E/P basins. The E/P basins have a combined minimum operating capacity of approximately 27 million gallons and only occasionally discharge to the plant's intake canal via internal outfall I-008.

Discharge Purge Water from Monitoring Well Sampling through Internal Outfall I-003

In the past, FPL has had releases of turbine lube oil, diesel fuel and solvents to the ground at the facility. The sites of these spills are in various stages of remediation with groundwater compliance monitoring

required by the Department's Division of Waste Management at each of the contaminated sites pursuant to waste cleanup or petroleum cleanup corrective actions. These corrective actions are not associated with the NPDES permit. Prior to collecting samples from the compliance wells, the wells must be purged. This purge water is typically collected in 55-gallon drums and disposed offsite in an approved manner. FPL recently found small concentrations of tritium present in some of these wells.

Tritium is a naturally-occurring, mildly radioactive form of hydrogen that is produced in the atmosphere when cosmic rays collide with air molecules. Like normal hydrogen, tritium can bond with oxygen to form water. When this happens, the resulting water (called "tritiated water") is radioactive. Tritiated water (not to be confused with heavy water) is chemically identical to normal water and the tritium cannot be filtered out of the water. The radiation emitted from tritium is a low-energy beta particle that does not travel very far in air and cannot penetrate the skin. Water containing tritium and other radioactive substances is normally released from nuclear plants under controlled, monitored conditions. The US Nuclear Regulatory Commission (NRC) mandates to protect public health and safety. NRC regulations require nuclear power plants to have various effluent and environmental monitoring programs to ensure that the impacts from plant operations are minimized. The NRC has contracted with the Florida Department of Health to conduct periodic onsite inspections of each Florida nuclear power plant's effluent and environmental monitoring programs to ensure compliance with NRC requirements.

In order to facilitate accounting for the amount of radioactive water released from the site, FPL has proposed to release the well purge water through internal outfall I-003, Liquid Radiation Waste System. To accomplish this, the drums of purge water would be moved into the Reactor Auxiliary Building and the purge water added to the liquid radiation waste system. This water would then be commingled with other waste streams in a holding tank for batch discharge to the plant's discharge canal via outfall I-003. According to the calculations submitted under the seal of FPL's Engineer of Record, the radioactivity of the well purge water is four magnitudes lower than that of the wastewater currently discharged through outfall I-003; hence, the purge water is expected to reduce the activity of the wastewater discharged through I-003.

The radioactive component of this discharge is regulated by NRC under the Atomic Energy Act, and not by the Department or the U.S. Environmental Protection Agency under the Clean Water Act. Thus, the NRC and the Florida Department of Health oversee enforcement of effluent standards and monitoring requirements for tritium in the discharge.

This constitutes Revision C (Rev. C) to the permit. All changes to the permit are noted in Rev. C by underline or strike-through, with a margin bar indicating lines where changes have been made for this revision.

APPENDIX 10.1.2.6

**NPDES WASTEWATER PERMIT #FL0002208
MINOR PERMIT REVISION REQ 12/13/07**

December 13, 2007

Marc Harris, P.E.
Supervisor, Power Plant NPDES Permitting
Industrial Wastewater Section
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 3545
Tallahassee, Florida 32399-2400

RE: FPL - St. Lucie Plant
State of Florida Industrial Wastewater Facility Permit No. FL0002208
Request for Minor Revision Due to Minor Modification of Facility

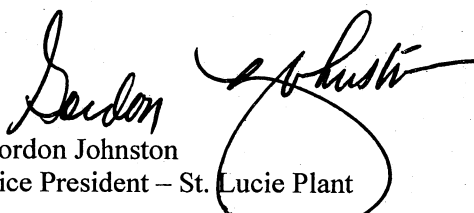
Dear Mr. Harris:

Attached please find the following items to support the request for minor revisions to the Florida Power & Light Company (FPL) St. Lucie Plant State of Florida Industrial Wastewater Facility Permit No. FL0002208:

- 1) Four (4) signed, sealed copies of FDEP Form 62-620.910(9), "Application for a Minor Revision to a Wastewater Facility or Activity Permit" including Attachment to Request Minor Modification.
- 2) An FPL Check payable to the Florida Department of Environmental protection for the \$250 application fee.

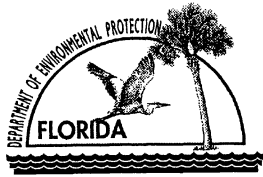
If you have any questions or need additional information on this matter, please contact Ron Hix at (561) 691-7641.

Sincerely,


Gordon Johnston
Vice President – St. Lucie Plant

Enclosures

cc:
USNRC Document Control Desk
FDEP – SE District – Tim Powell



APPLICATION FOR A MINOR REVISION TO A WASTEWATER FACILITY OR ACTIVITY PERMIT

1. Instructions

- In accordance with Rule 62-620.325, F.A.C., this form must be submitted to the appropriate Department district office or approved local program when requests for minor revisions to a permit or minor modifications to a facility are made by a permittee, except for transfer of a permit to a new permittee and addition of a major user of reclaimed water to a Part III reuse system. Application for transfer of a permit to a new permittee shall be made on DEP Form 62-620.910(11). Application for addition of a major user of reclaimed water shall be made on DEP Form 62-610.300(4)(a)1.
- Each applicable item must be completed in full in order to avoid delay in processing of this form. Where attached sheets or other technical documentation are provided, indicate appropriate cross-references.
- Three (3) copies of this application with supporting documentation shall be submitted with this form.
- All information is to be typed or printed in ink. Dates are to be entered in MM/DD/YR format.
- This application and attachments shall be signed in accordance with Rule 62-620.305, F.A.C. Also, as applicable, this application and all attachments shall be signed and sealed by a professional engineer registered in Florida in accordance with Rule 62-620.310, F.A.C.

2. Facility Information

a. Permit Number:	FL0002208	b. Facility Identification Number:	
c. Project/Facility Name:	FPL St. Lucie Steam Electric Power Plant		
d. Contact Name:	Vince Munne, Environmental Compliance Supervisor		
Number and Street:	6451 South Ocean Drive		
City/State/Zip Code:	Jensen Beach, FL 34957		
Telephone	772-467-7453		

3. Type of Revision

- ☐ **Correct Typographical Errors¹** - Submit one copy of each page of the permit showing revisions being requested.
- ☐ **Change Improvement Schedule¹** - Provide a description of the improvement, a list of the dates to be revised, and a reason for the proposed change in each date.
- ☐ **Change Expiration Date of Permit¹** - Provide the current and proposed expiration dates for the permit and the reasons for the proposed change.
- ☐ **Change Staffing Requirements²** - Describe the proposed change and submit justification for the change in accordance with Chapter 62-699, F.A.C.

¹A processing fee is not required.

²A processing fee is required with the application in accordance with Rule 62-4.050, F.A.C.

- ☐ **Change Monitoring and Reporting Requirements²** - Describe the proposed change and submit justification for the change in accordance with Chapter 62-601, F.A.C.
- ☐ **Modify Approved Pretreatment Program¹** - Describe the proposed modification and provide the information required by Rule 62-625.540, F.A.C.
- ☐ **Delete Point Source Outfall¹** - Identify the outfall and explain why the outfall is being eliminated.
- ☐ **Modify or Expand Approved Residuals Land Application Sites²** - Attach a new or updated Agricultural Use or Dedicated Site Plan as required by Chapter 62-640, F.A.C.
- ☒ **Minor Modification to the Facility²** - Provide a description of the proposed modification. If applicable, attach any reports, plans, and specifications which have been developed to implement this modification.
- ☐ **Other²** - Provide appropriate documentation. Describe.

4. Certifications

a. Applicant or Authorized Representative

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Gordon L. Johnston 12/13/07
(Signature of Applicant or Authorized Representative³) (Date)

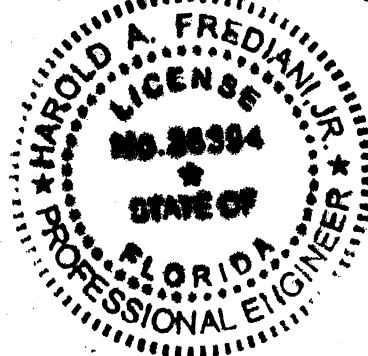
Name (please type) Gordon L. Johnston Company Name Florida Power & Light Company
Title Vice President, St. Lucie Plant Company Address: 6451 S. Ocean Dr.
Phone: 772-467-7100 City/State/Zip Code: Jensen Beach, FL

b. Professional Engineer Registered in Florida

I certify that the engineering features of this project have been (designed) (examined) by me and found to conform to engineering principles applicable to such projects. In my professional judgement, this facility, when properly constructed, operated, and maintained, will comply with all applicable statutes of the State of Florida and rules of the Department.

Name (please type): Harold A. Frediani, Jr
Florida Registration Number: 36394
Company Name: Golder Associates Inc.
Company Address: 3730 Chamblee Tucker Road
City/State/Zip Code: Atlanta, GA 30341
Phone Number: 770-496-1893

Harold A. Frediani, Jr 11/30/07
(Seal, Signature, Date, and Registration Number)



³If signed by the authorized representative, attach a letter of authorization in accordance Rule 62-620.305, F.A.C.

Attachment to Request for Minor Modification

I Introduction

FPL proposes plans to add about 200 MW of electrical generation resources to its system in order to continue to provide reliable, safe, and cost-effective service to its customers. This increase will be accomplished by the St. Lucie Uprate Project (Project) which is an innovative application of technological advancements and efficiencies that will increase the net power output of both Unit 1 and Unit 2 from about 840 Megawatts (MW) to 943 MW. The extra power output will result from improving the performance of the steam turbine and from using more nuclear fuel which will result in increased thermal MWs produced in the reactor core. The additional heat will raise the temperature exchange between the primary and secondary systems, creating more steam for turning the turbines.

The Project consists of upgrades to each unit. The upgrades will include refurbishment and improvement activities to the steam turbine-electric generator, electrical systems, and cooling systems. These refurbishment and improvement activities will primarily occur during outages starting in spring of 2010 and being completed during the spring of 2012. Certain improvements will also be made while the units are operating. All refurbishment and improvement activities will occur within the building and structures associated with existing Units 1 and 2.

II Heat Dissipation System

St. Lucie Units 1 and 2 use once-through cooling water from the Atlantic Ocean to remove heat from the main (turbine) condensers via the Circulating Water System (CWS), and to remove heat from other auxiliary equipment via the Auxiliary Equipment Cooling Water System (i.e. Intake Cooling Water System). The great majority of this cooling water is used for the CWS.

Circulation of water in the CWS is provided by a total of eight circulating water pumps (four per Unit). Nominal design capacity of the pumps is 974,600 gpm, though actual flow may range from 800,000 gpm to 1,120,000 gpm, depending on system conditions. When all pumps are operating and both units are operating at 100% capacity, temperature rise across the condensers is approximately 25.7°F. After the uprate is completed, the CWS flow rate will be unchanged; however, the temperature rise across the condensers will have increased by approximately 3°F.

Temperature of the discharged cooling water is limited by the State of Florida Industrial Wastewater Facility Permit (IWFP) for St. Lucie Units 1 and 2. These limits require that heated water from the diffusers, as measured near the exit from the Discharge Canal, not exceed 113°F or 30°F above ambient during normal operations; a maximum temperature of 117°F or 32°F above ambient is permitted during certain maintenance operations, when throttling circulating water pumps to minimize use of chlorine, and when biofouling of the CWS occurs.

III Proposed Permit Conditions

As a result of the uprate project, the facility has the physical capability of increasing the plant CWS discharge temperature beyond the current limits in FPL's IWFP. However, FPL is not requesting an increase in its permit limit. Instead, FPL agrees to accept the current permit limits in its IWFP. FPL is committed to minimizing the potential environmental impacts of the uprate project.

APPENDIX 10.1.3

HAZARDOUS WASTE DISPOSAL APPLICATION/PERMIT

NOTE: No Federal or State application or permit for hazardous waste disposal is required for the Project.

APPENDIX 10.1.4.1

USACE PERMIT # 199301803 (IP – BL)

DEPARTMENT OF THE ARMY PERMIT

Permittee: FLORIDA POWER & LIGHT COMPANY

Permit Number: 199301803 (IP-BL)

U.S. Army Engineer District, Jacksonville

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Location: St. Lucie Power Plant Intake Canal, between the Atlantic Ocean and Indian River, on Hutchinson Island, Section 16, Township 36S, Range 41E, St. Lucie County, Florida.

Project Description: To maintenance dredge the 1,500-meter long Intake Canal at the St. Lucie Power Plant. The current depth of the canal bottom is approximately -19.25'. The initial work will consist of dredging 180,000 cubic yards of material. Subsequently, the canal will be periodically dredged to -29.25' below sea level. A barge-mounted hydraulic dredge will be use to excavate the material. The dredged material will be transported via pipeline over the west canal berm into an existing upland settling basin. All work is to be completed in accordance with the attached plans numbered 199301803 (IP-BL) in 4 sheets dated 21 October 1993.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on 21 December 2003. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General

Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall install an additional barrier net at the entrance of the intake canal approximately 500 feet behind the primary net. The mesh size of the barrier net shall not exceed 4.5 inches (bar length, center knot to center knot). The permittee shall have the net periodically monitored by diver(s) or surface personnel to free any turtles which may have entangled themselves. All entanglements shall be immediately reported to National Marine Fisheries Service, Protected Species Management Branch (813-893-3366).

2. A monthly log on entangled turtles retrieved during the dredging operation shall be submitted to the U.S. Army Corps of Engineers, Regulatory Division, Enforcement Branch, P.O. Box 4970, Jacksonville, Florida 32232-0019, U. S. Fish and Wildlife Service, Vero Beach, Florida, and National Marine Fisheries Service, Protected Species Management Branch, St. Petersburg, Florida.

3. The permittee shall have an observer present, during all dredging operations, to ensure that any turtles that manage to

pass through the barrier net are captured and released safely.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

() Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization:

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability: In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this

office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. **Reevaluation of Permit Decision:** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

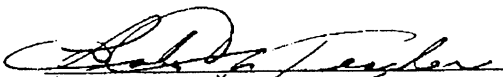
a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision. Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

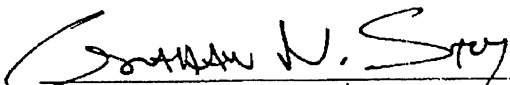
6. **Extensions:** General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.


(PERMITTEE)
ROBERT N. KESSLER

12/27/93
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.


(DISTRICT ENGINEER)
Terrence C. Salt
Colonel, U.S. Army

12/27/93
(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFeree)

(DATE)

(NAME-PRINTED)

(ADDRESS)

(CITY, STATE, AND ZIP CODE)



This notice of authorization must be
conspicuously displayed at the site of work.

United States Army Corps of Engineers

29 December 1993
maintenance dredge the 1,500-meter long Intake Canal at St. Lucie Plant.
Initial work will consist of dredging 180,000 cubic yards of material, the canal
will be periodically dredged to -29.25 feet below sea level

A permit to

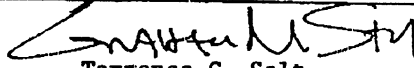
at Section 16, Township 36S, Range 41E, St. Lucie County, FL

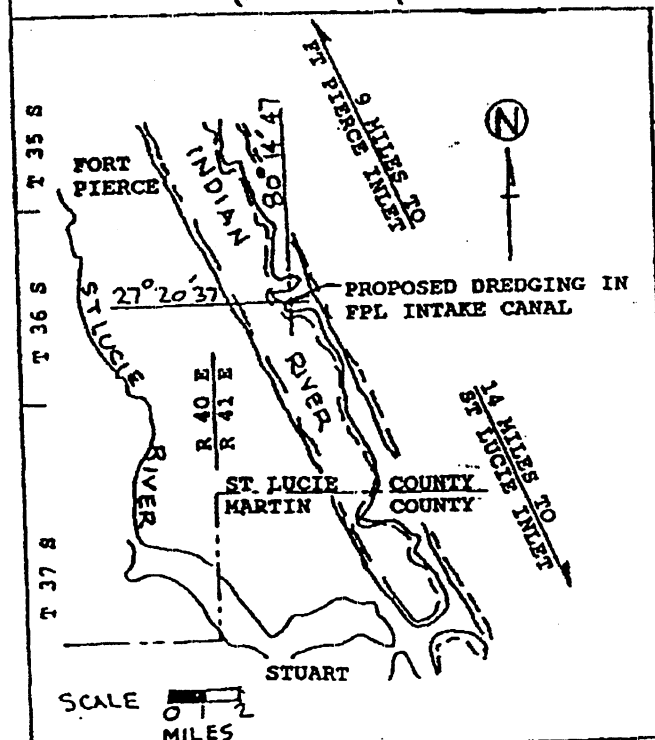
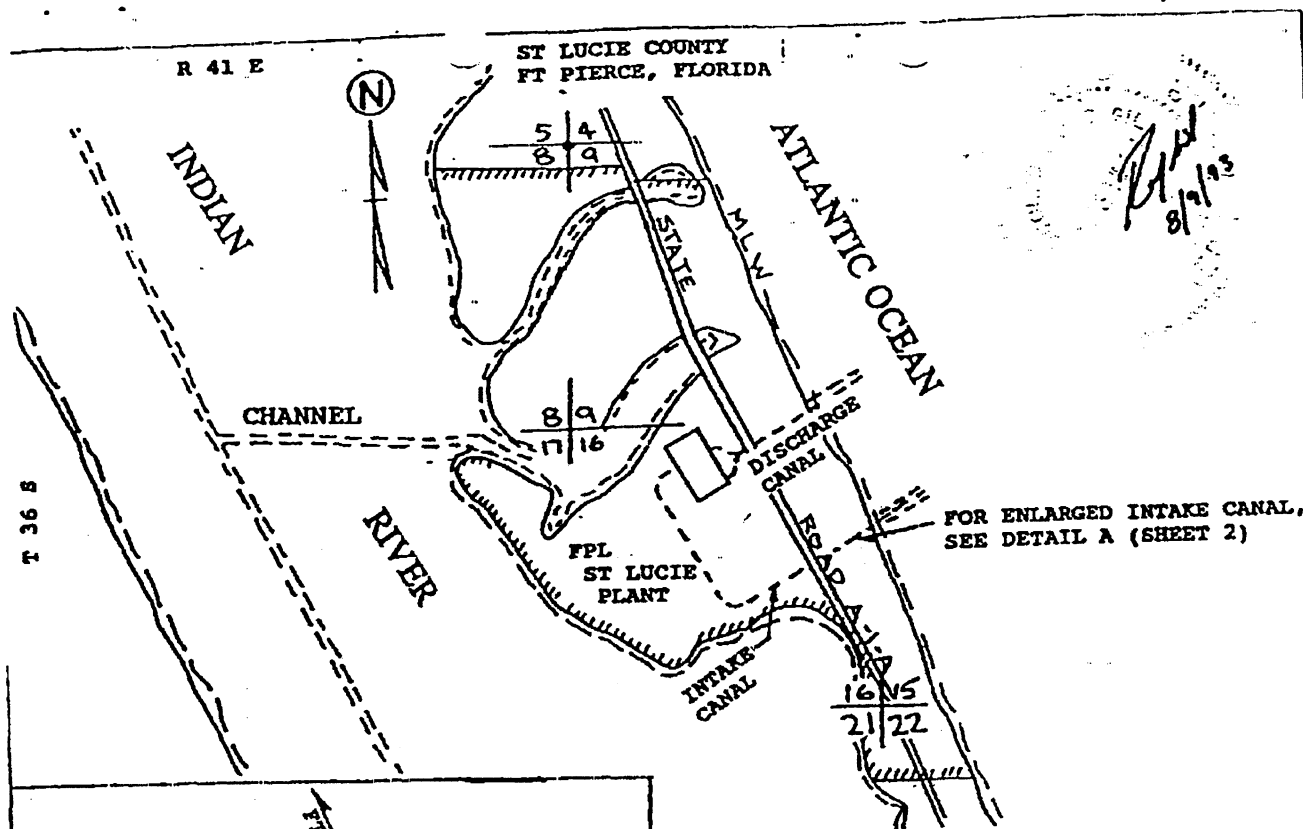
has been issued to Florida Power & Light Co. on 29 Dec. 1993

Address of Permittee Post Office Box 088801, North Palm Beach, FL 33408

Permit Number

199301803 (IP-BL)


Terrence C. Salt
Colonel, U.S. Army
District Commander



PLAN
FROM NAUTICAL CHART B45 SC
INTRACOASTAL WATERWAY

0 1/2 1
SCALE - STATUTE MILE

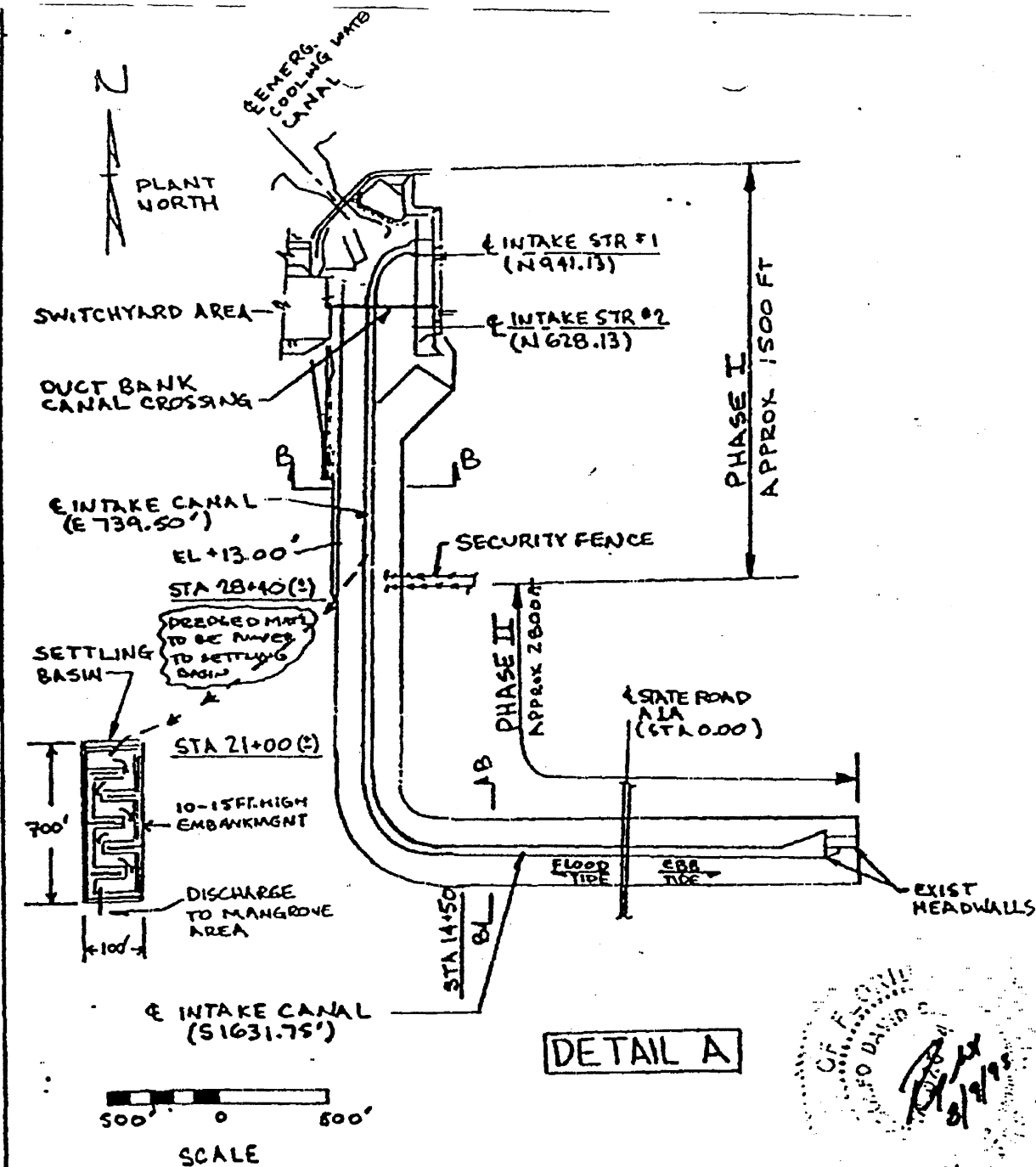
NOTES:

1. ATLANTIC OCEAN 0.00 MLW = -1.85 USC & GS DATUM MSL.
2. ALL MATERIAL EXCAVATED WILL BE DEPOSITED ON APPLICANT'S PROPERTY.
3. DISCHARGING OF WATER WILL BE IN ACCORDANCE WITH THE WATER QUALITY STANDARDS SPECIFIED IN DER 17-3, FLORIDA ADMINISTRATIVE CODE (FAC).

ST. LUCIE POWER PLANT
PROPOSED

INTAKE CANAL DREDGING
COE APPL # 19301803 (IP-BL)
DER APPL #
DATE 21 OCT 93
DRAWING PAGE 2 OF 4

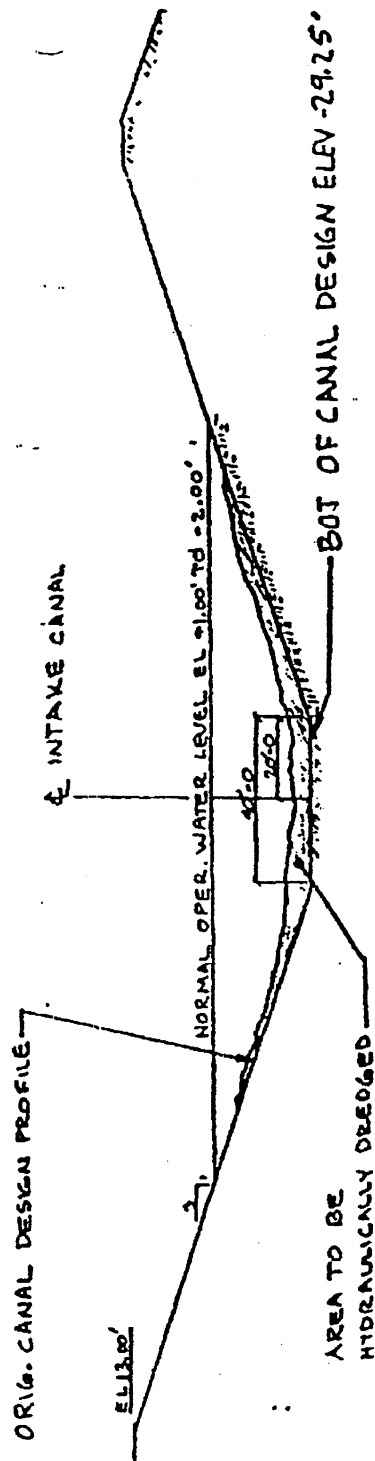
0	ISSUED FOR USE	BY	CH	CORR	APP
DATE	REVISION				



1	12 OCT 93	SETTLING BASIN DIMENSIONS	for			
0		ISSUED FOR USE	of			
NO.	DATE	REVISION	BY	CH	CORR	APP

ST. LUCIE POWER PLANT
PROPOSED
INTAKE CANAL DREDGING
FLORIDA POWER & LIGHT COMPANY

COE APPL # 89301803 (IP-BL) 2
DER APPL #
DATE 21 OCT 93
DRAWING PAGE 3 OF 4



SECTION B-B
TYPICAL CANAL SECTION FOR DREDGING

PL
8/9/93

0		ISSUED FOR USE	dy					FL
NO.	DATE	REVISION	BY	CH	CORR	APP		

ST. LUCIE POWER PLANT
PROPOSED
INTAKE CANAL DREDGING

COE APPL # 89301803(1P-B4) 17
DER APPL #
DATE 21 Oct 93 3
DRAWING PAGE 4 OF 4

APPENDIX 10.1.4.2

USACE PERMIT # SAJ – 1993 - 1803 (IP – TKW) MOD REQ 8/12/2002



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
STUART REGULATORY OFFICE
218 ATLANTA AVENUE
STUART, FLORIDA 34994
June 26, 2003

Regulatory Division
South Permits Branch
199301803 (IP-TKW)

RECEIVED
JUN 30 2003
ENVIRONMENTAL SERVICES

Florida Power & Light
Attention: Mr. Jim Brawner
Post Office Box 14000
Juno Beach, Florida 33408

Gentlemen:

Reference your request received on August 12, 2002, in which you asked to modify Department of the Army permit number 199301803 issued on December 21, 1993 and due to expire on December 21, 2003. The project is located between the Atlantic Ocean and the Indian River Lagoon, Hutchinson Island, Section 16, Township 36 south, Range 41 east, St. Lucie County, Florida.

The original permit authorized maintenance dredging of the intake canal at the St. Lucie Power Plant for a ten-year period. The modification includes extending the permit an additional ten years until December 21, 2013.

The impacts of the modification on the environment have been evaluated and found to be insignificant. The permit is hereby modified in accordance with your request and the following special conditions:

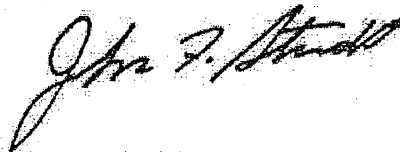
1. The permittee shall adhere to the attached Standard Manatee Construction Conditions, 2 pages, dated June 2001.
2. The permittee shall adhere to the Reasonable and Prudent Measures and Terms and Conditions of the attached National Marine Fisheries Service's Biological Opinion for Continued Operation of the St. Lucie Nuclear Power Plant's Circulating Seawater Cooling System, Jensen Beach, Hutchinson Island, Florida (F/SER/2000/01394) dated May 4, 2001.
3. The permittee shall adhere to the attached Guidelines for Turtle Rescue and Resuscitation.

All other conditions of the permit remain in effect. You should attach this letter and the attached drawings to the permit. If you have any questions regarding this letter,

-2-

please contact Tori White at the letterhead address or by telephone at 772-781-8085.

Sincerely,

A handwritten signature in dark ink, appearing to read "John R. Hall". The signature is fluid and cursive, with the first name "John" being more prominent than the last name "Hall".

for John R. Hall
Chief, Regulatory Division

Copy furnished:
CESAJ-RD-E/Ivette McGraw

STANDARD MANATEE CONSTRUCTION CONDITIONS

June 2001

The permittee shall comply with the following manatee protection construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatee(s).
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972, The Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act.
- c. Siltation barriers shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exist from essential habitat.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- e. If manatee(s) are seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.
- f. Any collision with and/or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-561-562-3909) in south Florida.
- g. Temporary signs concerning manatees shall be posted prior to and during all construction/dredging activities. All signs are to be removed by the permittee upon completion of the project. A sign measuring at least 3 ft. by 4 ft. which reads *Caution: Manatee Area* will be posted in a location prominently visible to water related construction crews. A second sign should be posted if vessels are associated with the construction, and should be placed visible to the vessel operator. The second sign should be at least 8 1/2" by 11" which reads *Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. Any collision with and/or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. The U.S. Fish and Wildlife Service should also be contacted in Jacksonville (1-904-232-2580) for north Florida or In Vero Beach (1-561-562-3909) for south Florida.*

CAUTION

MANATEE HABITAT

IDLE SPEED is required if operating a vessel
in the construction area.

All Equipment must be SHUT DOWN if a manatee
comes within 50 feet of operation.

Any collision with and/or injury to a manatee shall be reported
immediately

to the **FWC** at:

1-888-404-FWCC

(1-888-404-3922)

Endangered Species Act - Section 7 Consultation

Agency: United States Nuclear Regulatory Commission

Activity: Continued Operation of the St. Lucie Nuclear Power Plant's
Circulating Seawater Cooling System, Jensen Beach,
Hutchinson Island, Florida (F/SER/2000/01394)

Consultation Conducted By: National Marine Fisheries Service, Southeast Region

Date Issued: May 4, 2001

Approved By: Joseph E. Powers, Ph.D.
Acting Regional Administrator

This document represents the National Marine Fisheries Service's (NMFS) biological opinion (Opinion) based on our review of the continued operation of the St. Lucie Nuclear Power Plant's circulating seawater cooling system and its effects on loggerhead turtles (*Caretta caretta*), Kemp's ridley turtles (*Leptodochelys kempi*), green turtles (*Chelonia mydas*), leatherback turtles (*Dermochelys coriacea*), and hawksbill turtles (*Eretmochelys imbricata*) in accordance with section 7 of the Endangered Species Act (ESA) of 1973 as amended. The Nuclear Regulatory Commission's (NRC) May 9, 2000, request for formal consultation was received on May 12, 2000.

This Opinion is a reinitiation of consultation which resulted in NMFS' January 1997 Opinion and is based on information provided in the document prepared by the Florida Power and Light Company (FPL) titled "Physical and Ecological Factors Influencing Sea Turtle Entrainment Levels at the St. Lucie Nuclear Power Plant: 1976-1998" and a site visit and meeting held on November 10, 1999, among the plant, NRC, state of Florida, and NMFS personnel. A complete administrative record of this consultation is on file at the NMFS Southeast Regional Office in St. Petersburg, Florida.

Consultation History

In the original evaluation of the environmental impact of St. Lucie Unit 1, sea turtle entrapment and impingement were not evaluated (U.S. Atomic Energy Commission 1974). Nevertheless, sea turtles were entrapped and impinged when St. Lucie Unit 1 began commercial operation in 1977. To facilitate the capture of entrapped turtles and to prevent turtles from moving down the canal system toward the plant, a large mesh barrier net was erected in 1978. A mesh size of 8 in (20.3 cm) by 8 in was chosen to exclude 95% of the turtles based on the size frequency of turtles captured in the canal before March 1978.

system is not likely to jeopardize the continued existence of the endangered green, leatherback, hawksbill, and Kemp's ridley sea turtles, or the threatened loggerhead sea turtle. No critical habitat has been designated for these species in the action area; therefore, none will be affected.

VII. Incidental Take Statement

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are nondiscretionary and must be undertaken by the NRC so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. NRC has a continuing duty to regulate the activity covered by this incidental take statement. If NRC fails to assume and implement the terms and conditions, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, NRC must report the progress of the action and its impact on the species to NMFS as specified in the incidental take statement.

Amount or Extent of Anticipated Take

The lethal take levels below are based on the historical observed lethal takes, but provide for increased total numbers of lethal takings as entrapment levels increase.

Based on stranding records and historical data, five species of sea turtles are known to occur in the action area. Currently available information on the relationship between sea turtle capture and mortality and the St. Lucie Nuclear Power Plant's circulating seawater cooling system indicates that injury and/or death of sea turtles is likely to occur from entrapment in the system's intake canal associated with the proposed action. In recent years turtle entrapment has increased, especially green turtles, and will likely continue to increase, as the green turtle population, and other species' populations, continue to increase and recover. Therefore, pursuant to section 7(b)(4) of the ESA, NMFS anticipates an annual incidental capture of up to 1,000 turtles, in any combination of the five species found in the action area. NMFS anticipates 1% of the total number of green and loggerhead turtles (combined) captured (i.e., if there are 900 total green and loggerhead turtles captured in one year, then 9 turtles in any combination of greens and loggerheads are expected to be injured or killed as a result. In cases where 1% of the total is not a whole number, then the total allowable incidental take due to injury or death will be rounded to the next higher whole number) will be injured or killed each year over the next 10 years as a result of this incidental capture. NMFS also anticipates two Kemp's ridley turtles will be

killed each year and one hawksbill or leatherback turtle will be injured or killed every 2 years for the next 10 years also as a result of this incidental capture. NMFS anticipates that the turtles most likely to be entrapped and taken will be green turtles, followed by loggerhead turtles, and to a much lesser extent, Kemp's ridley, leatherback, and hawksbill sea turtles. If the actual incidental captures, injuries or mortalities meets or exceeds this level, NRC must immediately request reinitiation of formal consultation. NMFS Southeast Region will cooperate with NRC in the review of the incident.

Effect of the Take

NMFS believes that the aforementioned level of anticipated take (lethal, injury or non-lethal) over the next 10 years is not likely to appreciably reduce either the survival or recovery of Kemp's ridley, green, loggerhead, leatherback, and hawksbill sea turtles in the wild by reducing their reproduction, numbers, or distribution. In particular, NMFS determined that it does not expect activities associated with the St. Lucie Nuclear Power Plant's circulating seawater cooling system, when added to ongoing activities affecting these species in the action area and cumulative effects, to affect sea turtles in a way that reduces the number of animals born in a particular year (i.e., a specific age class), the reproductive success of adult sea turtles, or the number of young sea turtles that annually recruit into the adult breeding population.

Reasonable and Prudent Measures

NMFS believes the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of the Kemp's ridley, green, loggerhead, leatherback, and hawksbill sea turtles.

1. FP&L shall have a program in place to monitor, protect, and capture turtles entrapped in the intake canal.
2. FP&L shall report all turtle captures and subsequent mortalities per permit conditions.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, NRC must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting and monitoring requirements. These terms and conditions are nondiscretionary.

- 1) FP&L shall maintain a 5-in bar mesh barrier net across the intake canal, east of the existing 8-in mesh barrier net. The 5-in net must receive regular inspection, maintenance, and repair on at least a quarterly basis. The regular maintenance schedule notwithstanding, any holes or damage to the net that are discovered must be promptly repaired to prevent the passage of turtles through the barrier net.

2) The existing 8-in mesh barrier net must be retained to serve as a backup to the 5-in mesh barrier net, which may be lowered occasionally because of fouling and water flow problems. The 8-in mesh net must receive regular inspection, maintenance, and repair on at least a quarterly basis. The regular maintenance schedule notwithstanding, any holes or damage to the net that are discovered must be promptly repaired to prevent the passage of turtles through the barrier net.

3) FP&L shall continue its current program to capture and release turtles from the intake canals.

a) Turtles that have been flipper tagged by the plant have experienced a 19% loss rate of the tags and some turtles have experienced severe flipper scaring (Gorham *et al.* 1998). Therefore all turtles released shall be PIT tagged. However, in order to continue to gain data on flipper tag loss rates turtles not exhibiting flipper scaring and damage shall also be flipper tagged. The handling and tagging of captured turtles, treatment, and rehabilitation of sick and injured turtles, and disposition of dead turtle carcasses shall be in accordance with permits granted through the state of Florida. FP&L biologists shall immediately (within 30 minutes) notify the Florida STSSN staff of any sick or injured turtle so the turtle can receive proper attention at the earliest possible time. The Florida STSSN beeper number is: 1-800-241-4653, the ID number is: 274-4867.

4) Capture netting in the intake canal shall be conducted with a surface floating tangle net with an unweighted lead line. The net must be closely and thoroughly inspected via boat at least once per hour. Netting shall be conducted whenever sea turtles are present in the intake canal according to the following schedule:

- a) 8 hours per day, 5 days per week, under normal circumstances;
- b) 12 hours per day or during daylight hours, whichever is less, 7 days per week, under any of the following circumstances:
 - i) an adult turtle occurs in the canal during mating or nesting season (March 1 through September 30),
 - ii) an individual turtle has remained in the canal for 7 days or more,
 - iii) a leatherback turtle occurs in the canal,
 - iv) an apparently sick or injured turtle occurs in the canal.

Reasonable deviations from this schedule due to human safety considerations (i.e., severe weather) are expected.

5) If a turtle is observed in the intake canal west of the 8-in barrier net, directed capture efforts shall be undertaken to capture the turtle and to prevent it from entering the intake wells.

6) The gratings at each of the intake wells shall be visually checked for turtles at least eight times each 24-hour period. If a turtle is sighted in an intake well, dip nets, or other non-injurious methods should be used to remove the turtle.

7) FP&L shall continue to participate in the STSSN, under proper permits and authority, in order to assess any possible delayed lethal impacts of capture as well as to provide background data on the mortality sources and health of local sea turtles. As a point of clarification, stranded sea turtles will generally not be counted against the authorized level of lethal incidental take in this incidental take statement, but information from strandings may be the basis for the determination that unanticipated impacts or levels of impacts are occurring.

8) FP&L should continue to conduct, under proper permits and authority, the ongoing sea turtle nesting programs and public service turtle walks.

9) Monthly reports covering sea turtle entrapment, capture efforts, turtle mortalities, available information on barrier net inspections and maintenance shall be furnished to NMFS. In addition, an annual report discussing these same topics and the Taprogge cleaning system operation, and any sponge ball loss at St. Lucie Plant shall be furnished to NMFS. All reports shall be sent to the National Marine Fisheries Service, Southeast Regional Office, Protected Resources Division, 9721 Executive Center Drive North, St. Petersburg, Florida 33702.

NMFS anticipates that no more than 1% of the total number of green and loggerhead turtles and two Kemp's ridleys entrapped in the canal will be taken by injury or mortality annually for each of the next 10 years of the proposed action. NMFS also anticipates that no more than one hawksbill or leatherback turtle entrapped in the canal will be taken by injury or mortality every two years for the next 10 years. These reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. NRC must immediately request initiation of formal consultation, provide an explanation of the causes of the taking, and review with NMFS the need for possible modification of the reasonable and prudent measures.

IX. Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authority to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat to help implement recovery plans or to develop information.

(1) The NRC should promote FP&L's continued research to determine the subsequent dispersal of captured and released turtles through its tagging program and through cooperation with properly permitted scientists.

(2) Current procedures for determining turtle residence times in the intake canal tend to underestimate actual residence times. The NRC should direct FP&L to continue efforts to improve residence time estimates. These efforts may include directed studies of residence time, so long as research permits are obtained from the proper authority.

(3) NRC should encourage FP&L to gain the proper permits to conduct tissue sampling to determine the genetic identity of turtles interacting with the plant's cooling water intake system.

In order for NMFS to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, NMFS requests notification of the implementation of any conservation recommendations.

X. Reinitiation of Consultation

This concludes formal consultation on the actions outlined in NRC's letter dated May 9, 2000. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if (1) the amount or extent of taking specified in the incidental take statement is met or exceeded, (2) new information reveals effects of the action that may affect listed species or critical habitat (when designated) in a manner or to an extent not previously considered, (3) the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion, or (4) a new species is listed or critical habitat designated that may be affected by the identified action. In instances where the amount or extent of incidental take is exceeded, NRC must immediately request reinitiation of formal consultation.

Guidelines for turtle rescue and resuscitation:

UPON FINDING A TURTLE ENTANGLED IN A NET:

1. ASSESS THE SITUATION FROM A DISTANCE
Approaching the turtle will excite it and cause it to use its oxygen supply quicker
2. APPROACH THE TURTLE ONLY WHEN COMPLETELY READY TO REMOVE IT FROM THE NET
Have all gear (net-cutting equipment, camera, etc.) in hand and both rescue personnel ready before approaching the turtle. Gear should be carried by observers at all times to ensure readiness.
3. UNTANGLE/CUT THE NET AROUND THE HEAD AND NECK REGION FIRST, AND GET THE HEAD ABOVE WATER
Netting around the head or neck, even if the head is above water, may constrict the airways. Use caution around the head and particularly beak of the turtle. They can inflict a nasty bite even if seemingly docile at first.
4. REMOVE THE REMAINDER OF THE TURTLE FROM THE NET BY WHATEVER MEANS POSSIBLE, AS QUICKLY AS POSSIBLE
If the turtle has loosely wrapped itself, unwrapping may be possible, but the net may have to be cut. The key is to work quickly. One person should support the turtle's head above water while the other removes the turtle from the net. If a third person is available, they may be useful in relieving tension on the net while the other cuts.
5. PHOTOGRAPH THE TURTLE FOR SPECIES IDENTIFICATION PURPOSES.
A water-resistant camera should be carried by the observers as part of the rescue gear.
6. RELEASE THE TURTLE IF IT IS EXTREMELY ACTIVE, OR BRING IT ASHORE IF IT NEEDS FURTHER CARE.
If there is any doubt as to the health of the turtle (i.e. it is at all slow, lethargic, easy to capture after release), bring it ashore for examination by the veterinarian and/or transport to the rehabilitation center.
7. CALL THE NOTIFICATION NUMBERS PROVIDED TO YOU IMMEDIATELY.

HOLDING A TURTLE FOR EXAMINATION BY THE VET/TRANSPORT TO THE REHABILITATION CENTER

(Please note: the appropriate personnel should have already been notified as per Section 1).

1. IF THE TURTLE IS NOT BREATHING AND/OR APPEARS DEAD, PLACE THE TURTLE ON ITS PLASTRON (BREASTPLATE) AND ELEVATE ITS HINDQUARTERS SEVERAL INCHES FOR ONE TO TWENTY-FOUR HOURS.
Turtles of greater size require greater elevation. This is to drain its lungs of fluid, and has worked to revive turtles caught on fishing vessels.

Application No. 199308013

December 4, 2002

Page 4

2. IF THE TURTLE IS ALIVE, BUT LETHARGIC, IT IS TO BE HELD FOR EXAMINATION BY THE VETERINARIAN OR TRANSPORT TO THE REHABILITATION CENTER.

3. TURTLES BEING HELD NEED TO BE

- KEPT IN A CLIMATE CONTROLLED ENVIRONMENT (approximately 20° C)
- KEPT MOIST, BUT NOT IN WATER (MOIST TOWELS OVER THE CARAPACE)
- KEPT IN PADDED CONTAINERS (PREFERABLY WITHOUT CORNERS)
- KEPT IN A CONTAINER WITHOUT MATERIAL THAT COULD BE ACCIDENTALLY INGESTED

APPENDIX 10.1.4.3

USACE PERMIT # SAJ – 1993 - 1803 (IP – TKW) MOD REQ 10/10/2003



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
PALM BEACH GARDENS REGULATORY OFFICE
4400 PGA BOULEVARD, SUITE 500
PALM BEACH GARDENS, FLORIDA 33410

October 28, 2003

Regulatory Division
South Permits Section
199301803(IP-TKW)
Modification

Florida Power & Light Company
Attention: Jim Brawner
Post Office Box 088801
North Palm Beach, Florida 33408-8801

Gentlemen:

Reference your letter dated October 10, 2003, in which you asked to modify Department of the Army permit number 199301803(IP-TKW) originally issued on December 21, 1993, and reissued on June 26, 2003. The project is located between the Atlantic Ocean and the Indian River Lagoon, Hutchinson Island, Section 16, Township 36 south, Range 41 east, St. Lucie County Florida.

The original permit authorized maintenance dredging of the intake canal at the St. Lucie Power Plant for a ten-year period through December 21, 2013. The modification includes repairing a Y diffuser outfall located at the above facility.

The impacts of the modification on the environment have been evaluated and found to be insignificant. The permit is hereby modified in accordance with your request, the attached drawings numbered 199404754(IP-TKW) in 20 sheets dated 5 May 2003, and the following special conditions.

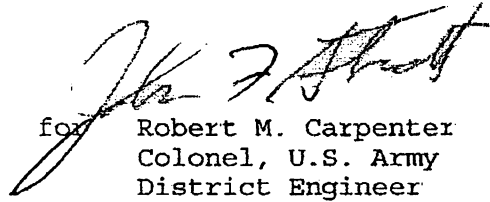
1. No anchoring is permitted on any submerged aquatic vegetation, hard bottom, or any other aquatic resource.
2. All construction activities are limited to the original footprint of the previously permitted project.

All other conditions of the permit and subsequent permit reissuance remain in effect. You should attach this letter to the permit. If you have any questions regarding this letter,

-2-

please contact Tori White at the letterhead address or by telephone at 561-472-3517.

Sincerely,


for Robert M. Carpenter
Colonel, U.S. Army
District Engineer

Enclosures

Copy furnished:
CESAJ-RD-PE/Lisa Abernathy
DEP, West Palm Beach

FLORIDA POWER & LIGHT ST. LUCIE POWER PLANT DIFFUSER SCOUR PROTECTION

MAT AREA
6,450± (S.F.)

PREVIOUS AND PRESENT
PROJECT AREA 9,300 (S.F.)

PREVIOUS AND PRESENT
PROJECT BOUNDARY

CONCRETE-FILLED
GEOTEXTILE BAG

EXISTING CONCRETE APRON

TREMIE CONCRETE

EXISTING SHEET PILING

EXISTING 12" SUBAQUEOUS
DISCHARGE PIPE



FPL

ENGINEER'S SEAL



SITE PLAN

GROUT SEAM
(SEE DETAIL SHEET 6 OF 7)

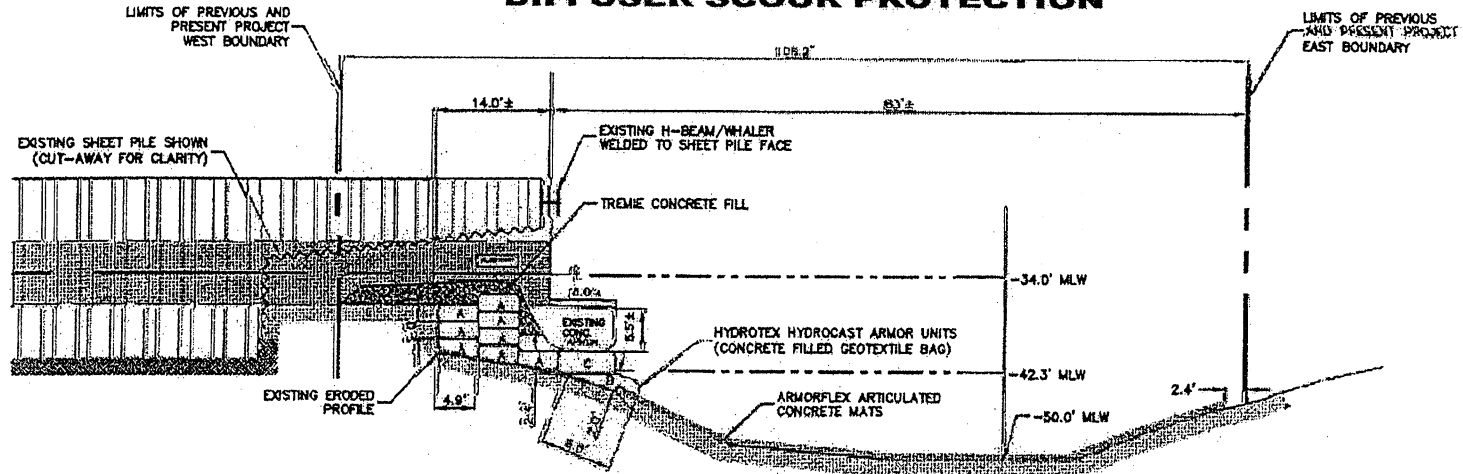
- CONCRETE FILLED GEOTEXTILE BAG

FIGURE 1

URS
FLORIDA CERTIFICATION NO. 12

7800 CINCINNATI AVENUE, SUITE 200
BOCA RATON, FLORIDA 33437
PHONE (305) 994-5000
FAX (305) 994-5004

FLORIDA POWER & LIGHT ST. LUCIE POWER PLANT DIFFUSER SCOUR PROTECTION



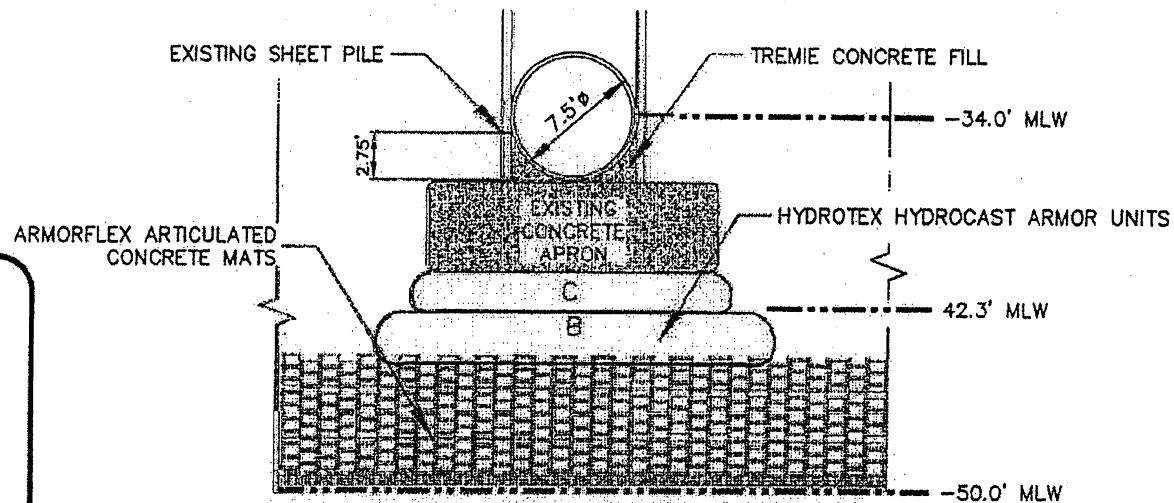
**7.5' DISCHARGE NE-SW DIFFUSER PROFILE VIEW
SECTION A-A**

HORZ. SCALE: 1" = 20'
VERT. SCALE: AS SHOWN



FPL

ENGINEER'S SEAL



**7.5' DISCHARGE NE-SW DIFFUSER SECTION VIEW
SECTION B-B**

HORZ. SCALE: 1" = 10'
VERT. SCALE: AS SHOWN

FIGURE 2

URS
FLORIDA REGISTRATION NO. 1283

1900 GUNNING AVENUE, SUITE 400
BOCA RATON, FLORIDA 33437
PHONE: (561) 994-0900
FAX: (561) 994-0904

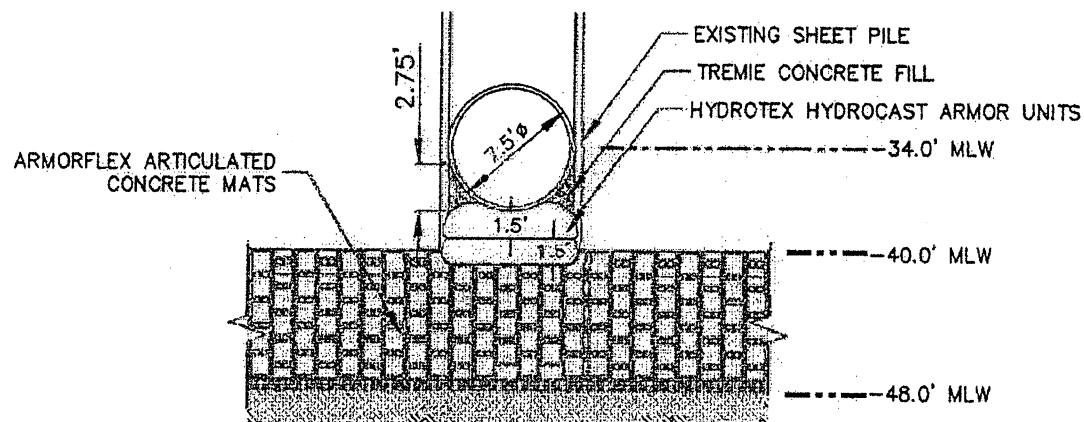
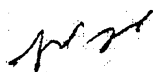
Plan view of armorflex installation. The diagram shows a cross-section of the armorflex system. Key components and labels include:

- HYDROTEX HYDROCAST ARMOR UNITS (CONCRETE FILLED GEOTEXTILE BAG)**: Located at the top of the armorflex system.
- ARMORFLEX ARTICULATED CONCRETE MATS**: Located below the hydrocast armor units.
- ARMORFLEX HYDROCAST ARMOR UNITS**: Located at the bottom of the armorflex system.
- EXISTING SHEET PILE SHOWN (OUT-TO-CLARITY)**: Indicated on the left side of the diagram.
- LIMITS OF PREVIOUS AND PRESENT PROJECT WEST BOUNDARY**: Indicated on the left side of the diagram.
- LIMITS OF PREVIOUS AND PRESENT PROJECT EAST BOUNDARY**: Indicated on the right side of the diagram.
- Dimensions**:
 - Overall width: 100.0'
 - Width of armorflex units: 50.0'
 - Width of armorflex articulated concrete mats: 50.0'
 - Width of armorflex hydrocast armor units: 50.0'
 - Width of armorflex units (concrete filled geotextile bag): 50.0'
 - Width of armorflex articulated concrete mats: 50.0'
 - Width of armorflex hydrocast armor units: 50.0'

HORZ. SCALE: 1" = 20'
VERT. SCALE: AS SHOWN



ENGINEER'S SEAL



HORZ. SCALE: 1" = 10'
VERT. SCALE: AS SHOWN

FIGURE 3



WAGS CORPORAION AVENUE, SUITE 801
BOCA RATON, FLORIDA 33434
FRENCH (904) 864-8800
FAX (904) 864-8800

APPENDIX 10.1.4.4

USACE PERMIT # SAJ – 1993 - 01803 MOD REQ 12/22/2004



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA Boulevard, Suite 500
Palm Beach Gardens, Florida 33410

February 21, 2005

ENVIRONMENTAL SERVICES

MAR 03 2005

RECEIVED

Palm Beach Gardens Regulatory Office
SAJ-1993-1803
Modification

Florida Power & Light
Attention: Mr. Jim Brawner
Post Office Box 14000
Juno Beach, Florida 33408

Gentlemen:

Reference your request received on December 22, 2004, in which you asked to modify Department of the Army permit number 199301803 originally issued on December 21, 1993 and due to expire on December 21, 2013. The project is located at the St. Lucie Power Plant between the Atlantic Ocean and the Indian River Lagoon, Hutchinson Island, Section 16, Township 36 south, Range 41 east, St. Lucie County, Florida.

The original permit authorized maintenance dredging of the intake canal at the St. Lucie Power Plant for a ten-year period. A subsequent modification issued on June 26, 2003, extended the permit an additional ten years until December 21, 2013. The proposed modification includes maintenance dredging the discharge canal and the intake canal east of the existing turtle nets and repairing the intake canal bank east all the way to the head wall area. The purpose of the modification is to restore the project site to pre-hurricane contours and elevations.

The impacts of the modification on the environment have been evaluated and found to be insignificant. The permit is hereby modified in accordance with your request and the following special conditions:

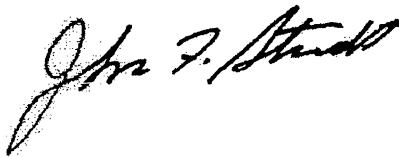
1. The permittee shall modify the dredge cutterhead to protect sea turtles while performing all maintenance dredging east of the 5-inch mesh turtle barrier in the intake canal. Specifically, the permittee shall cage the cutterhead by welding rebar over the head to prevent any object larger than six inches

wide from entering the suction pipe. The cutterhead will be slowly lowered into the water, and cutterhead rotation and suction will not be turned on until the dredge head is in the sediment, and then it will be turned on at idle speed.

2. A permitted sea turtle biologist shall be present during all dredging east of the 5-inch mesh barrier net in order to serve as a lookout and ensure that the procedures in special condition number 1 above are followed.

All other conditions of the permit and subsequent modification including the reasonable and prudent measures and terms and conditions of the Biological Opinion dated May 4, 2001, and referenced in June 26, 2003, modification remain in effect. You should attach this letter to the permit. If you have any questions regarding this letter, please contact Tori White at the letterhead address, by telephone at 561-472-3517, or by email at tori.white@saj02.usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "Marie G. Burns", with a stylized flourish at the end.

for Marie G. Burns
Chief, Regulatory Division

Copy furnished:
CESAJ-RD-PE/Dianne Griffin

APPENDIX 10.1.4.5

USACE PERMIT # SAJ – 1993 – 1803 (IP – BL) MOD REQ 1/11/2007



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA Boulevard, Suite 500
Palm Beach Gardens, FL 33410

APR 06 2007

RECEIVED

APR 09 2007

ENVIRONMENTAL SERVICES

Palm Beach Gardens Regulatory Office
SAJ-1993-1803 (MOD-MAM)
Modification-4

Florida Power & Light Company
c/o. Jim Brawner
P.O. Box 14000
Juno Beach, Florida 33408

Dear Mr. Brawner:

The U.S. Army Corps of Engineers has completed the review and evaluation of your modification request received on January 11, 2007 in which you asked to revise the plans authorized by Department of the Army permit number SAJ-1993-1803(IP-BL), for maintenance dredging of the intake canal dated December 21, 1993, which expires on December 21, 2013. The project is located at the St. Lucie Power Plant's intake canal between the Atlantic Ocean and the Indian River Lagoon, in Hutchinson Island, Section 16, Township 36 south, Range 41 east, St. Lucie County, Florida.

The proposed modification is to construct a 2,646 square foot temporary wood crane pad at the intake canal in order to perform maintenance inspections of the Ocean Cooling Water System Intake Piping. The work will require the installation of 123 linear feet of sheet pile from the headwall to the canal bank, and the fill of 100 cubic yards of clean gravel. The work area shall be restored to the previously authorized contours and elevations (-29.25 N.G.V.D), after completion of the maintenance inspection activities. The modification must be completed in accordance with the enclosed construction drawings, and the special conditions, which are incorporated in, and made a part of the permit.

Special Conditions:

1. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date.

2. A floating turbidity curtain shall be installed around the waterward portion of the project site prior to construction and shall remain in place until construction is complete and turbidity within the work area has returned to background levels.
3. The end of the intake canal shall be protected by a net with 5-inch by 5-inch diamond pattern openings so sea turtles, smalltooth sawfish, and manatees cannot enter the intake pipes during construction.
4. The work area shall be restored to the previously authorized contours and elevations (-29.25 N.G.V.D), after completion of the maintenance inspection activities.
5. The permittee shall adhere to the attached standard manatee construction conditions.
6. The permittee shall adhere to the attached sea turtle and smalltooth sawfish construction conditions.
7. This verification does not authorize the placement of fill or any construction in mangroves, emergent wetlands, seagrass beds, or any other special aquatic sites.

The impact of your proposal on navigation and the environment have been reviewed and found to be insignificant. The permit is hereby modified in accordance with your request. You should attach this letter to the permit. All other conditions of the permit remain in full force and effect.

If you have any questions concerning permit modification, please contact the project manager Miguel Mozdzen (561) 472-3530 or by electronic mail at Miguel.A.Mozdzen@saj02.usace.army.mil.

Thank you for your cooperation with our permit program.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:


for Paul L. Grosskruger
Colonel, U.S. Army
District Engineer

Enclosure

Copies Furnished:
CESAJ-RD-PE



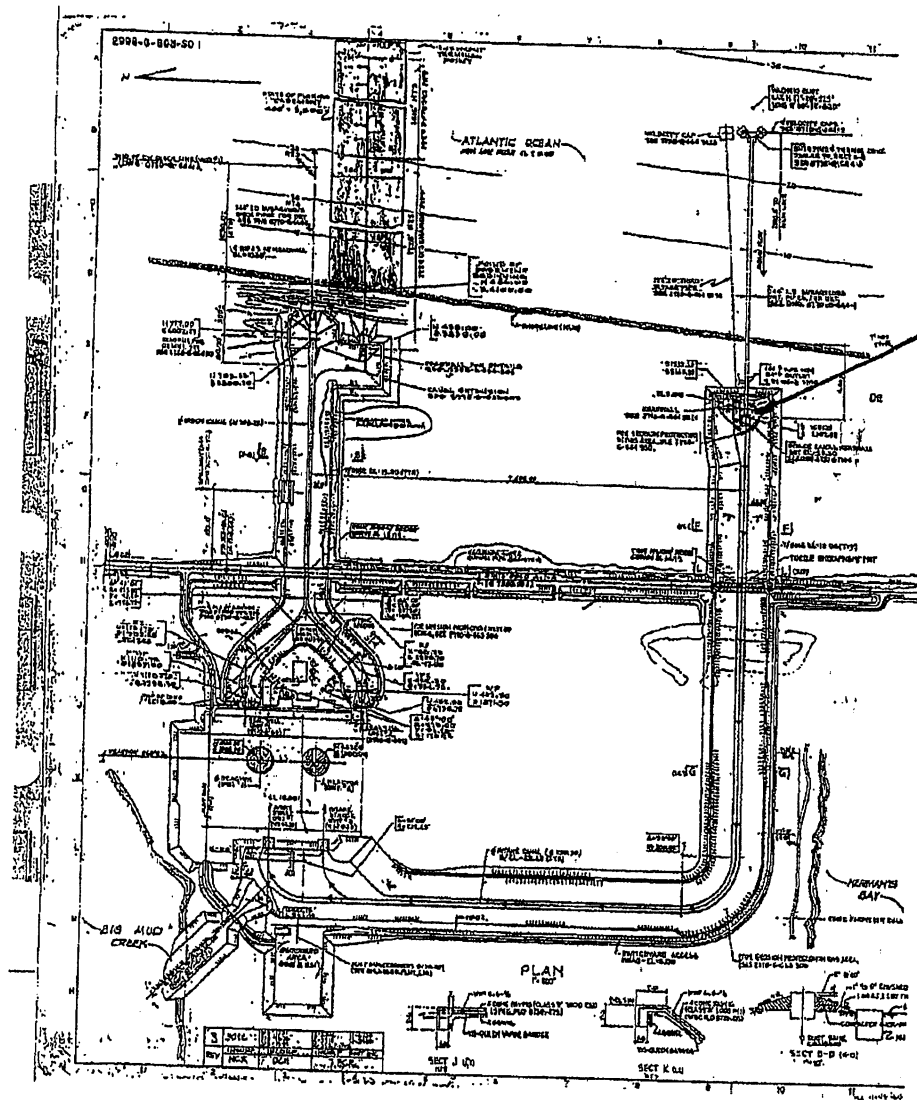
COE APPL # SAJ-1923-1803(mod-man).

DEP / SFWMD # _____

DATE 4/4/2007

DRAWING PAGE 1 OF 4

PROJECT
LOCATION



St. Lucie Nuclear Plant will be performing an inspection of the Ocean Cooling Water System Intake piping. A crane pad is required to be erected adjacent to the headwall to allow access for a crane to support the inspection.

The crane pad consists of the installation of sheet pile from the headwall to the canal bank. A clean gravel will be used to fill the area contained by the sheet pile.

An anchor block with ty-rods will also be installed to reinforce the intake piping headwall as part of the crane pad installation.

COE APPL # SAJ-1993-1803 (MOD-MAN)

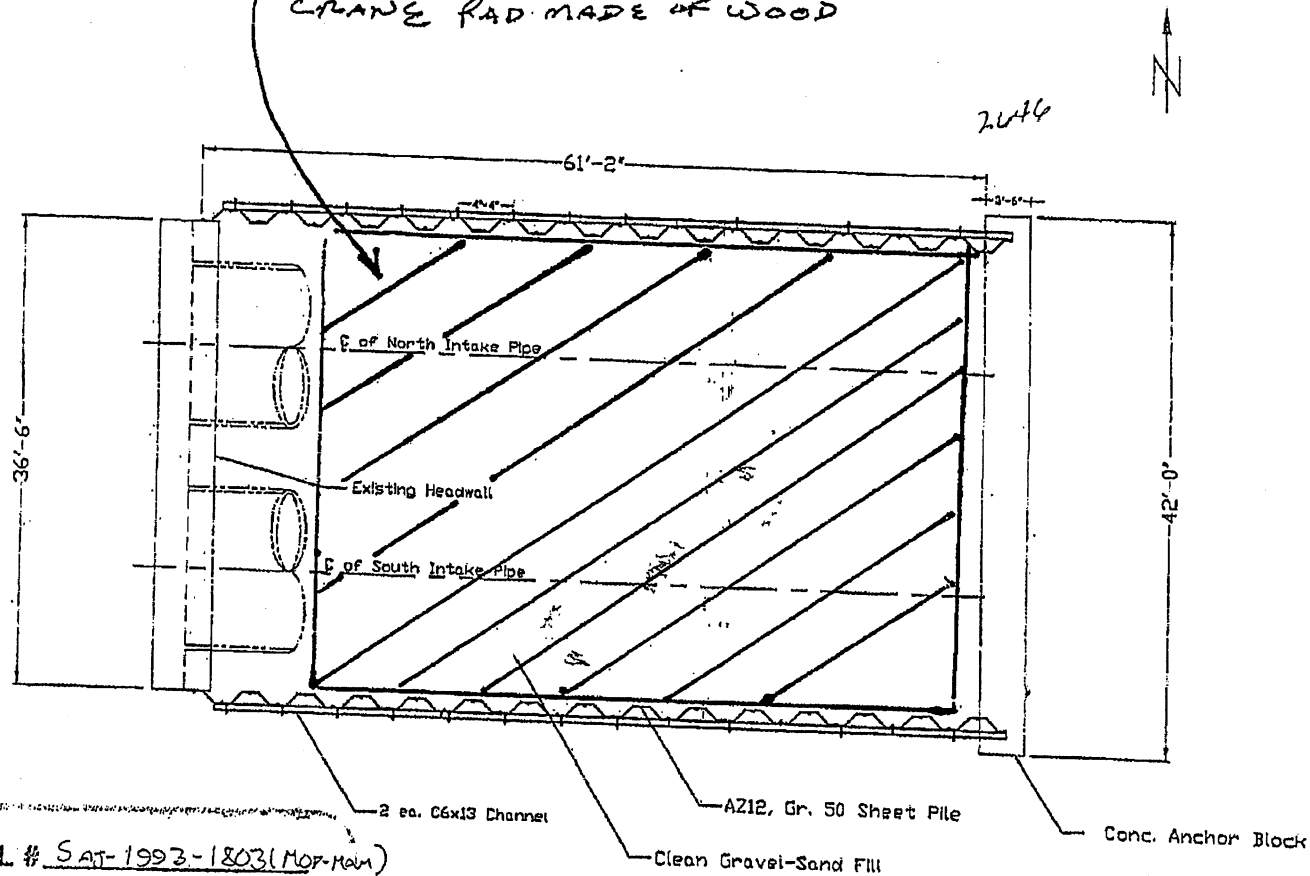
DEP / SFWMD #

DATE 4/14/2007

DRAWING PAGE 2 OF 4

St. Lucie Cooling Water System
Inspection and Maintenance Project
Crane Pad

HATCHED AREA IS CRANE PAD AREA
CRANE PAD MADE OF WOOD



COE APPL # SAT-1993-1803 (MOP-MAN)

DEP / SFWMD #

DATE 4/4/07

DRAWING PAGE 4 OF 4

PLAN VIEW

St. Lucie Cooling Water System
Inspection and Maintenance Project
Crane Pad

STANDARD MANATEE CONSTRUCTION CONDITIONS

June 2005

The Permittee shall comply with the following conditions intended to protect manatees from direct project effects:

a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The Permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.

b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

c. Siltation or turbidity barriers shall be made of material in which manatees can not become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.

d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.

e. Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-561-562-3909) for south Florida.

f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the Permittee upon completion of the project. Awareness signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used. One sign measuring at least 3 ft. by 4 ft., which reads *Caution: Manatee Area* must be posted. A second sign measuring at least 8 1/2" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities.

CAUTION

MANATEE HABITAT

IDLE SPEED is required if operating a vessel
in the construction area.

All Equipment must be SHUT DOWN if a manatee
comes within 50 feet of operation.

Any collision with and/or injury to a manatee shall be reported immediately
to the **FWC** at:

1-888-404-FWCC
(1-888-404-3922)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

- a The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006

O:\forms\Sea Turtle and Smalltooth Sawfish Construction Conditions.doc



APPENDIX 10.1.4.6

USACE PERMIT # SAJ – 1993 – 1803 (IP – BL) MOD REQ 8/20/2007



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
4400 PGA Boulevard, Suite 500
Palm Beach Gardens, FL 33410

NOV 08 2007

Palm Beach Gardens Regulatory Office
SAJ-1993-1803 (MOD-EGR)
Modification #5

Florida Power and Light Company
Environmental Services Department
c/o Jim Brawner
P.O. Box 14000
Juno Beach, FL 33408

Dear Mr. Brawner:

The U.S. Army Corps of Engineers has completed the review and evaluation of your modification request received August 20, 2007, in which you asked to revise the plans authorized by Department of the Army permit number SAJ-1993-1803 (IP-BL), for maintenance dredging an intake canal at the St. Lucie Power Plant, issued on December 21, 1993, and four subsequent modifications to extend the permit until December 21, 2013 (issued on June 26, 2003), repair a Y-diffuser outfall (issued on October 28, 2003), maintenance dredge the discharge canal and the intake canal east of the existing turtle nets and repair the intake canal bank east all the way east to the head wall area (issued on February 21, 2005), and construct a temporary crane pad (issued April 6, 2007). The project is located between the Atlantic Ocean and the Indian River at the St. Lucie Power Plant on Hutchinson Island (Section 16, Township 36 South, Range 41 East), in St. Lucie County, Florida.

The proposed modification is to repair approximately 10,100 linear feet of the intake and discharge canal banks by installing a 120 foot-wide Articulating Concrete Block (ACB) revetment consisting of approximately 27,000 cubic yards of clean fill within a 1,540,000 square foot area. Approximately 1,100,000 square feet of the ACB revetment will be placed below the Mean High Water Line. The modification must be completed in accordance with the thirteen enclosed construction drawings and the four special conditions, which are incorporated in, and made a part of the permit.

Special Conditions:

- 1) The Permittee shall comply with the attached "Standard Manatee Conditions for In-Water Work - July 2005" and the "Sea Turtle and Smalltooth Sawfish Construction Conditions".
- 2) Prior to the initiation of any of the work authorized by this permit the Permittee shall install floating turbidity barriers with weighted skirts that extend to within 1 foot of the bottom around all in-water work areas. The turbidity barriers shall remain in place and be maintained until the authorized work has been completed and all erodible materials have been stabilized.
- 3) Prior to the initiation of any work authorized by this permit, the Permittee shall install erosion control measures along the perimeter of all work areas to prevent the displacement of fill material. Immediately after completion of the final grading of the land surface, all slopes, land surfaces, and filled areas adjacent to the canals shall be stabilized using sod, degradable mats, or a combination of similar stabilizing materials to prevent erosion. The erosion control measures shall remain in place and be maintained until all authorized work has been completed and the site has been stabilized.
- 4) The Permittee shall use only clean fill material for this project. The fill material shall be free from items such as trash, debris, automotive parts, asphalt, construction materials, concrete block with exposed reinforcement bars, and soils contaminated with any toxic substance, in toxic amounts in accordance with Section 307 of the Clean Water Act.

The impact of your proposal on navigation and the environment have been reviewed and found to be insignificant. The permit is hereby modified in accordance with your request. You should attach this letter to the permit. All other conditions of the permit and previous modifications, including the reasonable and prudent measures and terms and conditions of the National Marine Fisheries Service's Biological Opinion for Continued Operation of the St. Lucie Power Plant's Circulating Seawater Cooling System dated May 4, 2001, remain in full force and effect.

Should you have any questions regarding this letter, please contact Eric Reusch by phone at 561-472-3529, by email at Eric.G.Reusch@usace.army.mil, or in writing at the letter head address.

Thank you for your cooperation with our permit program. The Corps Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to take a few minutes to visit the following link and complete our automated Customer Service Survey:http://www.saj.usace.army.mil/permit/forms/customer_service.htm. Your input is appreciated - favorable or otherwise.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

Sincerely,


Myrna Lopez
Section Chief

Enclosures

Copy Furnished:

CESAJ-RD-PE

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

July 2005

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-561-562-3909) for south Florida.
- f Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Awareness signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used. One sign measuring at least 3 ft. by 4 ft. which reads *Caution: Manatee Area* must be posted. A second sign measuring at least 8 1/2" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities.

FWC Approved Manatee Educational Sign Suppliers

ASAP Signs & Designs

624-B Pinellas Street
Clearwater, FL 33756
Phone: (727) 443-4878
Fax: (727) 442-7573

Wilderness Graphics, Inc.

P O Box 1635
Tallahassee, FL 32302
Phone: (850) 224-6414
Fax: (850) 561-3943
www.wildernessgraphics.com

Cape Coral Signs & Designs

1311 Del Prado Boulevard
Cape Coral, FL 33990
Phone: (239) 772-9992
Fax: (239) 772-3848

Municipal Supply & Sign Co.

1095 Fifth Avenue, North
P O Box 1765
Naples, FL 33939-1765
Phone: (800) 329-5366 or
(239) 262-4639
Fax: (239) 262-4645
www.municipalsigns.com

Vital Signs

104615 Overseas Highway
Key Largo, FL 33037
Phone: (305) 451-5133
Fax: (305) 451-5163

Universal Signs & Accessories

2912 Orange Avenue
Ft Pierce, FL 34947
Phone: (800) 432-0331 or
(772) 461-0665
Fax: (772) 461-0669

New City Signs

1829 28th Street North
St. Petersburg, FL 33713
Phone: (727) 323-7897
Fax: (727) 323-1897

**United Rentals Highway
Technologies**

309 Angle Road
Ft. Pierce, FL 34947
Phone: (772) 489-8772
or (800) 489-8758 (FL only)
Fax: (772) 489-8757

CAUTION: MANATEE HABITAT

All project vessels
IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must
SHUT DOWN

Report any collision or injury to:
1-888-404-FWCC (1-888-404-3922)

Florida Fish and Wildlife Conservation Commission



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation

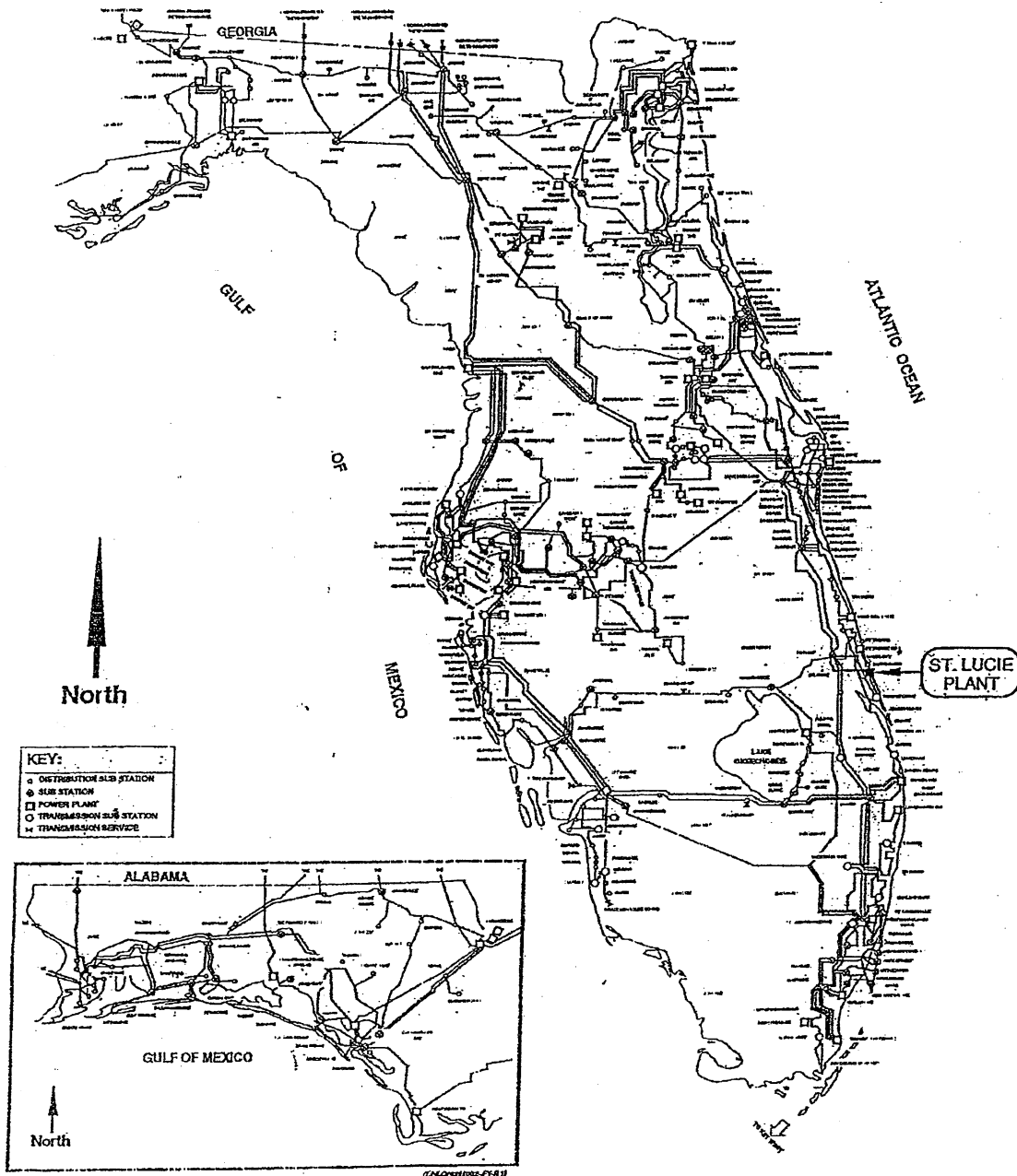
Revised: March 23, 2006

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ST. LUCIE PLANT LOCATION MAP

FIG 1



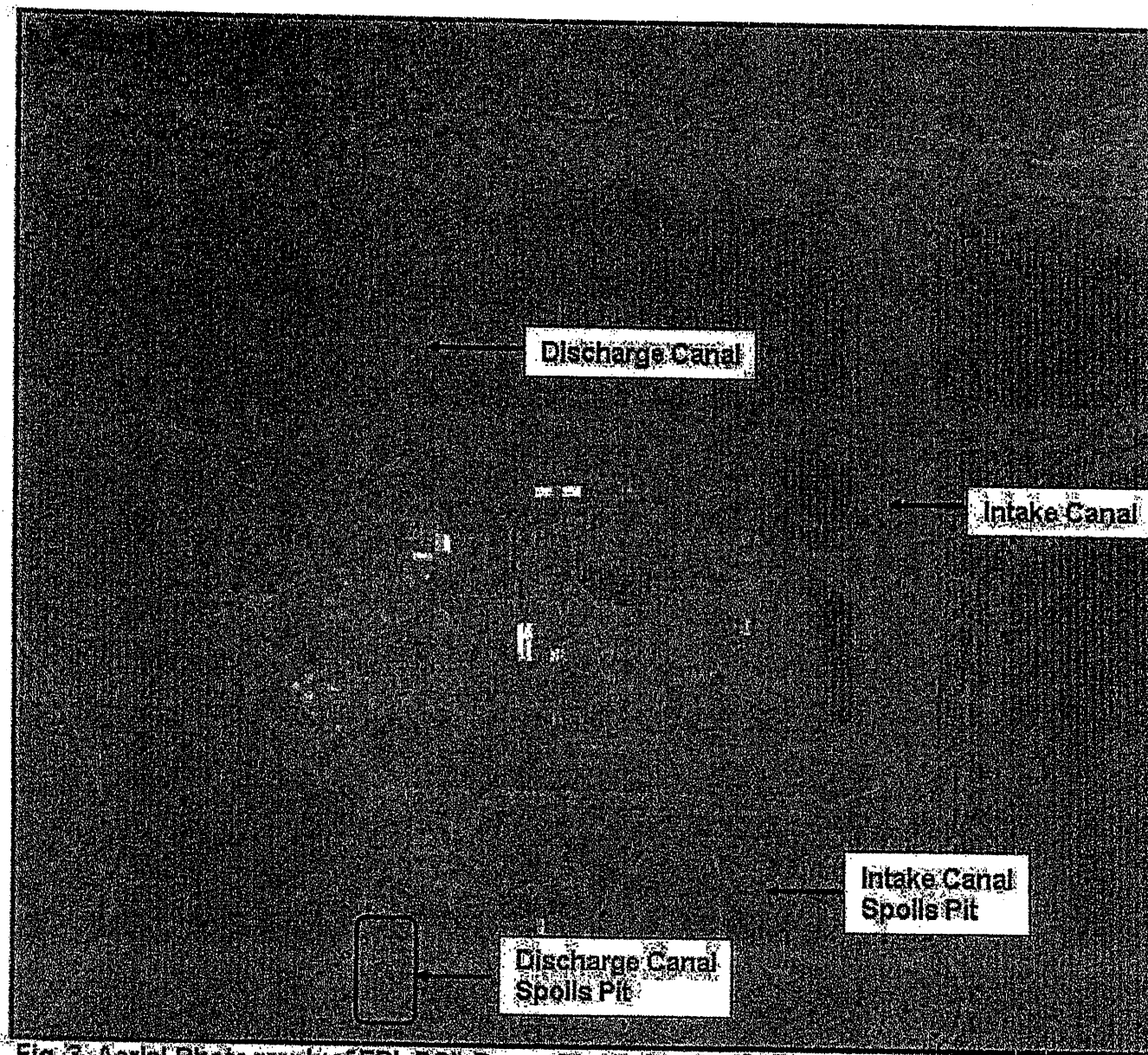


Fig. 3. Aerial Photograph of FPL PSL Power Plant with Annotation

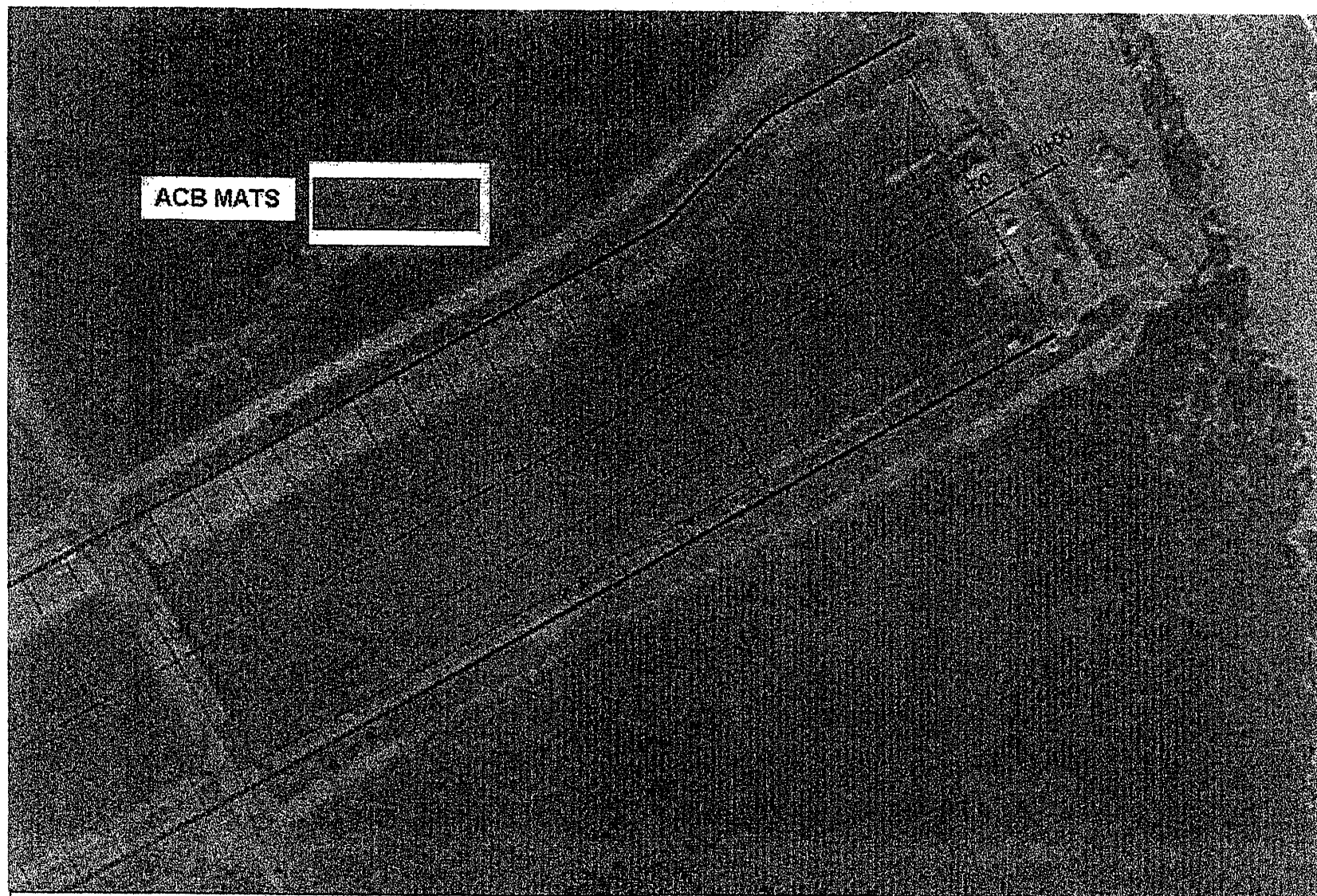


Fig. 13 Plan View of Intake Canal – East of A1A Bridge

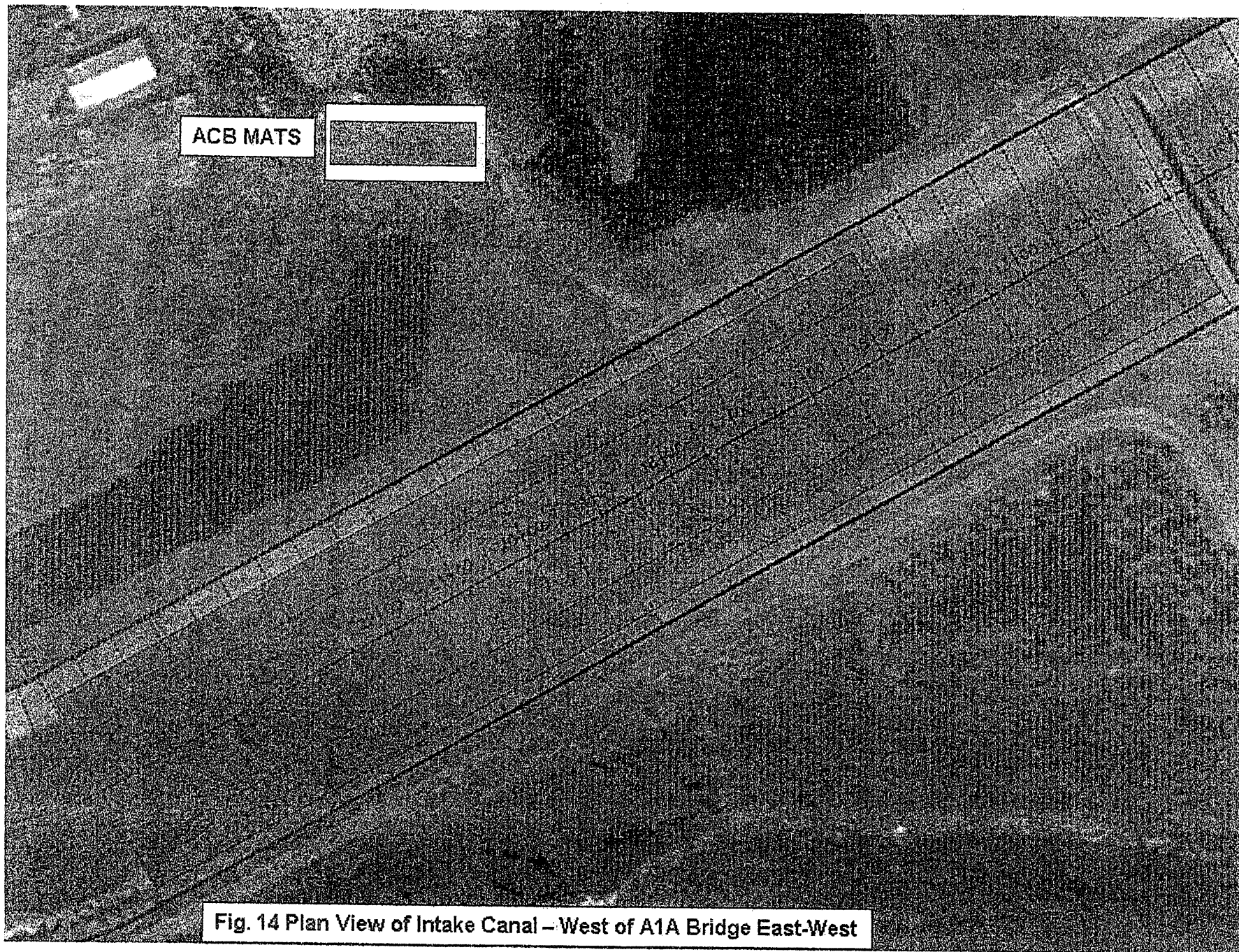


Fig. 14 Plan View of Intake Canal – West of A1A Bridge East-West

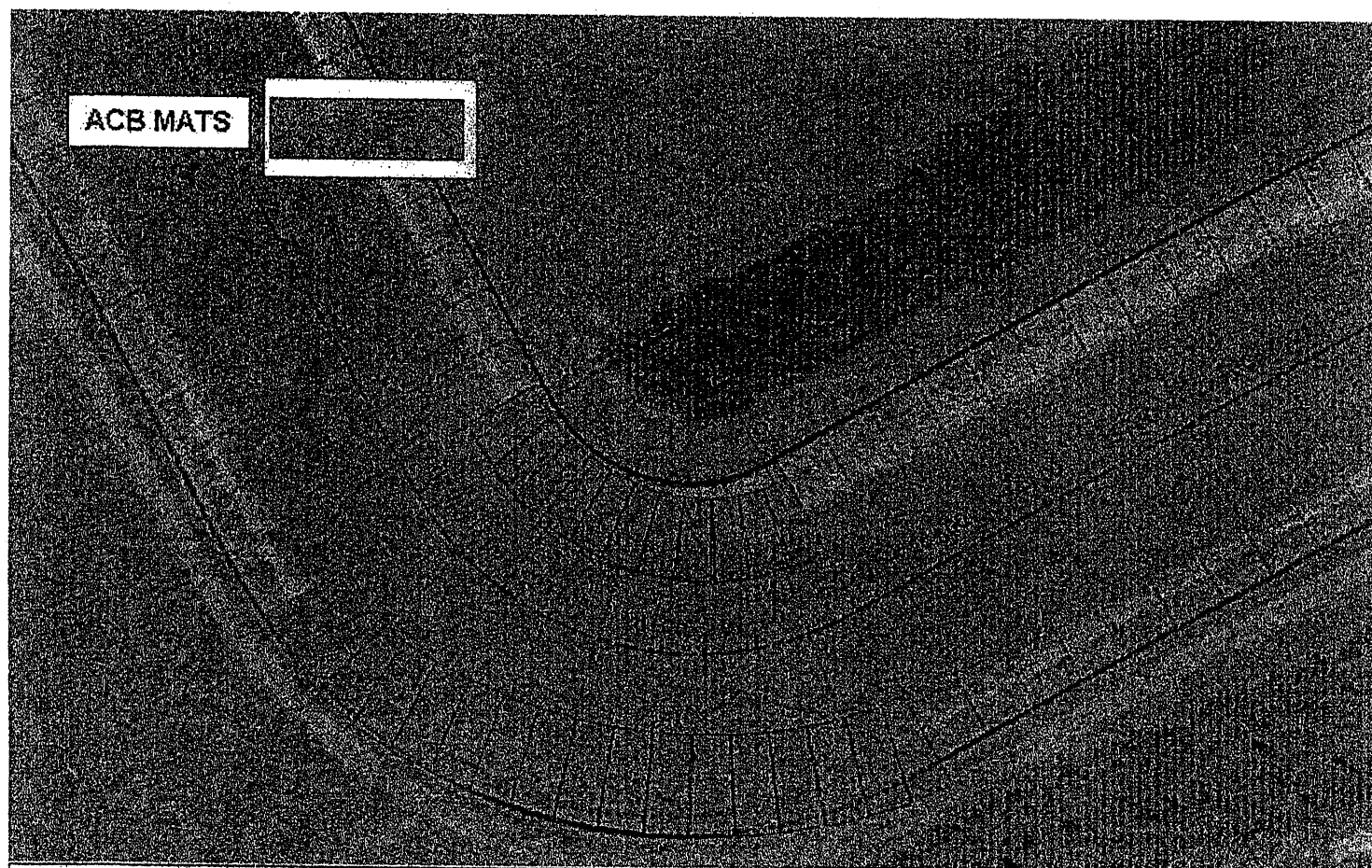


Fig. 15 Plan View of Intake Canal – Big Bend

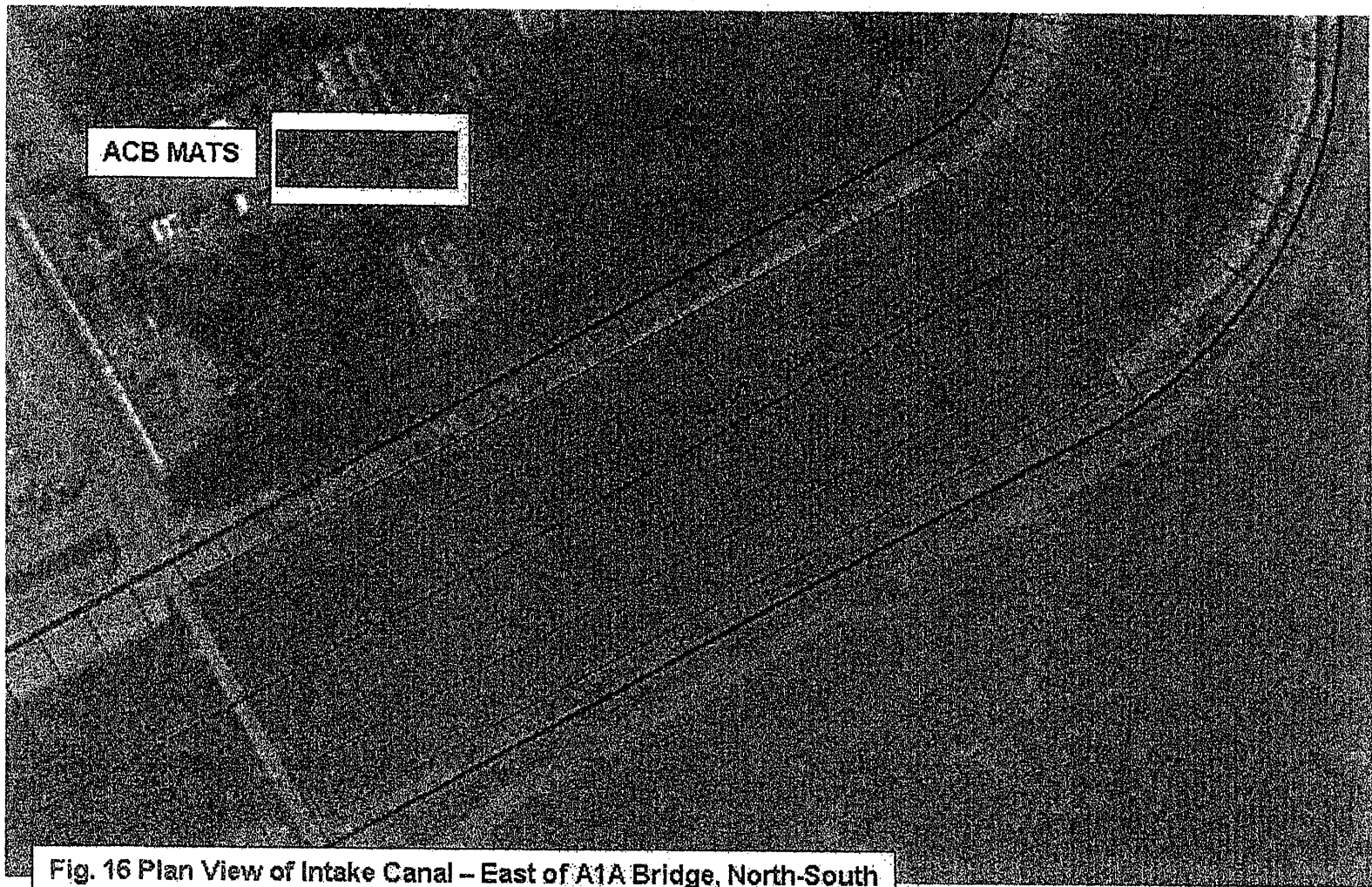


Fig. 16 Plan View of Intake Canal – East of A1A Bridge, North-South

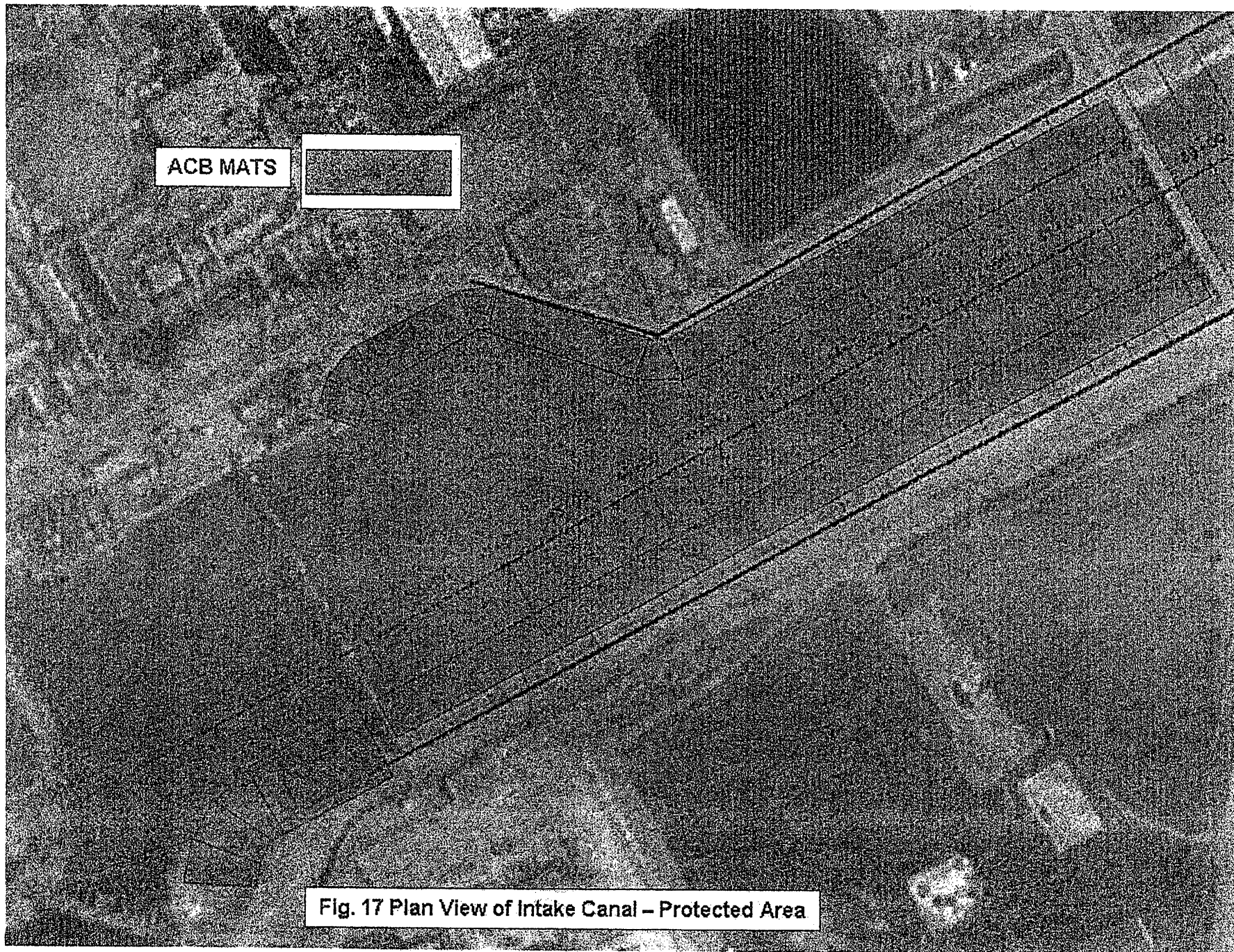
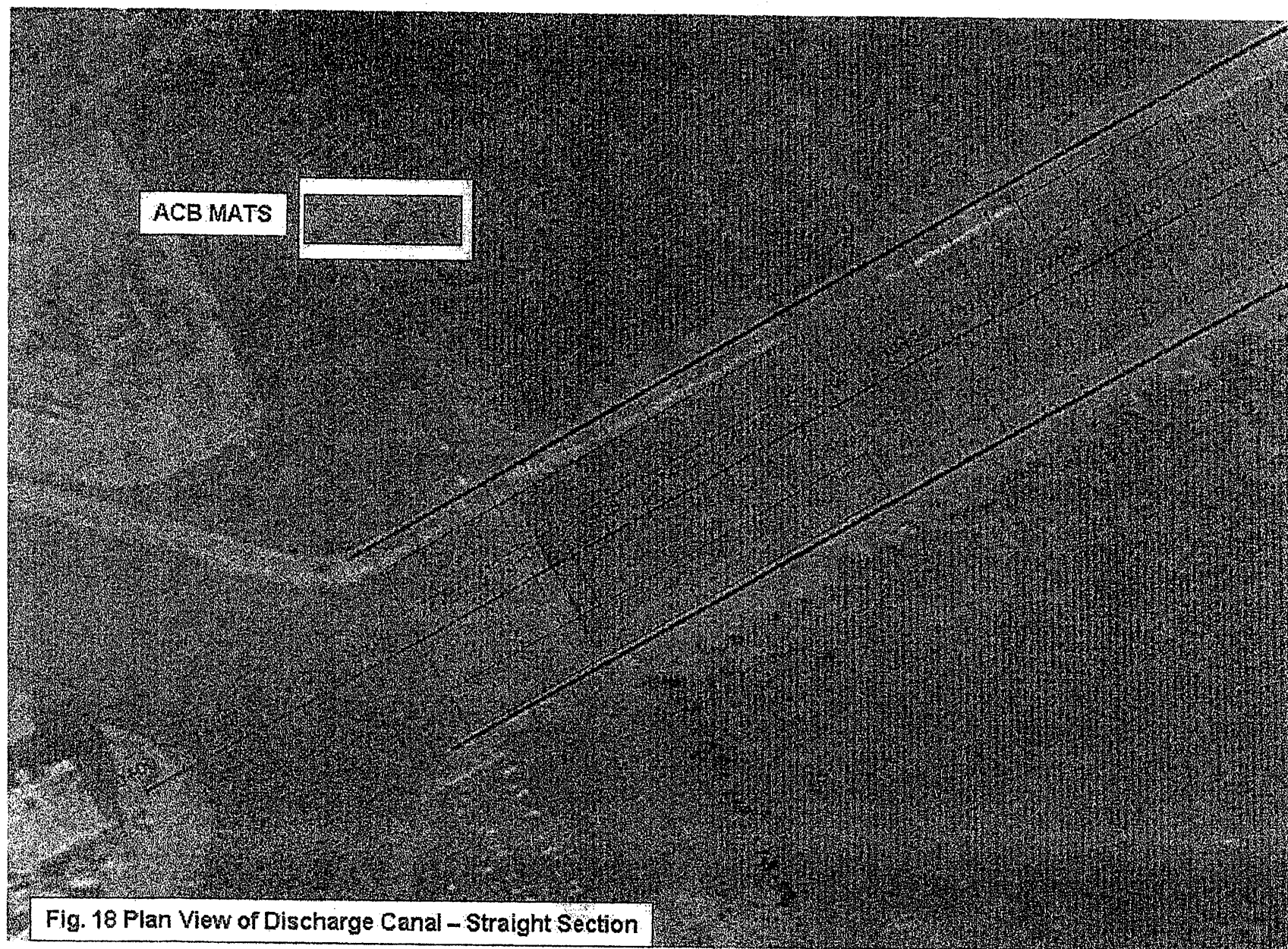


Fig. 17 Plan View of Intake Canal – Protected Area



ACB MATS



Fig. 19 Plan View of Discharge Canal – Basin Section

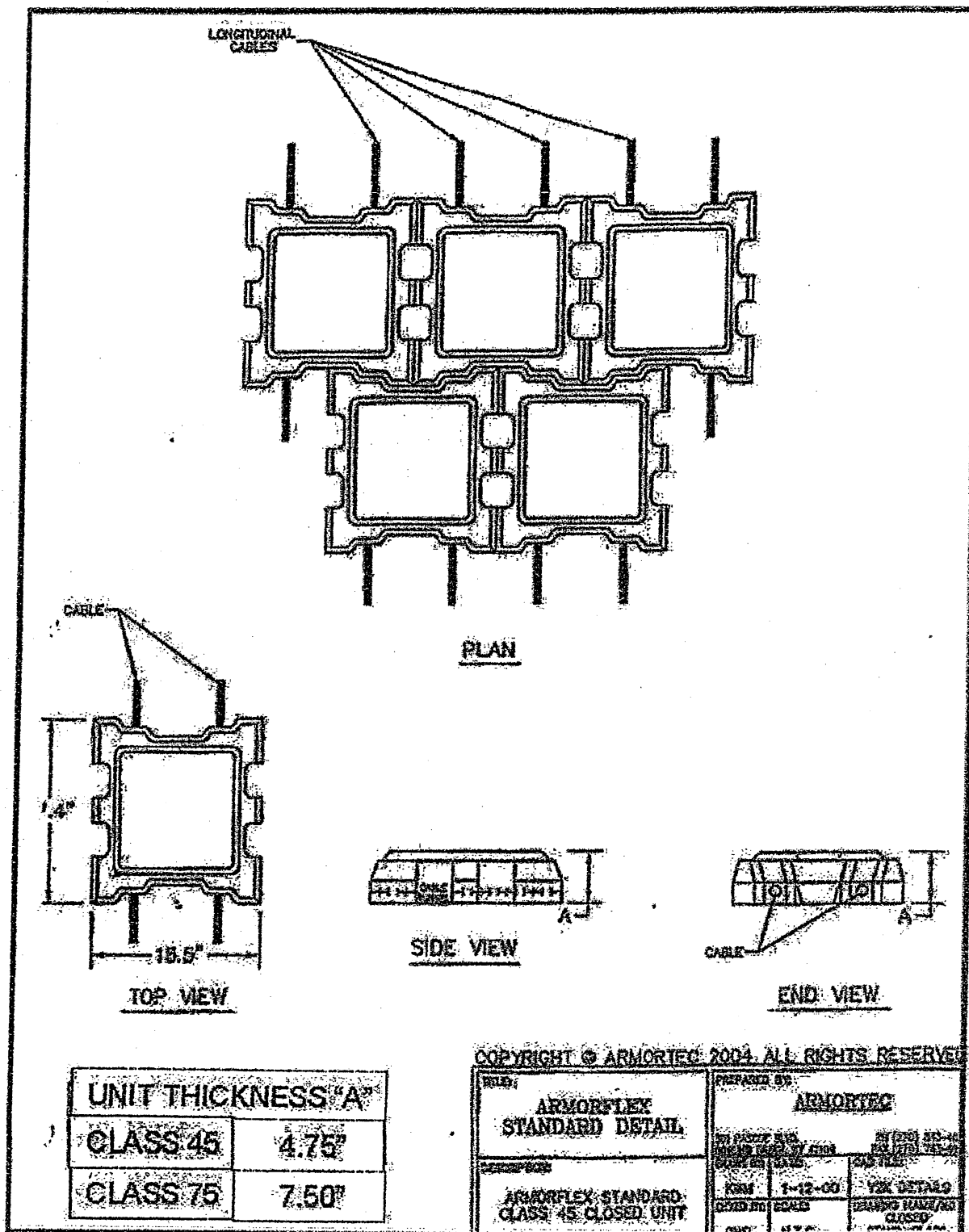


Fig. 6 Armortec Articulating Concrete Block

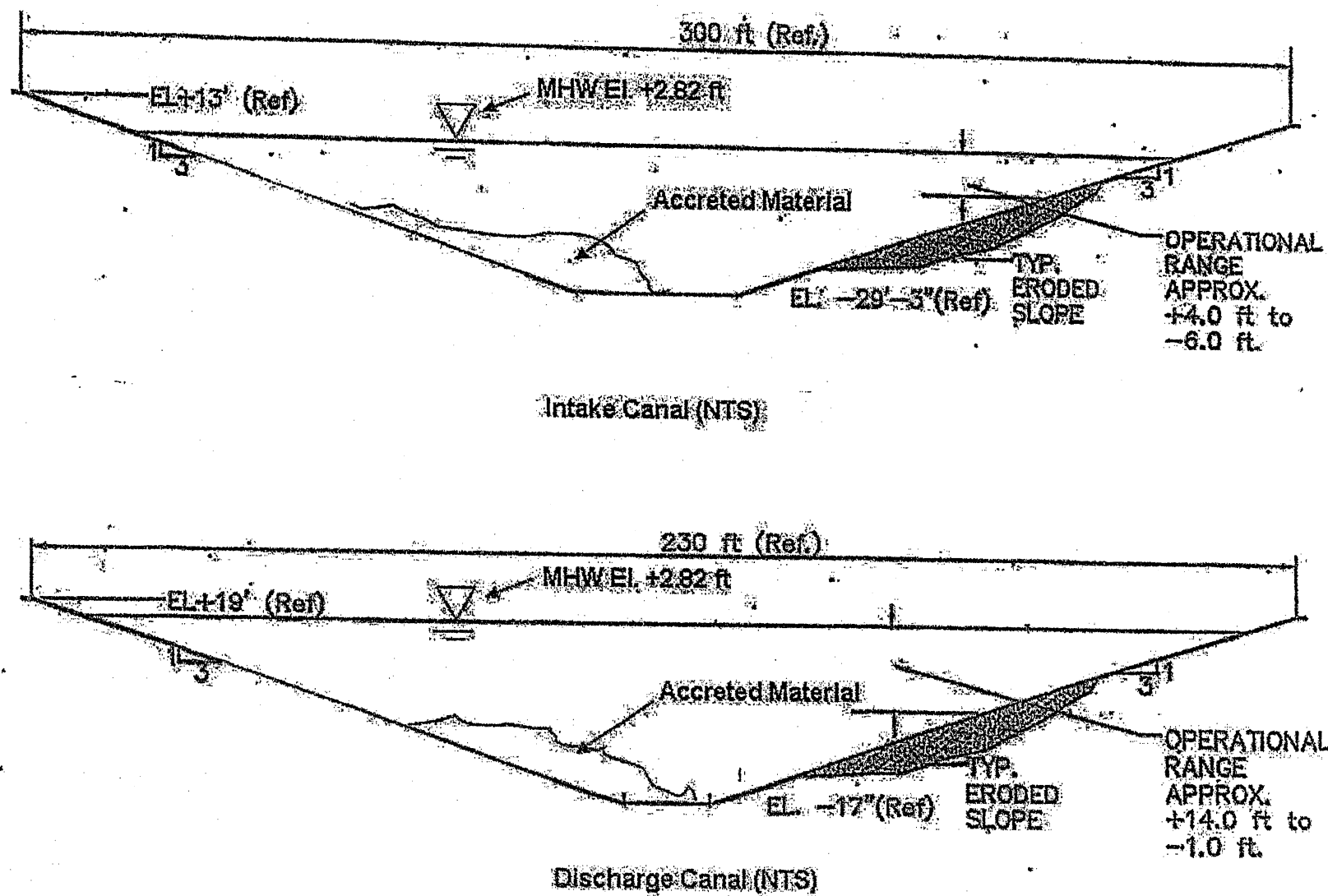


Fig. 4. Typical Existing Conditions of Intake and Discharge Canal

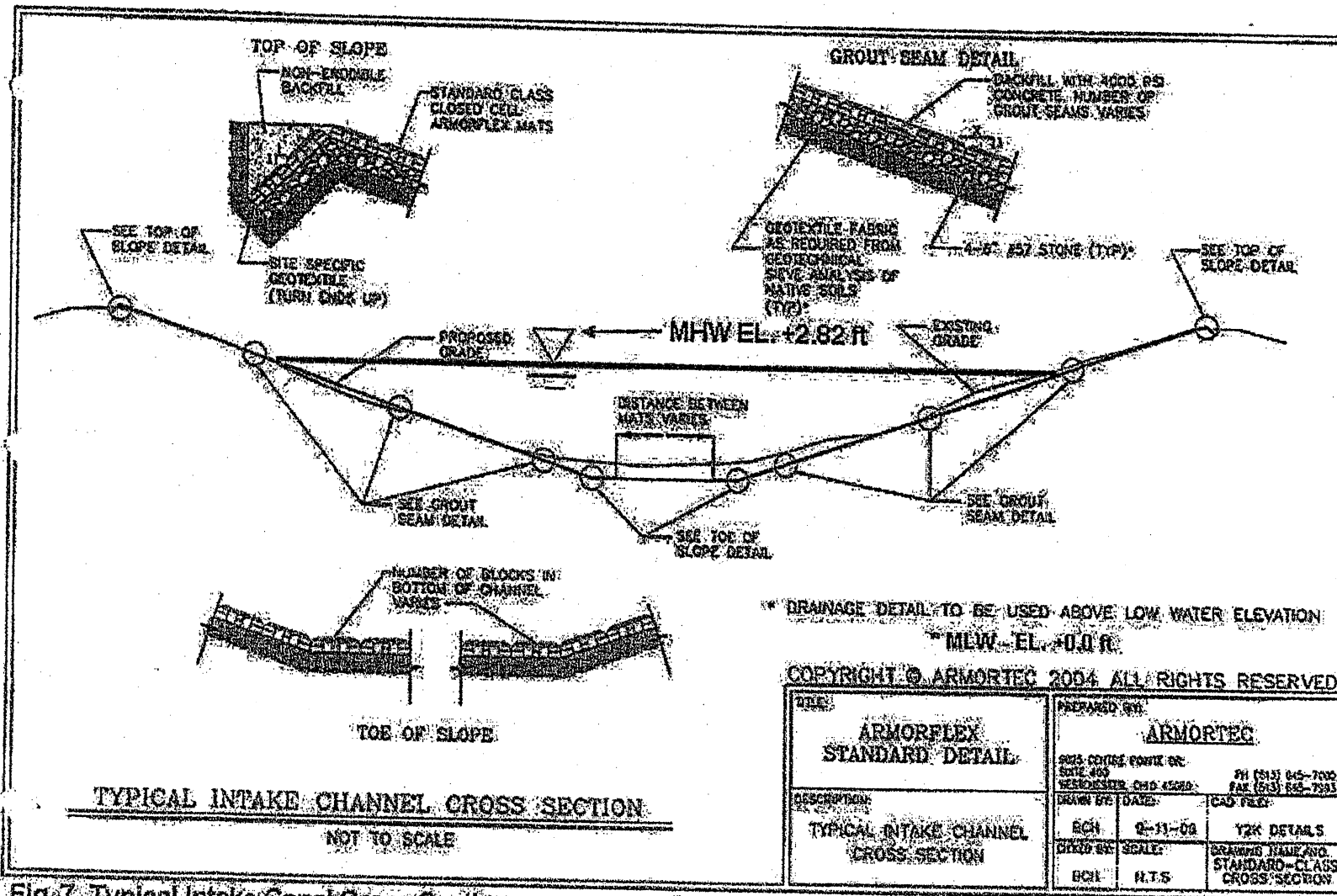


Fig. 7. Typical Intake Canal Cross Section



APPENDIX 10.1.5

AIR CONSTRUCTION/PSD APPLICATION/PERMIT

NOTE: No Air Construction or PSD Application/Permit is required for the Project.

APPENDIX 10.1.6

COASTAL ZONE

NOTE: The Coastal Management Act of 1978 (§380.21-280.25, Florida Statutes) requires that the Coastal Zone Management Section of FDEP be responsible for certification of consistency with the Florida Coastal Management Program (FCMP) for all federal licenses, permits, activities, and projects listed in §380.23(3)(c), Florida Statutes, when such activities are subject to federal consistency review and affect land or water use, are seaward of the jurisdiction of the state, or there is no state agency with sole jurisdiction for such consistency review. Issuance of the final Site Certification will demonstrate consistency with Section 307 of the Coastal Zone Management Act.

APPENDIX 10.1.7.1

SPECIAL PURPOSE SALVAGE PERMIT #MB697722-0



DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

3-201
(1/97)

FEDERAL FISH AND WILDLIFE PERMIT

1 PERMITTEE

FLORIDA POWER AND LIGHT COMPANY
700 UNIVERSE BOULEVARD
JUNO BEACH, FL 33408

2 AUTHORITY-STATUTES
16 USC 703-712

REGULATIONS (Attached)
50 CFR Part 13
50 CFR 21.27

3 NUMBER
MB697722-0

4 RENEWABLE
☒ YES
☐ NO

5 MAY COPY
☒ YES
☐ NO

6 EFFECTIVE
04/01/2006

7 EXPIRES
03/31/2009

8 NAME AND TITLE OF PRINCIPAL OFFICER (If #1 is a business)
JAMES R. LINDSAY
PRINCIPAL ENVIRONMENTAL SPECIALIST

9 TYPE OF PERMIT
SPECIAL PURPOSE SALVAGE

10 LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
SAME AS ABOVE

11 CONDITIONS AND AUTHORIZATIONS:

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL OR OTHER FEDERAL LAW.

C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

D. You are authorized to salvage migratory birds found dead that you had no part in the killing or death thereof. You are also authorized to salvage abandoned nests and added eggs after the nesting season. These authorizations do not apply to bald and/or golden eagles or to threatened or endangered species.

E. Dead bald or golden eagles must be reported immediately to the National Eagle Repository at 303-287-2110. The Repository will provide directions for shipment of these birds.

F. Specimens are to be destroyed by incineration or burial.

G. Authorized to possess live migratory birds for the purpose of transporting to a State and Federally permitted rehabilitator.

H. You must comply with the attached Standard Conditions for Special Purpose - Salvage.

I. Any person who is under the direct control of the permittee, or who is employed by or under contract to the permittee for purposes authorized by this permit, may carry out the activity authorized by this permit.

J. Direct control of the permittee means that the permittee and the subpermittee has entered into an identifiable relationship where there is evidence that the permittee has relayed instructions outlining the authority given to the subpermittee for activities authorized by this permit.

☒ ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

12 REPORTING REQUIREMENTS

ANNUAL REPORT DUE: 01/31

ISSUED BY

Carmen P. Smayda

TITLE

FOR: ARD-MIGRATORY BIRDS & STATE PROGRAMS

DATE

06/13/2006

For suspected illegal activity, immediately contact USFWS, Law Enforcement at: St Petersburg Florida at 727-570-5398 or Miami, Florida at 305-526-2610



Standard Conditions Special Purpose - Salvage 50 CFR 21.27

All of the provisions and conditions of the governing regulations at 50 CFR part 13 and 50 CFR 21.27 are conditions of your permit. The standard conditions below are additional provisions and conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit. If you have any questions regarding these conditions, refer to the regulations or, if necessary, contact your issuing migratory bird permit office. For copies of the regulations and forms, or to obtain contact information for your migratory bird permit office, visit: <http://www.permits.fws.gov/mbpermits/birdbasics.html>

1. You, and any subpermittees, must carry a legible copy of this permit and display it upon request whenever you are exercising its authority.
2. You may not exercise the authorization granted by this permit contrary to the laws of the applicable state, county, municipal, tribal, or foreign government or any other applicable laws.
4. You must maintain records as required by 50 CFR 13.46 and 50 CFR 21.27.
5. You must keep all records relating to the permitted activities at the location identified in writing by you to the issuing office.
6. Carcasses unsuitable for donation must be completely destroyed by burial or incineration.
7. This permit **DOES NOT** authorize salvage of specimens on federal lands without additional written authorization from the applicable federal agency.

This permit **DOES NOT** authorize salvage of specimens on state lands or other public or private property without written permission or permits from landowner or custodian.
8. Within 48 hours report to the issuing office if any threatened or endangered species as listed in 50 CFR 17, and/or bald or golden eagles have been salvaged.
9. Immediately report any carcasses found in a situation indicating poisoning or criminal activity. These should not be salvaged, but reported immediately to state and federal wildlife law enforcement authorities.
10. You must tag each bird you salvage. Each tag must have the following information:
(a) date and location the specimen was salvaged; (b) name of the person who salvaged the specimen; and (c) the permit number under which the specimen was salvaged.
11. All birds salvaged under this authorization must be deposited with the designated repository as indicated on the face of this permit within six (6) months of acquisition. Any migratory bird carcasses that are sent to a taxidermist must be returned to the designated repository for final disposition. All birds salvaged during any calendar year must be deposited with the repository by December 31 of that calendar year. **This permit does not allow personal possession of any birds salvaged under the authority of this permit.**
12. Acceptance of this permit authorizes inspection in accordance with 50 CFR 13.47 (9/12/2005)

APPENDIX 10.1.7.2

SPECIAL PURPOSE SALVAGE PERMIT #MB697722-1



DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

3-201
(1/97)

FEDERAL FISH AND WILDLIFE PERMIT

1 PERMITTEE

FLORIDA POWER AND LIGHT COMPANY
700 UNIVERSE BOULEVARD
JUNO BEACH FL 33408

2 AUTHORITY-STATUTES
16 USC 703-712

REGULATIONS (Attached)
50 CFR Part 13
50 CFR 21.27

3 NUMBER
MB697722-1 AMENDMENT

4 RENEWABLE
☒ YES
☐ NO

5 MAY COPY
☒ YES
☐ NO

6 EFFECTIVE
07/28/2006

7 EXPIRES
03/31/2009

8 NAME AND TITLE OF PRINCIPAL OFFICER (If #1 is a business)
JAMES R. LINDSAY
PRINCIPAL ENVIRONMENTAL SPECIALIST

9 TYPE OF PERMIT
SPECIAL PURPOSE SALVAGE

10 LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
SAME AS ABOVE

11 CONDITIONS AND AUTHORIZATIONS:

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL, OR OTHER FEDERAL LAW.

C. VALID FOR USE BY PERMITTEE NAMED ABOVE

D. You are authorized to salvage migratory birds found dead that you had no part in the killing or death thereof. You are also authorized to salvage abandoned nests and added eggs after the nesting season.

E. Dead bald or golden eagles must be reported immediately to the National Eagle Repository at 303-287-2110. The Repository will provide directions for shipment of these birds.

F. Specimens are to be destroyed by incineration or burial.

G. Authorized to possess live migratory birds for the purpose of transporting to a State and Federally permitted rehabilitator.

H. You must comply with the attached Standard Conditions for Special Purpose - Salvage.

I. Any person who is under the direct control of the permittee, or who is employed by or under contract to the permittee for purposes authorized by this permit, may carry out the activity authorized by this permit.

J. Direct control of the permittee means that the permittee and the subpermittee has entered into an identifiable relationship where there is evidence that the permittee has relayed instructions outlining the authority given to the subpermittee for activities authorized by this permit. For suspected illegal activity, immediately contact USFWS, Law Enforcement at: Clermont, Florida at 352-429-1037 or Miami, Florida at 305-526-2610.

☒ ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

12 REPORTING REQUIREMENTS

ANNUAL REPORT DUE: 01/31

ISSUED BY

Carmen P. Smarley

TITLE

FOR: ARD-MIGRATORY BIRDS & STATE PROGRAMS

DATE

07/28/2006



Standard Conditions Special Purpose - Salvage 50 CFR 21.27

All of the provisions and conditions of the governing regulations at 50 CFR part 13 and 50 CFR 21.27 are conditions of your permit. The standard conditions below are additional provisions and conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit. If you have any questions regarding these conditions, refer to the regulations or, if necessary, contact your issuing migratory bird permit office. For copies of the regulations and forms, or to obtain contact information for your migratory bird permit office, visit: <http://www.permits.fws.gov/mbpermits/birdbasics.html>

- 1 You, and any subpermittees, must carry a legible copy of this permit and display it upon request whenever you are exercising its authority.
- 2 You may not exercise the authorization granted by this permit contrary to the laws of the applicable state, county, municipal, tribal, or foreign government or any other applicable laws
- 4 You must maintain records as required by 50 CFR 13.46 and 50 CFR 21.27
- 5 You must keep all records relating to the permitted activities at the location identified in writing by you to the issuing office
- 6 Carcasses unsuitable for donation must be completely destroyed by burial or incineration
- 7 This permit **DOES NOT** authorize salvage of specimens on federal lands without additional written authorization from the applicable federal agency.

This permit **DOES NOT** authorize salvage of specimens on state lands or other public or private property without written permission or permits from landowner or custodian
- 8 Within 48 hours report to the issuing office if any threatened or endangered species as listed in 50 CFR 17, and/or bald or golden eagles have been salvaged.
- 9 Immediately report any carcasses found in a situation indicating poisoning or criminal activity. These should not be salvaged, but reported immediately to state and federal wildlife law enforcement authorities
- 10 You must tag each bird you salvage. Each tag must have the following information:
(a) date and location the specimen was salvaged; (b) name of the person who salvaged the specimen; and (c) the permit number under which the specimen was salvaged
- 11 All birds salvaged under this authorization must be deposited with the designated repository as indicated on the face of this permit within six (6) months of acquisition. Any migratory bird carcasses that are sent to a taxidermist must be returned to the designated repository for final disposition. All birds salvaged during any calendar year must be deposited with the repository by December 31 of that calendar year. **This permit does not allow personal possession of any birds salvaged under the authority of this permit.**
- 12 Acceptance of this permit authorizes inspection in accordance with 50 CFR 13.47 (9/12/2005)

APPENDIX 10.1.7.3

DEPREDATION PERMIT PERMIT #MB135540-0



DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

3-201
(1/97)

FEDERAL FISH AND WILDLIFE PERMIT

1 PERMITTEE

FLORIDA POWER AND LIGHT COMPANY
700 UNIVERSE BOULEVARD
JUNO BEACH, FL 33408
U.S.A

2 AUTHORITY-STATUTES
16 USC 703-712

REGULATIONS (Attached)
50 CFR Part 13
50 CFR 21.41

3 NUMBER
MB135540-0

4 RENEWABLE
☒ YES
☐ NO

5 MAY COPY
☒ YES
☐ NO

6 EFFECTIVE
04/01/2007

7 EXPIRES
03/31/2008

8 NAME AND TITLE OF PRINCIPAL OFFICER (If #1 is a business)
STACY M FOSTER
SENIOR ENVIRONMENTAL SPECIALIST

9 TYPE OF PERMIT
DEPREDATION

10 LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
Service territory in Florida

11 CONDITIONS AND AUTHORIZATIONS:

A GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS

B THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN STATE LOCAL OR OTHER FEDERAL LAW

C VALID FOR USE BY PERMITTEE NAMED ABOVE

D. Authorized to take the following migratory birds for depredation control purposes: Authorized in emergency situations throughout the State of Florida to relocate active migratory bird nests (except endangered or threatened species or bald and golden eagles) when birds, nests and eggs are posing a direct threat to human health and safety or when the safety of the bird is at risk if the nest and/or birds are not removed

E Any person who is under the direct control of the permittee, or who is employed by or under contract to the permittee for purposes authorized by this permit, may carry out the activity authorized by this permit

F Direct control of the permittee means that the permittee and the subpermittee has entered into an identifiable relationship where there is evidence that the permittee has relayed instructions outlining the authority given to the subpermittee for activities authorized by this permit

G Permittee must also comply with the attached Depredation Standard Conditions.

☒ ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

12 REPORTING REQUIREMENTS
ANNUAL REPORT DUE: 1/31

ISSUED BY

Carmen P. Sanchez

TITLE

FOR: ARD-MIGRATORY BIRDS & STATE PROGRAMS

DATE

04/19/2007



Standard Conditions Migratory Bird Depredation Permits 50 CFR 21.41

Standard conditions for depredation permits are below. These conditions are in addition to the conditions listed on the face of your permit. All of the governing regulations at 50 CFR Part 13 are also conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit. If you have questions regarding the conditions of your permit, refer to the regulations or contact the migratory bird permit office that issued your permit. Regulations and contact information are available on the Internet at: <http://www.fws.gov/permits/mbpermits/birdbasics.html>

- 1 You, and any subpermittees, must carry a legible copy of this permit, and display it upon request whenever you are exercising its authority.
- 2 You may not exercise the authorization granted by this permit contrary to the laws of the applicable state, county, municipal, or tribal government, or any other applicable law.
- 3 You are not authorized to take, capture, or harass bald or golden eagles or federally listed threatened or endangered species.
- 4 You may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices to lure or entice birds into gun range.
- 5 Shotguns used to take birds can be no larger than 10 gauge and must be fired from the shoulder. You must use nontoxic shot listed in 50 CFR 20.21(j).
- 6 To minimize the lethal take of birds, you are required to continually apply non-lethal methods of harassment alternately with lethal control.
- 7 You are not authorized to take any birds, nests, or eggs, or to release birds on federal or state lands or other public or private property without additional written authorization, permission, or permits from the applicable federal or state agency, landowner, or custodian.
- 8 Unless otherwise specified on the face of the permit, birds, nests, or eggs taken under this permit must be (1) turned over to the U.S. Department of Agriculture for official purposes, (2) donated to a public educational or scientific institution as defined by 50 CFR 10, or (3) completely destroyed by burial or incineration.
- 9 You must maintain records of the activities conducted under your permit for a period of 5 years from the date of expiration of the permit (50 CFR 13.46), including the following information: species (common name); date taken; location where taken; number of birds killed or relocated; number of eggs, or nests with eggs, taken or relocated; name of person taking birds; and the final disposition of the birds or eggs.
- 10 You must keep all records relating to the permitted activities at the location(s) identified in writing by you to the issuing office.
- 11 Acceptance of this permit authorizes the Fish and Wildlife Service to inspect any wildlife held, and to audit or copy any permits, books, or records required to be kept by the permit and governing regulations.

APPENDIX 10.1.7.4

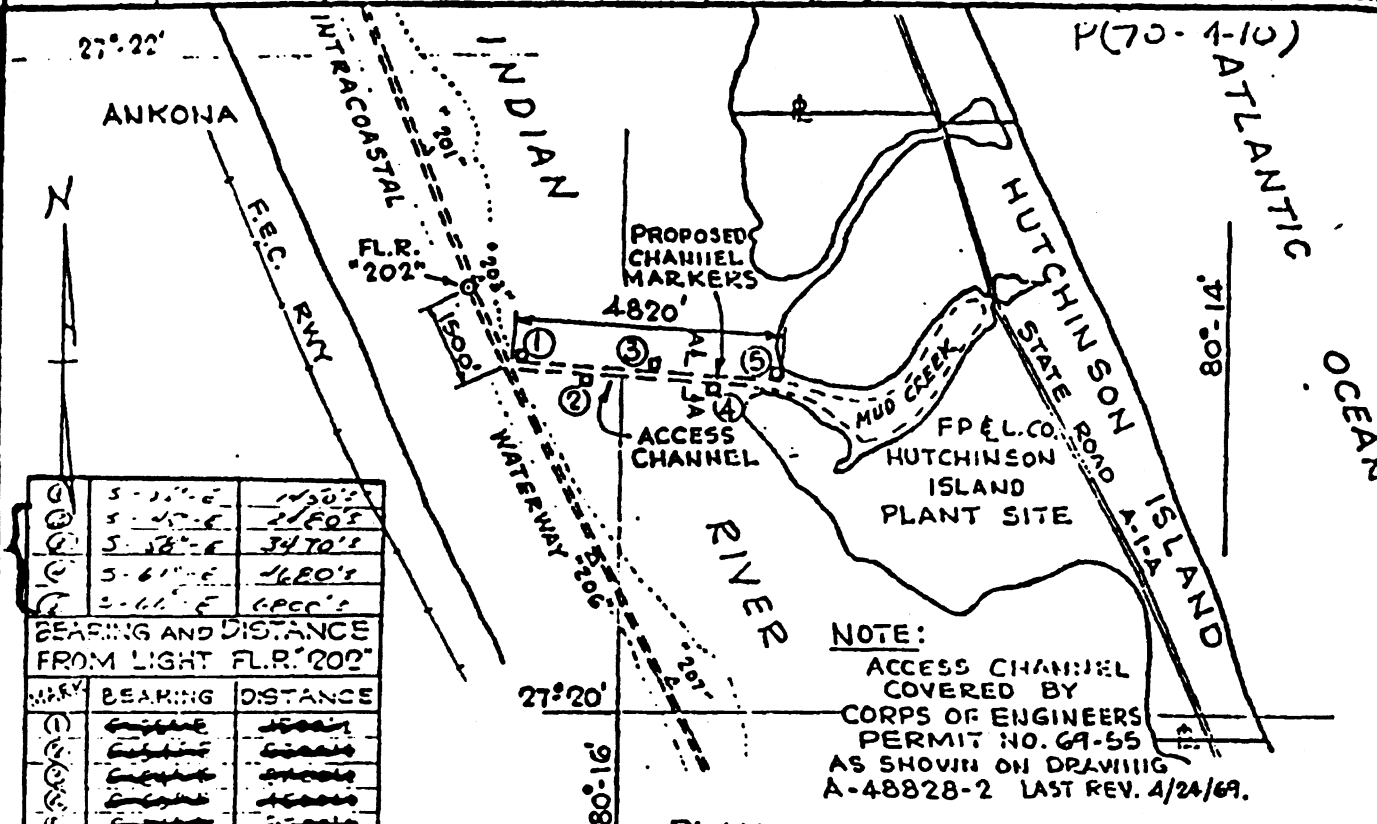
PERMIT #70-410: PRIVATE AID TO NAVIGATION

DEPARTMENT OF TRANSPORTATION U. S. COAST GUARD CG-2554 (Rev. 4-67)		PRIVATE AIDS TO NAVIGATION APPLICATION (See attached instructions and copy of Code of Fed. Reg., Title 33, Chap. 1, Sec. 66)				00040 Form approved Budget Bureau No. 48-R379.1					
1. ACTION REQUESTED FOR PRIVATE AIDS TO NAVIGATION: A. ☒ ESTABLISH AND MAINTAIN B. ☐ DISCONTINUE C. ☐ CHANGE D. ☐ CHANGE OWNERSHIP						2. DATE ACTION TO START within 3 mos. of receipt of permit					
3. AIDS WILL BE OPERATED: A. ☒ THROUGHOUT YEAR B. ☐ TEMPORARILY UNTIL _____ C. ☐ ANNUALLY FROM _____ TO _____											
4. NECESSITY FOR AID (Continue in Block 8) Mark barge channel drawing A-54205			5. GENERAL LOCALITY Fort Pierce, Fla.		6. CORPS OF ENGINEERS AUTHORIZED THIS STRUCTURE OR BUOY BY ☒ PERMIT OR ☐ LETTER (file and date) SAJSP (70-410)						
FOR DISTRICT COMMANDERS ONLY			7. APPLICANT WILL FILL IN APPLICABLE REMAINING COLUMNS				3 Nov 1970				
LIGHT LIST NUMBER OR PAGE (1)	NAME OF AID	NO. OR LTR. (2a)	LIGHT			POSITION *	DEPTH OF WATER (3b)	CAND. DLE- POWER (4)	HGT. ABOVE WATER (5)	STRUCTURE TYPE, COLOR, and HEIGHT ABOVE GROUND (6)	REMARKS (See Instructions) * (7)
			PER. (2c)	FLASH LGTH. (2d)	COLOR (2e)						
LLPg. 387	-Dbn	1				31 S-25°-E, 1450 Ft. from light FL.R. "202", Hutchinson Island, Fla.	5'				25' concrete post pointer type day beacons. Odd numbered markers are black with green reflectors. Even numbered markers are red with red re- flectors. *See FP&L Drawing A-54205-2 for ad- ditional details.
	-Dbn	2				52 S-45°-E, 2450 Ft. from light FL.R. "202", Hutchinson Island, Fla.	5'				
	-Dbn	3				65 S-55°-E, 3500 Ft. from light FL.R. "202", Hutchinson Island, Fla.	5'				
	-Dbn	4				68 S-65°-E, 4720 Ft. from light FL.R. "202", Hutchinson Island, Fla.	5'				
	-Dbn	5				72 S-65°-E, 5800 Ft. from light FL.R. "202", Hutchinson Island, Fla.	5'				
8. ADDITIONAL COMMENTS											
9a. NAME AND ADDRESS OF PERSON IN DIRECT CHARGE OF AID A. D. Schmidt Fla. Power & Light Co. Box 3100 - Miami, Fla. 33101						10a. NAME AND ADDRESS OF PERSON OR CORPORATION AT WHOSE EXPENSE AID IS MAINTAINED Florida Power & Light Co. Box 3100 Miami, Florida 33101		10b. THE APPLICANT AGREES TO SAVE THE COAST GUARD HARMLESS WITH RESPECT TO ANY CLAIM OR CLAIMS THAT MAY RESULT ARISING FROM THE ALLEGED NEGLIGENCE OF THE MAINTENANCE OR OPERATION OF THE APPROVED AID(s).			
9b. TELEPHONE NO. 445-6211, Ext. 2176								10c. DATE 11/11/70		10d. SIGNATURE AND TITLE OF OFFICIAL SIGNING 	

DRAWN BY	W.C.1
CHECKED	W.C.1
CORRECT	MAN

3. *Permit (70-410)*
 2. *Added Channel Markers*
 1. *Added Bearing Table*
 10.1 REVISION
 DATE CH. API:

APPROVED:
W. H. R. ...
 MANAGER POWER PLANT ENGINEER

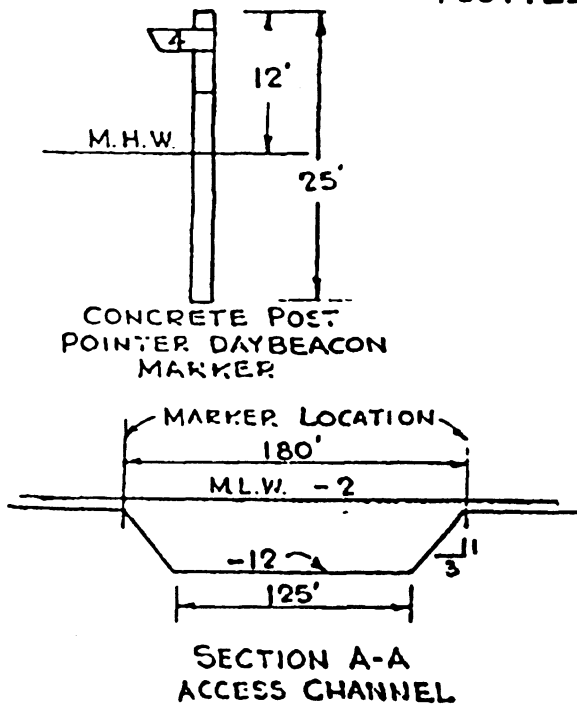


PLAN
 PLOTTED FROM NAUTICAL CHART 845-SC
 INTRACOASTAL WATERWAY

0 1/2 1 MI.
 SCALE - STATUTE MILE

NOTES

1. ATLANTIC OCEAN M.L.W. = 0.00 = MINUS 1.85 U.S.C. & G.S. DATUM M.S.L.
2. CHANNEL MARKERS ARE TO BE CONCRETE POST POINTER TYPE DAYBEACONS ALONG THE EDGE OF CHANNEL.
3. ODD NUMBERED MARKERS ARE BLACK WITH GREEN REFLECTORS SPACED APPROX. 2400' APART.
4. EVEN NUMBERED MARKERS ARE RED WITH RED REFLECTORS SPACED APPROX. 2400' APART.



HUTCHINSON ISLAND PLANT
 ACCESS CHANNEL IN INDIAN RIVER.
 PRIVATE AIDS TO NAVIGATION
 ST. LUCIE COUNTY, FLORIDA
 APPLICATION BY
 FLORIDA POWER & LIGHT COMPANY
 DATE: MAY 21, 1970
 SCALE: SHOWN
 A-54205-2

APPENDIX 10.1.7.5

PERMIT #72-0083: PRIVATE AID TO NAVIGATION

DEPARTMENT OF TRANSPORTATION U. S. COAST GUARD CG-2554 (Rev. 5-69)		PRIVATE AIDS TO NAVIGATION APPLICATION (See attached instructions and copy of Code of Fed. Reg., Title 33, Chap. 1, Part 66)				00014 Form Approved Budget Bureau No. 84-R3014					
1. ACTION REQUESTED FOR PRIVATE AIDS TO NAVIGATION A. ☒ ESTABLISH AND MAINTAIN B. ☒ DISCONTINUE C. ☒ CHANGE D. ☐ TRANSFER OWNERSHIP						2. DATE ACTION TO START September 1, 1977					
3. AIDS WILL BE OPERATED: A. ☒ THROUGHOUT YEAR B. ☐ TEMPORARILY UNTIL _____ C. ☐ ANNUALLY FROM _____ TO _____											
4. NECESSITY FOR AID (Continue in Block 8) To replace damaged existing aid.			5. GENERAL LOCALITY Ft. Pierce, Florida		6. CORPS OF ENGINEERS AUTHORIZED THIS STRUCTURE OR BUOY BY ☒ PERMIT OR ☐ LETTER (file and date) 72-0083 (Mod. 10/28/75) SAI-4						
FOR DISTRICT COMMANDERS ONLY			7. APPLICANT WILL FILL IN APPLICABLE REMAINING COLUMNS								
LIGHT LIST NUMBER OR PAGE	NAME OF AID	NO. OR LTR. (7a)	LIGHT			POSITION (7d)	DEPTH OF WATER (7f)	CAN- BLE POWER (7g)	HT. ABOVE WATER (7h)	STRUCTURE	REMARKS (See instructions) (7i)
			PER. (7b)	FLASH LSTN. (7c)	COLOR (7e)					TYPE, COLOR, AND HEIGHT ABOVE GROUND (7j)	
57.51	ST. LUCIE POWER PLANT INTAKE PIPE NORTH OBSTRUCTION LIGHTED BUOY		*	*	Red	Long. 80°14'00.0"W Lat. 27°20'52.5"N	18'	33	10'	7"	*Interrupted Quick Flashing (5 Quick Flashes, 0.3 On, 0.7 Off, 5 Sec. Pause) Buoy Color: Red & Black, Horizontally Banded, Topmost Band Red. Red Bands to have red retroreflective tape. For additional info. reference Ebasco Specification FLO 9110-AS-7.
8. ADDITIONAL COMMENTS St. Lucie Power Plant Intake Pipe North Obstruction Light (LLNR 57.50) Existing Nominal range 3 miles White warning signs worded DANGER, Submerged Intake Structure Upon execution, CG-2554, approved 8 March 1977, is cancelled.											
93. NAME AND ADDRESS OF PERSON IN DIRECT CHARGE OF AID Florida Power & Light Company P. O. Box 013100 Miami, Florida 33101			102. NAME AND ADDRESS OF PERSON OR CORPORATION AT WHOSE EXPENSE AID IS MAINTAINED Florida Power & Light Company P. O. Box 013100 Miami, Florida 33101			100. THE APPLICANT AGREES TO SAVE THE COAST GUARD HARMLESS WITH RESPECT TO ANY CLAIM OF NEGLIGENCE THAT MAY RESULT ARISING FROM THE ALLEGED NEGLIGENCE OF THE APPLICANT IN THE OPERATION OF THE APPROVED AID. W. S. Tucker			101. SIGNATURE AND TITLE OF OFFICIAL SIGNING W. S. Tucker Manager, Environmental Affairs-FPL		
95. TELEPHONE NO. Attn: A. D. Schmidt 305/552-4131						103. DATE Aug. 3, 1977		DATE APPROVED AUG 9 1977		SIGNATURE (BY OTHER) W. J. BROGDON, JR., CAPT, USCG Chief, Aids to Navigation Branch	
FOR USE BY DISTRICT COMMANDER SERIAL NO. PA-3 CLASSIFICATION OF AID Class I			RECD. _____ CHART 1247.84SSC, 1112 L N M _____								

PREVIOUS EDITION MAY BE USED

APPENDIX 10.1.7.6

PERMIT #79K-1019: PRIVATE AID TO NAVIGATION

00045

DEPARTMENT OF TRANSPORTATION U.S. COAST GUARD CG-2554 (Rev. 7-76)		PRIVATE AIDS TO NAVIGATION APPLICATION (See attached instructions and copy of Code of Fed. Reg., Title 33, Chap. 1, Part 66)						Form Approved OMB-004-RJ681			
NO PRIVATE AID TO NAVIGATION MAY BE AUTHORIZED UNLESS A COMPLETED APPLICATION FORM HAS BEEN RECEIVED (14 U.S.C. 83; 33 C.F.R. 66.01-3).											
1. ACTION REQUESTED FOR PRIVATE AIDS TO NAVIGATION: ☒ ESTABLISH AND MAINTAIN ☐ DISCONTINUE ☐ CHANGE ☐ TRANSFER OWNERSHIP								2. DATE ACTION TO START September, 1981			
3. AIDS WILL BE OPERATED: A. ☒ THROUGHOUT YEAR B. ☐ TEMPORARILY UNTIL _____ C. ☐ ANNUALLY FROM _____ TO _____											
4. NECESSITY FOR AID (Continue in Block 8) Mark Ocean Discharge Pipe (Obstruction) Ft. Pierce, FL						5. GENERAL LOCALITY Ft. Pierce, FL		6. CORPS OF ENGINEERS AUTHORIZED THIS STRUCTURE OR BUOY BY ☒ PERMIT OR ☐ LETTER (file and date) 79K-1012 dated 1/7/80			
7. APPLICANT WILL FILL IN APPLICABLE REMAINING COLUMNS											
DISTRICT COMMANDERS ONLY		LIGHT				POSITION (7a)	DEPTH OF WATER (7i)	CAN- OLE POWER (7j)	HT. ABOVE WATER (7k)	STRUCTURE TYPE, COLOR, AND HEIGHT ABOVE GROUND (7l)	REMARKS (See Instructions) (7m)
LIGHT LIST NUMBER OR PAGE	NAME OF AID	NO. OR LTR. (7a)	PER. (7b)	FLASH LOTH (7c)	COLOR (7d)						
57.25	ST. LUCIE POWER PLANT OCEAN DISCHARGE PIPELINE OBSTRUCTION LIGHTED BUOY		Inter OK	White FL	Long. 80°13'50"W Lat. 27°21'20"N	35	33	10'-7		*Interrupted Quick Flashing (5 Quick Flashes, 0.3 On; 0.7 Off, 5 Second Pause) Buoy Color: Red and Black Horizontally Banded, Topmost Band Red. Red Bands to have Red retroreflective tape. Lantern type 155 mm white lens/12volt system. 55 Amp lamp	
8. ADDITIONAL COMMENTS Nominal Range of Light: 3 Miles. NW White Warning Signs worded: "Danger, Submerged Discharge Structure" Buoy to mark seaward end of 1500 foot long multiport diffuser consisting of 58 evenly spaced riser sections which extend about 8 feet above the ocean bottom.											
9a. NAME AND ADDRESS OF PERSON IN DIRECT CHARGE OF AID Wethy, Cecil P. O. Box 128 Plant Manager Ft. Pierce, St. Lucie 42 33454 465-3550						10a. NAME AND ADDRESS OF PERSON OR CORPORATION AT WHOSE EXPENSE AID IS MAINTAINED Florida Power & Light P.O. Box 529100 Miami, FL 33152		10b. THE APPLICANT AGREES TO SAVE THE COAST GUARD HARMLESS WITH RESPECT TO ANY CLAIM OR CLAIMS THAT MAY RESULT ARISING FROM THE ALLEGED NEGLIGENCE OF THE MAINTENANCE OR OPERATION OF THE APPROVED AID(S).			
10c. DATE 4/28/81						10d. SIGNATURE AND TITLE OF OFFICIAL SIGNING W. J. Darrow, Jr., Manager U. S. Env. Permitting & Programs S.S. CHAND					
DISTRICT COMMANDER						RECD.		DATE APPROVED MAY 13 1981		SIGNATURE (Ifv direct inn) A. C. DEPLEY, CHIEF, USCG	
CLASSIFICATION OF AIDS						CHART 11472, 11474.		L. N. M. 11460			

APPENDIX 10.1.7.7

**NOTIFICATION OF “OBSTRUCTION” BEACON
MARKING REQUIREMENT FOR
ST. LUCIE UNIT 1**

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

1. NATURE OF STRUCTURE (Complete both A and B below)

(one)
☒ CONSTRUCTION ☐ ALTERATION

B. (Check one)

☒ PERMANENT ☐ TEMPORARY (State length of time) Mos.

2. NAME AND ADDRESS OF INDIVIDUAL, COMPANY, CORPORATION, ETC. PROPOSING THE CONSTRUCTION OR ALTERATION (Number, Street, City, State and Zip Code)

TO

Florida Power & Light Company
4200 West Flagler St
P O Box 3100
Miami, Florida 33101

BE COMPLETED BY FAA

AERONAUTICAL STUDY NO. UNIT 1

71-MTA-61-OR

BEACON

FAA WILL COMPLETE AND RETURN THIS FORM IF ONE OR MORE OF THE FOLLOWING IS APPLICABLE, OTHERWISE SEPARATE ACKNOWLEDGEMENT WILL BE ISSUED.

A. A STUDY OF THIS PROPOSAL HAS DISCLOSED THAT THE PROPOSED STRUCTURE:

☐ DOES NOT REQUIRE A NOTICE TO FAA.

☒ WOULD NOT EXCEED ANY STANDARD OF PART 77 AND WOULD NOT BE A HAZARD TO AIR NAVIGATION.

☒ SHOULD BE MARKED AND LIGHTED PER FAA "OBSTRUCTION MARKING AND LIGHTING" ADVISORY CIRCULAR 70/7460-1.

☒ REQUIRES SUPPLEMENTAL NOTICE. NOTICE FORM (FAA FORM 117-1) ENCLOSED.

☒ COPY SENT TO ECT ☐ YES ☐ NO

REVIEWING OFFICER DATE

Chief, Air Traffic Branch 2/24/71

3. TYPE AND COMPLETE DESCRIPTION OF STRUCTURE

Reinforced concrete reactor containment
consisting of a right cylinder 154 ft diameter with a shallow dome roof.
See attached Sketch No SK-8770-AS45.

4. LOCATION OF STRUCTURE

A. COORDINATES (To nearest second)				B. NEAREST CITY OR TOWN, AND STATE	
LATITUDE		LONGITUDE		Fort Pierce, Florida	
2	0	58	80	14	48
(1) DISTANCE FROM 4B				(2) DIRECTION FROM 4B	
Eight (8)				MILES Southeast	
C. NEAREST AIRPORT, HELIPORT, OR SEAPLANE BASE				(1) DISTANCE FROM NEAREST POINT OF AIRPORT	
St Lucie County Airport				Eleven (11) Miles Southeast	

D. DESCRIPTION OF LOCATION OF SITE WITH RESPECT TO HIGHWAYS, STREETS, AIRPORTS, PROMINENT TERRAIN FEATURES, EXISTING STRUCTURES, ETC. (Attach a highway, street, or any other appropriate map or scaled drawing showing the relationship of construction site to nearest airport(s). If more space is required, continue on a separate sheet of paper and attach to this notice.)

Located on Hutchinson Island, Site is bounded on the east by Highway 1A, on the west by Indian River, on the north by Big Mud Creek and on the south by Hernan Bay. See attached figure 2.2-2.

(C) (Continued) Witham Airport 12 miles, direction from airport is north

5. HEIGHT AND ELEVATION (Complete A, B and C to the nearest foot)		6. WORK SCHEDULE DATES	
A. ELEVATION OF SITE ABOVE MEAN SEA LEVEL	+18	A. WILL START	
B. HEIGHT OF STRUCTURE INCLUDING APPURTENANCES AND LIGHTING (If any) ABOVE GROUND, OR WATER IF SO SITUATED	211	3-1-71	
C. OVERALL HEIGHT ABOVE MEAN SEA LEVEL (A + B)	229	B. WILL COMPLETE	
		3-30-72	

7. OBSTRUCTION MARKINGS - The completed structure will be:

	YES	NO
A. MARKED AS SPECIFIED IN THE FAA ADVISORY CIRCULAR 70/7460-1, OBSTRUCTION MARKING AND LIGHTING		XX
B. LIGHTED AS SPECIFIED IN THE FAA ADVISORY CIRCULAR 70/7460-1, OBSTRUCTION MARKING AND LIGHTING	XX	

I HEREBY CERTIFY that all of the above statements made by me are true, complete, and correct to the best of my knowledge.

8. NAME AND TITLE OF PERSON FILING THIS NOTICE (Type or Print)	9. SIGNATURE (In ink)
W. Rogers Jr., Manager of Power Plant Engineering	<i>W. Rogers Jr.</i>
10. DATE OF SIGNATURE	11. TELEPHONE NO. (Precede with area code)
1-25-71	

Persons who knowingly and willfully fail to comply with the provisions of the Federal Aviation Regulations Part 77 are liable to a fine of \$500 for the first offense, with increased Penalties thereafter as provided by Section 902(a) of the Federal Aviation Act of 1958 as amended.

FAA Form 7460-1 (11-68) SUPERSEDES FAA Form 117..

FLORIDA POWER & LIGHT COMPANY

APPENDIX 10.1.7.8

**NOTIFICATION OF “OBSTRUCTION” BEACON
MARKING REQUIREMENT FOR ST. LUCIE
UNIT 2**

DO NOT REMOVE CARBONS

Form Approved O.M.B. No. 004-R0901

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

FOR FAA USE ONLY

AERONAUTICAL STUDY NO.

UNIT 2
BEACON

NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

1. NATURE OF STRUCTURE (Complete both A and B below)

79-ASO-2467-OE
FAA will either return this form or issue a separate acknowledgement.

A. The proposed structure:

☐ Does not require a notice to FAA.
☒ Would not exceed any obstruction standard of Part 77 and would not be a hazard to air navigation.

☒ Should be obstruction marked
☒ lighted per FAA Advisory Circular 70/7460-1, Chapter(s)

☐ Obstruction marking and lighting are not necessary.

☒ Requires supplemental notice. Use FAA form enclosed.

B. FCC was ☐ was not ☒ advised.

REMARKS: Obstruction marking is not considered necessary due to the size of this building - 154-foot diameter.

ISSUING OFFICE ASO-530

DATE 12/5/79

A. (Check one)

NEW CONSTRUCTION ☐ ALTERATION

B. (Check one)

☒ PERMANENT ☐ TEMPORARY (State length of time) Mus.

2. NAME AND ADDRESS OF INDIVIDUAL, COMPANY, CORPORATION, ETC. PROPOSING THE CONSTRUCTION OR ALTERATION (Number, Street, City, State and Zip Code)

Environmental Affairs
Florida Power & Light Company
TO 9250 West Flagler Street
P. O. Box 529100
Miami, Florida 33152

c/o W. S. Tucker

3. TYPE AND COMPLETE DESCRIPTION OF STRUCTURE

Reinforced Concrete Reactor Containment consisting of a right cylinder 154 ft. diameter with a shallow dome roof. See attached Sketch No. SK-8770-AS45

4. LOCATION OF STRUCTURE

ASO-533.2

A. COORDINATES (To nearest second)

LATITUDE LONGITUDE

20 55 80 14 47

B. NEAREST CITY OR TOWN, AND STATE

Fort Pierce, Florida

(1) DISTANCE FROM AB

Eight (8)

MILES

(2) DIRECTION FROM AB

Southeast

C. NAME OF NEAREST AIRPORT, HELIPORT, OR SEAPLANE BASE

St. Lucie County Airport

(1) DISTANCE FROM NEAREST POINT OF NEAREST RUNWAY

Eleven (11) Miles

(2) DIRECTION FROM AIRPORT

Southeast

D. DESCRIPTION OF LOCATION OF SITE WITH RESPECT TO HIGHWAYS, STREETS, AIRPORTS, PROMINENT TERRAIN FEATURES, EXISTING STRUCTURES, ETC. (Attach a highway, street, or any other appropriate map or scaled drawing showing the relationship of construction site to nearest airport(s). If more space is required, continue on a separate sheet of paper and attach to this notice.)

Located on Hutchinson Island, Site is bounded on the east by Highway 1A, on the west by Indian River, on the north by Bid Mud Creek and on the south by Herman Bay. See attached figure 2.2-2.

(C) (Continued) Witham Airport 12 miles, direction from airport is north

5. HEIGHT AND ELEVATION (Complete A, B and C to the nearest foot)

6. WORK SCHEDULE DATES

A. ELEVATION OF SITE ABOVE MEAN SEA LEVEL

+18

B. HEIGHT OF STRUCTURE INCLUDING APPURTENANCES AND LIGHTING (if any) ABOVE GROUND, OR WATER IF SO SITUATED

211

C. OVERALL HEIGHT ABOVE MEAN SEA LEVEL (A+B)

229

A. WILL START

11-3-77

B. WILL COMPLETE

7-1-81

7. OBSTRUCTION MARKED AND/OR LIGHTED IN ACCORDANCE WITH CURRENT FAA ADVISORY CIRCULAR 70/7460-1, OBSTRUCTION MARKING AND LIGHTING

A. MARKED

B. AVIATION RED OBSTRUCTION LIGHTS

C. HIGH INTENSITY WHITE OBSTRUCTION LIGHTS

D. DUAL LIGHTING SYSTEM

YES NO

XX

XX

I HEREBY CERTIFY that all of the above statements made by me are true, complete, and correct to the best of my knowledge.

NAME AND TITLE OF PERSON FILING THIS NOTICE (Type or Print)

H. Rogers, Jr. - Chief Engineer
Power Plant Engineering

9. SIGNATURE (In ink)

10. DATE OF SIGNATURE

11-9-79

11. TELEPHONE NO. (Precede with area code)

Pls. Contact Judy Barnett

305/552-3562

Persons who knowingly and willfully fail to comply with the provisions of the Federal Aviation Regulations Part 77 are liable to a fine of \$500 for the first offense, with increased Penalties thereafter as provided by Section 902(a) of the Federal Aviation Act of 1958 as amended.

APPENDIX 10.2.1

**LETTER FROM ST. LUCIE COUNTY
GROWTH MANAGEMENT**

**BOARD OF
COUNTY
COMMISSIONERS**



**GROWTH
MANAGEMENT**

November 21, 2007

Pamela M. Rauch
Managing Attorney
Florida Power and Light

Re: FPL St. Lucie Units 1 and 2 Uprate Project

Dear Ms. Rauch:

In response to your letter dated October 26, 2007, in which you requested that the County confirm that St. Lucie Units 1 and 2 are considered existing, legally conforming conditional uses since they existed prior to the effective date of the St. Lucie Land Development Code and are otherwise permitted as conditional uses in the "Utilities" zoning district. We have reviewed the County's code and history regarding this project and make the following findings;

1. The St. Lucie nuclear plant was started in the early 1970's and completed in the 1980's well before the adoption to the St. Lucie Land Development Code.
2. The St. Lucie Land Development Code (LDC) was adopted on August 1, 1990 including Section 11.07.05(G) Existing Conditional Uses.
3. Section 11.07.05(G) Existing Conditional Uses, states:

"A legally conforming use that exists on the effective date of this Code and that is permitted as a conditional use in a zoning district in Section 3.01.03 of this Code and that is shall not be deemed a nonconforming use in that district, but shall without further action be considered a conforming use. A use existing prior to its present classification by this Code as a conditional use may change in use or in lot area or may alter a structure only if the change or alteration conforms with the requirements of Section 11.07.05(E) and 3.01.03 for conditional uses. Such change or alteration may be accomplished only pursuant to the standards and procedures established for the adjustment of a conditional use as set forth in Section 11.07.05(E)."

JOSEPH E. SMITH, District No. 1 • DOUG COWARD, District No. 2 • PAULA A. LEWIS, District No. 3 • CHARLES GRANDE, District No. 4
• CHRIS CRAFT, District No. 5

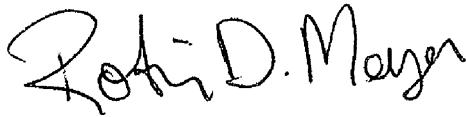
County Administrator - Douglas M. Anderson Website: www.co.st-lucie.fl.us
2300 Virginia Avenue - Fort Pierce, FL. 34982-5652

Administration: (772) 462-1590 Planning: (772) 462-2822 GIS/Mapping Services: (772) 462-2822 FAX: (772) 462-1581
Economic Development: (772) 462-1550 FAX: (772) 462-1579 Tourist Development: (772) 462-1535 1(800) 344-TGIF FAX: (772) 462-2132

4. The Subject property where the two nuclear reactors are located have a Future Land Use designation of Transportation/Utilities and are zoned "U" Utilities. Both of these designations allow electrical generation, which is the function of the nuclear plant.
5. Section 3.01.02 (W). "Utilities" in the LDC Under item 7. Conditional Uses, item b. "Electric generation plants" is a listed use and is the use of the St. Lucie plant.
6. Therefore under the County's LDC the existing St. Lucie Units 1 and 2 are considered existing, legally conforming conditional uses, since they existed on the effective date of the LDC and are otherwise permitted uses in the "Utilities" Section 3.01.02 (W) of the LDC.
7. Further the of uprate units 1 and 2 do not require a change in the existing lot area of the St. Lucie Plant and no existing structure will be externally modified or altered. Therefore the uprate project will not require a new Conditional Use Permit process to address the proposed changes.

Based on the findings above, St. Lucie County determines that the proposed FPL St. Lucie Units 1 and 2 Uprate Project is permitted as per the St. Lucie LDC and will not require any further approval by the County.

Sincerely,



Robin D. Meyer, AICP
Assistant Director, Growth Management

cc: Mark Satterlee, Growth Management Director
Andrew Riddle, Senior Planner
Kristin Tetsworth, Planning Manager

APPENDIX 10.2.2

**ST. LUCIE COUNTY LAND DEVELOPMENT
CODE (rev. 5/15/04) FOR UTILITIES**

W. U UTILITIES

1. Purpose

The purpose of this district is to provide and protect an environment suitable for utilities, transportation, and communication facilities, together with such other uses as may be compatible with utility, transportation, and communication facility surroundings. The number in "()" following each identified use corresponds to the SIC code reference described in Section 3.01.02(B). The number 999 applies to a use not defined under the SIC code but may be further defined in Section 2.00.00 of this code.

2. Permitted Uses

- a. Air transportation services (451,452)
- b. Agriculture, including farms, groves, and ranches. (01,02)
- c. Communication. (48)
- d. Electric services (491)
- e. Electric transmission rights-of-way. (491)
- f. Gas pipeline rights-of-way. (492)
- g. Gas production and distribution (492)
- h. Industrial wastewater disposal. (999)
- i. Railroad, rapid rail transit, & street railway transportation. (40,41)
- j. Sanitary services (495)
- k. Transportation services (47)
- l. Telecommunication towers - subject to the standards of Section 7.10.23 (999)
- m. Water supply and irrigation systems. (494,497)
- n. Water transportation (44)

3. Lot Size Requirements

Lot size requirements shall be in accordance with Section 7.04.00.

4. Dimensional Regulations

Dimensional requirements shall be in accordance with Section 7.04.00.

5. Off-street Parking and Loading Requirements

Off-street parking and loading requirements are subject to Section 7.06.00.

6. Landscaping Requirements

Landscaping requirements are subject to Section 7.09.00.

7. Conditional Uses

- a. Airports. (458)
- b. Electric generation plants. (491)
- c. Gas production plants. (492)
- d. Land clearing and yard trash recycling operations - subject to the provisions of Section 7.10.12. (999)
- e. Natural or manufactured gas storage and distribution points. (492)

APPENDIX 10.3

ST. LUCIE COUNTY COMPREHENSIVE PLAN

K. PUBLIC FACILITIES (P/F)

The Public Facilities (P/F) land use designation is applied to properties used for such activities as education and places of worship. This designation may also be applied to other public uses such as jails and administrative buildings.

L. TRANSPORTATION/UTILITIES (T/U)

The purpose of this district is to recognize the Transportation or Utility use of property. This designation may be applied as appropriate subject to review of the specific application and intended use of the property.

The Transportation/Utilities (T/U) land use designation has been applied principally to four areas:

- 1) St. Lucie County International Airport;
- 2) The St. Lucie County Landfill;
- 3) The St. Lucie Power Plant site located on South Hutchinson Island; and,
- 4) The Florida Power and Light - Midway switching station along West Midway Road.

M. HISTORIC (H)

The Historic (H) land use designation is applied to properties of historic significance as identified by the national historic register, or State of Florida.

N. CONSERVATION

The Conservation land use designation has been divided into two categories: **Residential/Conservation (R/C)** and **Conservation-Public (Cpub)**. These designations are intended to identify areas of the County which exhibit unique or special environmental characteristics, and may be either publicly or privately held. The designations are described in more detail below.

1. **Residential/Conservation (R/C)**: The Residential/Conservation category is intended to identify those privately controlled lands that contain unique vegetation or have characteristics which warrant special attention prior to their being developed. The Residential/Conservation designation is not intended to prevent development activities. Instead, its purpose is to identify those areas that, due to special environmental or other unique constraints, location, property configuration, or topography should be more closely examined before final development approvals are authorized.

- f. Protective functions and their related activities - Correctional institutions (9223)
- g. Solid waste disposal. (4953)
- h. Outdoor shooting ranges, providing site plan approval is obtained according to the provisions of Sections 11.02.07 through 11.02.09 and Section 7.10.19 of this Code. (999)

8. Accessory Uses

Accessory uses are subject to the requirements of Section 8.00.00 and include the following:

- a. Automobile and truck rental services.
- b. Restaurants. (Including the sale of alcoholic beverages for on premises consumption only.)
(999)

APPENDIX 10.4.0.1

**ST. LUCIE PLANT EASEMENTS FOR INTAKE & DISCHARGE PIPELINES
3/31/1975 AND 5/18/1976**

STATE OF FLORIDA BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

PERMIT NO. 253-123 (2)(b)-1101 - To Excavate and Backfill Two Trenches,
2,450 Feet Apart in Atlantic Ocean,
Hutchinson Island, 36-31-St. Lucie
County, Florida

EXTENSION: P. 17 EXTENSION DATED MARCH 31, 1975 MARCH 22, 1972
EXPIRATION: March 22, 1975 EXPIRE: MARCH 22, 1976
FOLLOW UP: 1-15-75 (Extension Needed?) COMPLETED:

any manner from and is in strict accordance with the Board
of Trustees Permit No. 253-123 (2)(b)-1101 and the plan
and drawings accompanying the application to the Board
that are considered part of its permit.

STATE OF FLORIDA
BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

WHEREAS, application by: Florida Power & Light Company
Post Office Box 3100
Miami, Florida 33101

for a permit under the provisions of Chapter 253, Florida Statutes, to perform certain works in the navigable waters of the State
Florida, was approved by said State of Florida Board of Trustees of the Internal Improvement Trust Fund at the meeting of
March 18, 1975.

NOW, THEREFORE, this Permit authorizes the above named applicant, hereinafter called Permittee, to perform such work
subject to the conditions contained herein: To excavate and backfill two trenches 2,450 feet
apart in the Atlantic Ocean; two subaqueous intake pipes to be installed
in the south trench ending 1,200 feet offshore, buried 20 feet below grade
at the shoreline and 13 feet below grade at the offshore end; one subaqueous
discharge pipe and Y-type diffuser to be installed in the north trench
ending 1,200 feet offshore, buried 26 feet below grade at the shoreline and
exposed at the offshore end; ocean bottom in the immediate vicinity of the
discharge to be protected against scour by riprap or other appropriate
material. In Sections 9 and 15, Township 36 South, Range 41 East,
Hutchinson Island, Atlantic Ocean, St. Lucie County.

Permit extension approved for one year subject to the stipulation that
periodic hydrographic monitoring shall be performed and the data provided
to Department of Natural Resources for review.

BOARD OF TRUSTEES

- 2 All dredging shall be done in such a manner designated on the attached map This Permit is not valid unless the seal of the
resources in the public waters;
- 3 If the dredging is being done in other than a meandered body of fresh water, only sand shall be removed No oyster or shell
deposits shall be disturbed or undermined by dredging or other operations pursuant to this Permit;
- 4 The use of draglines or dredges with cutter heads is prohibited in fresh water lakes without special approval in writing from the
State of Florida Board of Trustees of the Internal Improvement Trust Fund The impermeable seal or strata shall not be disturbed;
- 5 Material removed in construction shall be placed upon the adequately diked spoil disposal area or areas designated on said map;
- 6 The material removed shall be used only for the improvement of upland property owned by the Permittee and shall not
sold. Under no circumstances shall the Permittee remove more material than authorized by this Permit without specific approval of the
State of Florida Board of Trustees of the Internal Improvement Trust Fund;
- 7 No fill shall be made on the water side of the original natural ordinary or mean high water mark This Permit conveys no title
to land or water, and does not constitute authority for the reclamation of water bottom unless herein provided;
- 8 Extreme care shall be exercised to prevent any adverse or undesirable effects from this work on the property of others. This
Permit authorizes no invasion of private property or rights in property;
- 9 This Permit is granted subject to the rights of the United States in navigable water, and shall be subject, further, to the rights
the public in boating, bathing, fishing, and other rights for which purposes the waters and submerged land thereunder are held by the
Florida Power and Light Company

PERMITTEE
By A M Davis
NAME & TITLE
Vice President

BH7 (7-69)

NOTE: The Permittee is required to obtain a
valid certificate issued pursuant to Section
21(b)(1), Water Quality Improvement Act of
1970, (Public Law 91-224), by the State of
Florida Department of Air and Water Pollution
Control before engaging in activities autho-
rized by this permit.

11 The Permittee is required to obtain a valid certificate from the State of Florida Department of Pollution Control, issued pursuant to Section 21(b)(1), Public Law 91-224, and Chapter 403, Florida Statutes, before engaging in activities authorized by this Permit;

12. At the Trustees' option, applicant may be required to furnish a cross-section profile map with certificate executed by a Florida Registered Professional Engineer or Land Surveyor, stating quantity of fill material excavated pursuant to this Permit, such certification to be furnished within 90 days after completion of project or expiration of permit, whichever is earlier;

13. A copy of this Permit shall be posted in a conspicuous place on the equipment being used in the dredging operation or shall be readily available at the project site for inspection by all duly constituted law enforcement officers having jurisdiction. This Permit shall become effective upon acceptance by the Permittee and receipt of the executed copy by the State of Florida Board of Trustees of the Internal Improvement Trust Fund, Elliot Building, Tallahassee, Florida 32304;

14 All dredging and spoiling shall be done in such a way that turbidities in the area do not exceed 50 Jackson Units above base;

15. If the work authorized is not completed on or before the 22nd day of March, 19 76, this authorization, if not previously revoked or specifically extended, shall cease and be null and void;

16 THE PERMITTEE, BY ACCEPTANCE OF THIS PERMIT, AGREES TO ABIDE BY THE STIPULATIONS AND CONDITIONS CONTAINED HEREIN AND TO PERFORM THE WORK IN STRICT ACCORDANCE WITH THE PLANS AND SPECIFICATIONS ATTACHED HERETO AND MADE A PART HEREOF. ANY DEVIATION THEREFROM SHALL BE GROUNDS FOR REVOCATION OF THIS PERMIT.

Issued this 31st day of March, A.D. 1975.

STATE OF FLORIDA BOARD OF TRUSTEES
OF THE INTERNAL IMPROVEMENT TRUST FUND

By JW Landers Jr.
Executive Director

Accepted this 25th day of March, A.D., 19 75

W. Samuel Tucker, Jr.
PERMITTEE

W. Samuel Tucker, Jr.
Manager of Environmental Affairs
Florida Power & Light Company
By _____
Name and Title

Florida Power and Light Company

PERMITTEE
By A M Davis
NAME & TITLE
Vice President

BH7 (7-69)

NOTE: The Permittee is required to obtain a valid certificate issued pursuant to Section 21(b)(1), Water Quality Improvement Act of 1970, (Public Law 91-224), by the State of Florida Department of Air and Water Pollution Control before engaging in activities authorized by this permit.

BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND

E A S E M E N T

NO. 26211 (3177-56)

WHEREAS, pursuant to application made by the Florida Power and Light Company, for a right-of-way easement over and through sovereignty lands held by the Board of Trustees of the Internal Improvement Trust Fund and said Board did on January 12, 1982, agree to the granting of same:

THEREFORE, WITNESS THIS INDENTURE, made and entered into by and between the Board of Trustees of the Internal Improvement Trust Fund, as grantor, and Florida Power and Light Company, as grantee, does hereby grant unto said grantee, its successors, and assigns, subject to the conditions hereinafter set forth, a right-of-way easement for subaqueous pipeline installation, on under and across the following described land in St. Lucie County, Florida, to-wit:

An Easement 400.00 feet in width for a subaqueous intake pipe for Florida Power and Light Company's St. Lucie Plant, the centerline of which is more particular described as follows:

Commence at the point of intersection of the North line of Section 16, Township 36 South, Range 41 East, St. Lucie County, Florida, with the centerline of State Road 1A as shown on the State of Florida State Road Department Right of Way Map Section No. 9405-107; thence South 29°06'19" East along said centerline of State Road 1A 2852.73 feet; thence North 60°53'41" East 951.15 feet for the point of beginning; thence continue North 60°53'41" East 1702.00 feet to the Point of Termination of said Easement. Containing 15.63 acres more or less.

The conditions under which this easement is granted are as follows:

1. The rights hereby conferred shall be subject to
(a) any and all prior right of the United States; and (b) any

and all prior grants by the Board of Trustees of the Internal Improvement Trust Fund in and to submerged lands situated within the limits of the right-of-way hereinabove described.

2. That no title to said land is conferred by this instrument.

3. That the above described parcel of land shall be used solely as right-of-way for the construction, maintenance and use of a subaqueous pipeline. In the event that land herein described shall cease to be used for said purposes, then the easement hereby granted covering said land shall terminate without notice from the Board of Trustees of the Internal Improvement Trust Fund.

4. That the grantee herein will not, in the construction/ installation and maintenance of said pipeline, damage said lands or unduly interfere with public or private rights therein.

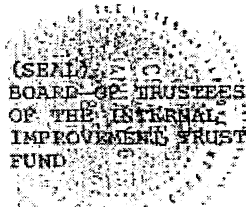
5. That the grantee herein shall save, protect and hold harmless the State of Florida and the Board of Trustees of the Internal Improvement Trust Fund from all damages and claims arising out of the use of said easement by the grantee or any of its agents, servants, employees or contractors.

6. That the grantee by acceptance of this agreement, binds itself, its successors and assigns, to abide by the provisions and conditions herein set forth, and said provisions and conditions shall be deemed covenants of the grantee, its successors and assigns, running with the land.

TO HAVE AND TO HOLD said easement unto said grantee, its successors and assigns, for the purposes herein set forth.

IN TESTIMONY WHEREOF, by authority granted April 1, 1980, the legally designated agent of the Board of Trustees of the

Internal Improvement Trust Fund has hereunto subscribed his name and has caused the official seal of the Board of Trustees of the Internal Improvement Trust Fund to be hereunto affixed, in the City of Tallahassee, Florida, on this 1st day of February, A. D. 19 82.



BOARD OF TRUSTEES OF THE INTERNAL
IMPROVEMENT TRUST FUND

BY 
EXECUTIVE DIRECTOR
DEPARTMENT OF NATURAL RESOURCES

This instrument was
prepared by:
Gloria C. Watson
Department of Natural
Resources
3900 Commonwealth Blvd.
Tallahassee, Florida 32303

APPROVED AS TO
FORM AND LEGALITY

ATTORNEY GENERAL

APPENDIX 10.4.0.2

**CONDITIONS OF CERTIFICATION – ST. LUCIE UNIT 2
1976-1986**

**ST. LUCIE PLANT
CONDITIONS OF CERTIFICATION**

CONTENTS

Part I.

Conditions Effective as of May 1, 1986
(Includes all modifications after 5/18/76)

Part II.

- A. May 18, 1976 Order of the Governor and Cabinet and Conditions of Certification as revised 5/18/76
- B. April 7, 1980 Modification Order of the Governor and Cabinet
Modifying Conditions V.3. and X.b.
- C. December 7, 1981 Final Order Modifying Conditions of Certification
Modifying Conditions II.A.2., II.B., III.A.1., III.A.2., VIII, and III.B.
- D. January 13, 1982 Amended Final Order Modifying Conditions of Certification
Correcting Modification to Condition VIII
- E. January 27, 1982 Final Order Modifying Conditions of Certification
Modifying Conditions X.B. and X.I.A.
- F. February 4, 1982 Final Order Modifying Conditions of Certification (Corrected)
Correcting paragraph 3 of the January 27, 1982 Order to make approval of the application for modification subject to Special Condition V, X, and XI
- G. April 28, 1986 Final Order Modifying Conditions of Certification
Modifying Condition III.A.1., III.A.2., III.C., and III.D.
- H. September 25, 1987 Final Order Modifying Conditions of Certification
Modifying Condition II.A.1.

FLORIDA POWER & LIGHT COMPANY
ST. LUCIE UNIT NO. 2
CONDITIONS OF CERTIFICATION
(Includes Modifications in Effect 9/25/87

[Dates in left margin indicate
language was modified subsequent
to 5/18/76]

SPECIAL

I. Air

St. Lucie Unit No. 2 shall comply with all regulations of the Nuclear Regulatory Commission and the provisions of Chapter 17-2, Florida Administrative Code.

II. Effluent Standards and Limitations

Wastewater discharged from the site of Unit 2 shall meet the standards set forth in Chapter 17-3, FAC, and any subsequent amendments except for variance granted pursuant to Sections 403.201(c) and 403.511(2), to wit:

A. Thermal

1. Discharge

9/25/87 --- At the point of discharge, heated water temperature from the multi-port diffuser shall not exceed 30°F above ambient at any time, except that the maximum discharge temperature shall be limited to 32°F above ambient during condenser and/or circulating water pump maintenance, throttling circulating water pumps to minimize use of chlorine, and/or fouling of circulating water system. This temperature may be measured at a point within the discharge canal. (In determining the temperature differential, the time of travel through the plant may be considered.)

2. Thermal Mixing Zone

12/7/81 --- The heated water discharged from the multiport diffuser shall not exceed 17°F above ambient outside of a thermal mixing zone of 10.7 acre-feet. The mixing zone shall be bounded by an area 1385.5 feet long extending seaward from the most landward discharge port, 21.0 feet to either side of the discharge pipe axis and 8.0 feet in height above the bottom of the discharge ports.

The surface temperature of the surrounding receiving water at no time will be raised to more than 97°F nor shall the adjacent coastal waters be raised more than 2°F higher than the ambient temperature during the months of June, July, August, and September nor more than 4°F higher than the ambient temperature during the remainder of the year.

Liquid wastes discharges shall not contain concentrations of pollutants in excess of the following limitations:

- 12/7/81

III. Water Monitoring Program

A monitoring program shall be undertaken by Florida Power & Light Company on the receiving waters and area waters as generally described as follows:

A. Chemical and Physical Monitoring Program

1. Chemical and Physical Monitoring Program -
The following parameters shall be monitored and reported to the Department quarterly.

Parameter		Sampling Location	Type of Sample	Frequency of Sampling
4/28/86	Flow	**Intake	Pump logs	hourly
	Temperature	**Intake/POD*	-	hourly
	TSS	Neutralization Basin	Composite	weekly
	Oil and Grease	Neutralization Basin	Grab	weekly
	Free Chlorine Residual	*POD Condenser Outlet	Multiple Grabs	weekly during chlorination
	Total Chlorine Residual	*POD	Multiple Grabs	weekly during chlorination
	Boron	*POD	Grab	when batch discharges are required ***
4/28/86	* May be monitored at the centerline of the discharge canal, at least one foot below the surface between State Road 1A and the discharge pipe headwall			
	** May be monitored in intake canal (Plant Intake Structure)			
	*** From the refueling water storage tank and nonaerated waste hold up tanks (4)			

4/28/86

— [B. Emergency Cooling Canal Monitoring

There shall be instituted a monitoring program to study the dissolved oxygen (D.O.) concentrations in Big Mud Creek and the Emergency Cooling Canal.

1. Monitoring of Tests - The dissolved oxygen (D.O.) of the water withdrawn from Big Mud Creek via the emergency cooling system intake shall be monitored during each test. If the results of the monitoring program should indicate that water containing a D.O. level of less than 4 mg/l is being withdrawn, then the D.O. level of the water in the discharge canal shall be monitored as well during each subsequent test. The results of each test will be reported to the Department in the next quarterly monitoring report.
2. Corrective Measures - If the monitoring should indicate that water containing less than 2 mg/l of dissolved oxygen is being discharged to the Atlantic Ocean, a procedure will be developed and implemented to prevent the discharge of oxygen depleted water.

4/28/86

— [C. Water Monitoring Program Review

The results, and analysis of the biological, chemical and physical monitoring programs will be submitted to the Division of Environmental Permitting of the Department for review at the end of the first year after Unit 2 commences operation and each year thereafter to determine the necessity and/or extent to their continuation. The methods and procedures utilized in the monitoring program shall be approved by the Department and also be reviewed annually by the Department and Florida Power & Light. The Department and the applicant shall consult and coordinate the monitoring program with the Department of Natural Resources.

IV. Other Monitoring Program

There shall also be implemented the pre-operational and post-operational environmental monitoring programs prescribed by the Nuclear Regulatory Commission and other Federal agencies. Copies of any reports required by such federal agencies shall be submitted to the Department.

V. Dredging Operations

1. Spoil Disposal - There shall be no surface discharge of turbid waters to waters of the State from spoil disposal areas. Any spoil excavated and permanently moved during construction or maintenance dredging shall be deposited on an upland area. A berm or other control device shall be constructed around any spoil disposal areas to insure against spillage or discharge or excavated material which may cause turbidity in excess of 50 Jackson Turbidity Units above background in waters of the State.
2. Turbidity Control - Turbidity control devices shall be installed prior to construction or maintenance dredging to insure that turbidity of State waters is not increased more than 50 Jackson Turbidity Units.
3. Dike Removal - The dike around the mangrove area north of the discharge canal shall be opened up to Big Mud Creek by breaching the dike in three (3) places. Each breach in the dike shall be a minimum of ten feet (10') wide at the bottom and the bottom elevation of the breach shall not be higher than one foot below mean sea level (-1' MSL) or deeper than -3' MSL.

4/7/80

VI. Stormwater Runoff

During construction and plant operation necessary measures shall be employed to settle, filter or absorb silt containing or pollutant loaded stormwater runoff to prevent contamination of waters of the State. Such measures may include sediment traps, barriers and use of berms of vegetation. Exposed or disturbed soil shall be sodded as soon as possible to minimize silt and sediment runoff into waters of the State.

VII. Defouling Operations

Ninety (90) days prior to conducting any defouling operations on intake or discharge lines, a plan of operation shall be submitted to the Department detailing when and how the defouling operation will take place. The defouling operation shall be conducted in such a manner that the water quality standards of Chapter 17-3, FAC will not be violated.

VIII. Sanitary Wastes Disposal System

12/7/81

Sanitary wastes shall be collected and treated in accordance with Chapter 17-6, FAC, and DER permits D056-34536, DC56-37127 and D056-19921 or such permits as may be subsequently reissued or modified.

IX. Solid Wastes

Solid wastes generated by the construction or operation of the certified facility shall be handled and disposed of in conformance with all applicable regulations of the Nuclear Regulatory Commission and Chapter 17-7, Florida Administrative Code.

X. Vegetation and Dunes

A. Vegetation - Native vegetation will be planted at the earliest feasible time to replace any portion of the light screen installed behind the beach dune for Unit No. 1 that is disturbed for Unit No. 2 construction. Facility lighting added for Unit No. 2 will be shielded or directed to minimize sky shine. Rather than planting Australian Pine, the permittee shall use native vegetation such as live oak, native figs or wild tamarind in order to protect the barrier sand dune and to act as a light shield in needed to protect turtle hatchlings, unless directly prohibited by the Nuclear Regulatory Commission.

4/7/80
and
1/27/82

B. Dunes - In restoring the ocean dune to its original condition after installation of the Unit No. 2 discharge and intake lines, the permittee will replant the dune at the earliest feasible time with dune stabilizing plants native to the area, such as sea oats (*Uniola paniculate*) or sea grape (*Coccoloba uvifera*). The Department of Natural Resources, Bureau of Beaches and Shores shall be allowed to inspect the dune once restored.

XI. Control Measures During Construction

The permittee shall take the following mitigation action during construction of the proposed plant to limit adverse effects:

1/27/82

A. Discharge and Intake Lines

1. Construct a temporary dune and use sheet piling to protect against wave damage when the

dune is cut. Native plantings will be maintained as much as possible.

2. Survey the beach area subject to construction activities for sea turtle nests and relocate any present if construction takes place on the beach during the nesting season.
3. Dispose of dredge spoils at an approved onshore site.
4. Use sheetpiling or other acceptable methods around the area being dredged to minimize siltation of the adjacent waters.

B. Dewatering

Wastewater discharged from site dewatering will meet Florida water quality criteria prior to discharge.

C. pH

Chemical releases will be neutralized prior to discharge to waters of the State to prevent violation of pH water quality standards.

D. Facility Lighting

Elevated plant lighting will be shutdown to the extent possible during passage of storm fronts to minimize bird kills.

E. Trash

Trash shall be disposed of either on or off site in accordance with the procedure set forth in Chapters 17-5 and 17-7, FAC. If open burning of refuse or construction wastes are performed in accordance with Chapter 17-5, FAC, no additional permits shall be required, but the Division of Forestry shall be notified prior to such burning.

F. Edible Refuse

Edible refuse will be carefully disposed of to prevent accessibility by raccoons with resulting increased turtle predation.

G. Fish Entrapment

Fish entrapment shall be monitored in the intake canal even during the time only one unit is in operation. If unusually large numbers of fishes are entrapped, the permittee will furnish the Department a plan to mitigate such entrapment. Once the Unit 2 multiport discharge line is installed, heated water shall be discharged only from that line when only one unit is operating.

XII. Environmental Control Program

A control program shall be established to provide for a periodic review of all construction activities to assure those activities conform to the environmental conditions set forth in the conditions of certification.

XIII. Irreversible Damage

If unexpected harmful effects or evidence of irreversible damage are detected during facility construction, the applicant shall provide to the Department an acceptable analysis of the problem and a plan of action to eliminate or significantly reduce the harmful effects or damage.

XIV. Water Withdrawal

The withdrawal of water for the testing and functioning of the emergency cooling systems for the St. Lucie Plan from that portion of the Indian River known as Big Mud Creek shall be in accordance with the following:

- a. Testing of the alternate emergency cooling systems not to exceed 4,000,000 gallons per year for Unit No. 2 when combined with Unit No. 1.
- b. Flow of water in the alternate emergency cooling system, in the event that the main source of emergency cooling water from the Atlantic Ocean is not available, shall not exceed 60,000 gallons per minute, and may continue until the main source of emergency cooling water has been restored.

- c. The permittee shall notify the nearest sub-district office of the Department and the South Florida Water Management District prior to each test of the emergency cooling canal system, and shall also notify the Department of any use of the emergency cooling canal system lasting more than twelve (12) hours.

XV. Transformer Oil Collection Pits

The gravel filled transformer, oil collection pits shall be constructed with appropriate bottom slopes to allow removal of any spill oil via the sump. The permittee shall notify the Department within 60 days of issuance of certification whether or not the transformer oil to be used on site will contain any polychlorinated biphenyls or other toxic polycyclic halogenated compounds. If oils containing polychlorinated biphenyls or other toxic polycyclic halogenated compounds are used in transformers, then the sides and bottom the transformer pits shall be lined with concrete or other suitable impervious material.

Substitute-XVI. Submission of Reports
5/18/76

Florida Power & Light Company shall submit to the Local Public Documents Room located at the Indian River Community College Library in Ft. Pierce, Florida a copy of all monitoring and other reports required to be submitted to the Department of Environmental Regulation.

XVII. Operational Safeguards

The overall design and layout of the plant must be such as to minimize hazards to humans and the environment. Warning signs, barrier fences and security control measures will be utilized to prevent public exposure to hazardous conditions. OSHA standards will be complied with to protect employees and the public.

XVIII. Radiological

A. Site Security

The applicant shall review the site security plan at least every three years and revise the plan as necessary based upon imposed Nuclear Regulatory Commission (NRC) requirements, operating experience, new technology and changes in the probability of acts of sabotage or terrorism. The Department shall be notified in writing of each such review.

1. Upon the Department's request the applicant shall make the most recent site security plan available to a bonded security analyst designated and retained by the Department. The analyst shall be a recognized expert in the field of industrial and nuclear facility security. The security plans shall be thoroughly evaluated by the analyst for the purpose of determining the efficacy of the plan. The results of the analyst review shall be communicated to the applicant and the NRC. Should the Department's analyst detect deficiencies in applicant's site security plan, the Department should bring to the attention of the applicant and NRC such deficiencies and will initiate a request, consistent with the NRC procedural requirements that remedial action be taken to correct the deficiencies.
2. The above process of reviewing the site security plan and submitting criticisms thereof shall be implemented through a method approved by the applicant and the NRC, designed to insure the continued confidentiality of the plan as required by practices and regulation of the NRC.

B. Decommissioning

Upon application to the NRC for authority to decommission the plant, the applicant shall provide the Department a written plan indicating how radioactive materials will be removed from the site or contained on site. Should the Department's review of the written plan reveal deficiencies, the Department shall bring such deficiencies to the attention of the applicant and the NRC and will initiate a request, consistent with NRC procedural requirements, that remedial action be taken to correct the deficiencies.

C. Emergency Plan

The applicant shall work with the Division of Disaster Preparedness and the Department of Health and Rehabilitative Services in annually updating the emergency procedures and evacuation planning as necessary, including but not limited to improvements in communication and warning systems and in updating predicted plume overlays.

D. Technology Review

The applicant shall submit a report to the Department and the Nuclear Regulatory Commission every five years commencing with plant operation, containing a review of new radioactivity release control technology and how the effectiveness of such technology relates to achievement of releases "as low as reasonably achievable" as defined in Appendix I of 10 CFR, Part 50, the amount of reduction in radioactive releases, if such technology were employed, and the cost of backfitting such new technology.

E. Reporting

The applicant shall furnish to the Department copies of the following reports for St. Lucie 2 required to be filed in the NRC Public Document Room:

1. Annual Radiological Environmental Monitoring Report
2. Semiannual Radioactive Effluent Release Report
3. Non-routine Radioactive Effluent Reports as required by Environmental Technical Specifications to be made a part of the future Operating License for this unit by the NRC.

Where proprietary information which is required by NRC regulations to be withheld from public disclosure is included in such reports filed with NRC, the applicant shall submit to the Department a brief description of the nature of such proprietary information.

F. Radiological Release Limitations

The recommendation in the Power Plant Site Certification Analysis that certification be issued is based in part upon the fact that in order to obtain a construction permit and operating license from NRC, the applicant must comply with all applicable regulations, requirements, and standards of the U.S. NRC which limit the release of radioactive materials in solid waste, liquid or gaseous effluents to the environs. The above regulations, requirements, and standards include the following:

1. Standards for Protection Against Radiation, U.S. Nuclear Regulatory Commission Rules and Regulations, Title 10, Chapter 1, Part 20,

Code of Federal Regulations, as presently in effect or hereafter amended.

2. Limitations and conditions for the controlled release of radioactive materials in solid, liquid and gaseous effluents contained in the Environmental Technical Specifications attached to and made a part of the future Operating License for St. Lucie Unit No. 2 issued to the applicant by the U.S. NRC.

The Department has the statutory duty to insure that the location and operation of St. Lucie 2 will produce minimal adverse effects on human health, the environment, the ecology and the land and its wildlife, and the ecology of State waters and their aquatic life. (Fla. Stat. Section 403.502.) The Department has determined that the construction and operation of St. Lucie 2 must comply with the above radiological release limitations in order to minimize adverse effects on human health and the environment. This certification is conditioned upon full compliance by the applicant with the applicable above regulations, requirements, and standards.

The NRC has the primary duty and responsibility imposed by statute, to enforce compliance by the applicant with NRC standards and technical specifications, to assure that the construction and operating of St. Lucie 2 will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public. See Section 103(d) of the Atomic Energy Act, 42 U.S.C. section 2133(d) (1970); accord. 42 U.S.C. section 2332(a) (1970).

However, should the Department determine that the NRC has failed to discharge its duty and responsibility, it may bring any such deficiencies to the attention of the applicant and the NRC, and will initiate a request, consistent with NRC procedural requirements, that appropriate enforcement action be taken to correct the deficiencies. Should such appropriate enforcement action not be forthcoming, and the Department determines that such enforcement action health and the environment by continued operation of St. Lucie 2 are minimized, the Department reserves the right to take appropriate State enforcement action pursuant to Chapter 403, Florida Statutes against the applicant for violation of any of the above radiological release

limitations on the grounds that the violation of such limitations constitutes a violation of this express condition of certification.

G. Fuel Limitations

The Fuel for St. Lucie Unit No. 2 shall be enriched uranium dioxide fuel.

H. Monitoring

The Environmental Radiological Surveillance Program required by the Environmental Technical Specifications to be made a part of the future Operating License for St. Lucie 2 by NRC shall be implemented by applicant. Should the Department determine that additional monitoring is required, it may take appropriate action to require such monitoring by amendment of this condition of certification.

I. Interagency Agreement

The applicant shall comply with the State of Florida Radiological Emergency Plan dated May 1975 or as subsequently revised, and the Radiological Response Agreement between the Florida Division of Health, Department of Health and Rehabilitative Services and the Florida Power and Light Company dated January 16, 1974, as attached and incorporated herein as Appendix E or as may be subsequently revised.

J. Reservation of Legal Rights

Applicant's acceptance of these radiological conditions of certification does not, in and of itself, constitute a waiver by Applicant of its contention that any such radiological conditions are invalid under the doctrine of federal preemption.

GENERAL

1. Change in Discharge

All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any non-radiological pollutant as defined in S403.031(2), Florida Statutes 1974, not identified in the application, or more frequent than, or at a level in excess of that authorized herein, shall constitute a violation of the certification. Any anticipated facility expansions or production increases which will result in new or increased discharges of pollutants or expansion in steam generating capacity must be reported by submission of a new application. Prior to any process modification which will result in new or increased discharges of pollutants, the permittee shall obtain appropriate modifications of the conditions of certification.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any limitation specified in this certification, the permittee shall notify the appropriate District Manager or subdistrict office of the Department by telephone during the working day that said noncompliance occurs and shall confirm this in writing within seventy-two (72) hours of becoming aware of such conditions, and shall supply the following information:

- a. A description of the discharge and cause of noncompliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge and any impact that might have occurred or may occur from such noncompliance.

3. Facilities Operation

The permittee shall at all times take all reasonable steps to maintain in good working order and to operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this certification.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact resulting from noncompliance with any limitation specified in this certification.

5. Right of Entry

The permittee shall allow the Secretary of the Florida Department of Environmental Regulation and/or authorized representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises where an effluent source is located or in which records are required to be kept under the terms and conditions of this permit; and
- b. To have access to and copy any such records required to be kept under the conditions of this certification; and
- c. To inspect any monitoring equipment or monitoring method required in this certification and to sample any discharge or pollutants.

6. Revocation or Suspension

After notice and opportunity for a hearing, this certification may be suspended or revoked in whole or in part during its term for any violation specified in Sections 403.514 Florida Statutes.

7. Civil and Criminal Liability

Nothing in this certification shall be construed to relieve the permittee from civil or criminal penalties for noncompliance with any condition of this certification, applicable rules or regulations of the Department of Chapter 403, Florida Statutes except for variance granted.

Nothing in this certification shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State Statutes, or regulation, including Departmental rules and regulations promulgated by the Department pursuant to Chapter 403, F.S.

8. Property Rights

The issuance of this certification does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to public or

private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. The applicant will obtain necessary authorization from the appropriate agency of the State of Florida to use any submerged lands occupied by the discharge structure.

9. Severability

The provisions of this certificate are severable, and if any provision of this certification or the application of any provision of this certification to any circumstances, is held invalid, the application of such provision to other circumstances and the remainder of the certification shall not be affected thereby.

10. Modification of Conditions

The conditions of this certification may be modified in the following manner:

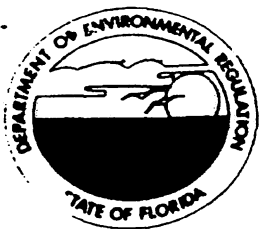
- a. Upon the adoption by the Department of a rule pursuant to Chapter 120, Florida Statutes, containing limitations or requirements applicable to any then continuing or future activities under the certification, which rule provisions are new or more stringent than the requirements contained herein, the conditions of this certification shall be automatically modified consistent with such rule. If such requirements are less stringent than the requirements contained herein, the conditions of this certification which are referred to by reference to the Florida Administrative Code shall be automatically modified consistent with such rule. In the application of such later adopted rule, this paragraph shall not be construed to mean that the St. Lucie Unit No. 2 plant is a new source if a distinction between new and existing sources is made within the later adopted rule.
- b. On its own motion or on petition of the applicant and, after review of such information as the Department deems appropriate, the Department may, by order of the Secretary or his designee, modify the conditions of this certification as it deems necessary to attain the objectives of Chapter 403, Florida Statutes. The Department shall provide notice and an opportunity for hearing in accordance with Chapter 403 and Chapter 120, Florida Statutes, and rules or regulations adopted pursuant thereto.

11. Review of Site Certification

The certification shall be final unless revoked or suspended pursuant to law. Five years from the date of issuance of any National Pollutant Discharge Elimination System Permit issued pursuant to the Federal Water Pollution Control Act Amendments of 1972, for Unit 2, the Department shall review all monitoring data that has been submitted to it during the preceding five year period for the purpose of determining the extent of the permittee's compliance with the conditions of this certification and the environmental impact of this facility. The Department shall submit the results of its review and recommendations to the Permittee and all parties of record in this certification proceeding.

APPENDIX 10.4.0.3

**CONDITIONS OF CERTIFICATION – ST. LUCIE UNIT 2
MODIFICATION 08/08/1990**



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

RECEIVED

August 8, 1990

AUG 13 1990

Hopp. J. Boyd
Green & Sams

Mr. Richard S. Brightman
Hopping Boyd Green and Sams
Post Office Box 6526
Tallahassee, Florida 32314

RE: FPL St. Lucie Unit 2
PA 74-02

Dear Mr. Brightman:

The Department of Environmental Regulation has no objection to the repair of the intake velocity caps for the St. Lucie Power Plant provided that such repairs are made in conformance with the conditions of certification and the information provided in your July 20, 1990, submission.

Sincerely,

Hamilton S. Oven, Jr., P.E.
Administrator, Office of Siting
Coordination
Division of Air Resources
Management

HSO/ah

cc: Winnifred Perkins, FPL
Tom Franklin, DER
Kevin Pope, DER



HOPPING BOYD GREEN & SA

ATTORNEYS AND COUNSELORS

123 SOUTH CALHOUN STREET

POST OFFICE BOX 6526

TALLAHASSEE, FLORIDA 32314

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RICHARD S. BRIGHTMAN
PETER C. CUNNINGHAM
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GARY R. SAMS
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THOMAS M. DE ROSE
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SAM J. SMITH
CHERYL G. STUART

OF COUNSEL
W. ROBERT FOXES

July 20, 1990

Hamilton S. "Buck" Oven
Division of Air Resources Management
Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, FL 32399

RECEIVED

AUG - 3 1990

Re: FPL St. Lucie Power Plant
Certification PA-74-02

ENVIRONMENTAL AFFAIRS

Dear Mr. Oven:

Florida Power and Light Company (FPL) has previously informed the Department of Environmental Regulation (DER) of the damage to the velocity caps associated with the cooling water intake structures at FPL's St. Lucie Power Plant on Hutchinson Island in St. Lucie County, Florida. FPL's previous letters have indicated that two of the three velocity caps were damaged. Further investigations of the velocity caps have now shown that the third cap is experiencing the preliminary stages of structural degradation. Accordingly, FPL has determined it to be necessary to repair all three caps.

Unit Two of the St. Lucie Power Plant is certified pursuant to the Electrical Power Plant Siting Act (Part II, Chapter 403, Florida Statutes). The original certification of Unit II contemplated use of only the two then existing cooling water intake structures, but the certification was modified by an order dated January 27, 1982 to authorize construction and use of the third cooling water intake structure. General condition No. 3 of the certification order directs that FPL "take all reasonable steps to maintain in good working order ... all treatment or control facilities or systems installed or used ... to achieve compliance with the terms and conditions of" the certification.

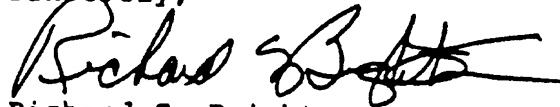
As we discussed with you in our meeting on April 30, 1990, FPL must repair the velocity caps in order to control the velocity of cooling water intake to comply with the velocities set forth in the certification application materials. Thus, FPL believes that the repair of the damaged velocity caps is authorized by the conditions of certification.

Hamilton S. "Buck" Owen
July 20, 1990
Page 2

The purpose of this letter is to seek DER's written concurrence in FPL's conclusion that no additional approvals are required by Chapter 403, Florida Statutes, or any of DER's permitting programs in order to effect the repair of the damaged velocity caps. While FPL is not applying for a dredge and fill permit, the information normally provided in a dredge and fill permit application is provided herewith to assist DER in this determination.

FPL would be pleased to answer questions or provide additional information as necessary for DER to conclude that the proposed velocity cap repair/replacement is authorized by the existing conditions of certification. Please let me know if you or other DER staff have questions regarding this matter.

Sincerely,



Richard S. Brightman

Attorney for Florida
Power & Light Company

RSB/hgb

cc: Gary Smallridge, Esq.
Richard Donelan, Esq.
Janet Llewellyn
Tom Franklin - DER/Port St. Lucie
Winifred Perkins - FPL

INFORMATION NORMALLY INCLUDED
IN A DREDGE AND FILL APPLICATION

RECEIVED

AUG - 3 1990

1. The Applicant's name and address is:

Florida Power & Light Company
Post Office Box 078768
West Palm Beach, FL 33407-0768

ENVIRONMENTAL AFFAIRS

Telephone:
Day - 407/640-2023
Night - 407/626-5662

2. The name and address, zip code and title of applicant's authorized agents:

Winifred G. Perkins
Senior Environmental Coordinator
Florida Power & Light Company
Post Office Box 078768
West Palm Beach, FL 33407-0768

Telephone: 407/640-2023

Copies of all correspondence regarding this matter should be sent to:

Richard S. Brightman
Hopping Boyd Green & Sams
Post Office Box 6526
Tallahassee, FL 32314

Telephone: 904/222-7500

3. The name of the waterway at the location of the activity is:

The Atlantic Ocean

4. The location where the proposed activity exists or will occur is:

6501 South A-1-A
Jensen Beach, FL 34957
St. Lucie County
Section 15, Township 36 South, Range 41 East
Latitude 27° 20' 52"N
Longitude 80° 14' 00"W

5. The names and addresses of adjoining property owners whose property also adjoins the waterway are:

Christ. and Mary Lou Krantz
George and Mary Ann Krantz
1345 Greenway Terrace
Elm Grove, WI 53122

and

Sand Dollar North Condominiums
7420 S. Highway A-1-A
Jensen Beach, FL 34957

6. The proposed use is for:

a public utility

7. The description of the project is:

A. Structures:

Florida Power and Light Company (FPL) proposes to make repairs to three existing intake structure velocity caps at the St. Lucie Power Plant in accordance with the attached engineering drawings numbers JPN-101-990-100 sheets 1-3, dated June 29, 1990.

FPL's specifications call for removal of the existing velocity cap panels and support beams on all three of the caps and installation of pre-fabricated waffle-type panels. These panels will be constructed on shore and brought out to the site on barges. The panels will be lowered onto the existing concrete columns. Prior to lowering the panels onto the columns, FPL proposes to sleeve the existing columns and add additional concrete around the columns to reinforce them. Once the pre-fabricated panels are secured in place, tremie concrete will be pumped into the waffle grids, where it will cure as a solid mass. The existing velocity cap base will remain unchanged.

FPL also proposes to utilize the existing damaged panels by placing them at the base of the velocity cap structure. During recent inspections, FPL has observed scouring around the base of the cap on the ocean floor. FPL proposes to place the old concrete velocity cap panels over the scoured areas, supplementing with clean rip rap, as needed. This will minimize the likelihood of future scouring. The placement of the old

cap panels/rip rap will repair the damage caused by scouring, restore the ocean bottom to its natural contour and aid in the success of the velocity cap repair.

FPL intends to award the contract in July, 1990 to perform these repairs. The contractors who bid on the job did indicate the general method of construction. In order to facilitate work on the caps, they have indicated that they would utilize barges and construct a temporary work platform. This temporary work platform would require the contractors to drive pilings into the ocean floor adjacent to the velocity caps. These pilings would be removed once the construction activities are completed. No work on the existing intake pipes will be required as part of this repair project.

B. Excavation or Dredging:

No excavation or dredging is proposed as part of the project.

C. Fill:

1.a. Approximately 2300 cu. yds. of concrete and 1900 cu. yds. of rip rap and recycled panels will be placed waterward of mean high water.

b. No material will be placed landward of mean high water.

c. The total area to be filled is approximately one (1) acre. No wetlands are involved.

2. Containment for fill will be precast concrete and tremie concrete cast in cells.

3. The type of fill material to be used will be concrete and rip rap.

4. The source of the material to be used is a concrete supplier, as all fill materials are commercially available.

8. The date the activity is proposed to commence is September, 1990. Activity is expected to continue intermittently through February, 1992.

9. Previous Permits for this Project:

A. Denied: - none

B. Issued:

1. Corps #72-0004, issued on October 24, 1972
2. Corps #81D-1679, issued on January 25, 1982
3. Board of Trustees of the Internal Improvement Trust Fund Permit #253.123(2)(b)-1101, issued on March 22, 1972
4. Florida Department of Environmental Regulation, Site Certification #74-02, issued on June 10, 1975

C. Other:

1. US Environmental Protection Agency, NPDES Permit #FL0002208, issued on November 1, 1987
2. Florida Department of Natural Resources, Easement #26211(3177-56), issued on February 2, 1982
3. US Nuclear Regulatory Commission, Construction Permit #50-389, issued on May 2, 1977

10. Remarks:

FPL is requesting confirmation that this project is authorized by the conditions of the order of certification and no other DER permits or authority are required for the repair of the three existing intake structure velocity caps at the St. Lucie Power Plant. The St. Lucie Power Plant is located on Hutchinson Island, approximately half way between the cities of Stuart and Ft. Pierce. The plant has three ocean water intake pipes which extend approximately 1195 feet offshore into the Atlantic Ocean. The original design of these intake structures included velocity caps over each of the entrances of the pipes to minimize adverse impacts to benthic communities and oceanic fishes and invertebrates. These intake pipes supply the cooling water for the two units which comprise the plant. Two of the three velocity caps have experienced concrete panel failures. The third cap appears to be experienced the preliminary stages of structural degradation. Accordingly, FPL has determined it to be necessary to repair all three velocity caps.

At an inspection of the velocity caps during the summer of 1989, FPL observed that two of the three velocity caps had experienced panel section failure. To minimize the risk of further damage, FPL removed some of the other damaged panels in January, 1990. FPL has evaluated the root cause of the failure of these caps and has developed a plan to repair the three caps.

The design of the repaired caps is essentially of the same configuration as the original design, except that the concrete columns and horizontal panels are thicker and stronger. Specific details regarding the design are included on the enclosed drawings. (Drawing No. JPN-101-990-100, sheets 1-3). Details regarding construction methods have not been finalized yet, since FPL has not selected a contractor to date. FPL is currently evaluating bids from various contractors and anticipates selecting a contractor in July, 1990. In addition, the schedule for performing the work has not been finalized, pending selection of a contractor. Due to the nature of the work and the location (off the Florida coast, in the Atlantic Ocean) there are limitations on the scheduling of this work. Some of the work may have to be performed when one of the power plant units is off-line for scheduled refueling. The refueling outage schedules for the plant are tentatively set to begin in September 1990 and October, 1991. Each outage generally lasts for approximately 60 days. FPL anticipates that the on-site construction activities associated with the repair project may begin in September, 1990, however these activities may extend intermittently for up to 18 months, (or until February 1992) depending on the weather.

FPL has already discussed this project with the National Marine Fisheries Service (NMFS) in St. Petersburg and proposes further discussions with NMFS as part of securing the necessary environmental permits and approvals for this repair project. The purpose of these discussions has been to obtain input from NMFS regarding sea turtle protection during the velocity cap repair. FPL proposes to develop a Sea Turtle Protection Plan in coordination with NMFS to be implemented while repair of the velocity caps is underway. The contractor who is selected to perform the work will be obligated to abide by this Plan, and FPL (and its marine biology subcontractor) will oversee the compliance with the Plan. Once the Plan has been reviewed by NMFS, with their concurrence, it will be implemented by the Contractor prior to initiating on-site construction work.

No other endangered, threatened or otherwise protected plant or animals species are expected to be impacted by the proposed repair work. Although the West Indian Manatee does frequent some coastal power plants, none are attracted to the St. Lucie Power Plant, and would not be expected to be in the vicinity of the intake pipe velocity caps. Additionally, there are no mangroves in the work area, and none are expected to be affected by the proposed repair project.

The material that is proposed to be placed in Waters of the State will be in the form of concrete and rip rap. This concrete will either be pre-fabricated and lowered into place or pumped into cells. Therefore, no turbidity or other water quality related concerns are expected. Turbidity screens will be deployed when (and if) needed to prevent exceedences of state water quality standards.

11. FPL is the record easement holder of the property to be affected by this project. Please see attached easement No. 26211 (3177-56) from the Board of Trustees of the Internal Improvement Trust Fund for detailed legal description.

R. 41 E.

RECEIVED

AUG - 3 1990



FT. PIERCE INLET
APPROX 7 MILES

NORTH SIDE
ENVIRONMENTAL AFFAIR
CHRIST. AND MARY LOU KRANTZ
GEORGE AND MARY ANN KRANTZ
1345 GREENWAY TERRACE
ELM GROVE, WI 53122

NORTHERN PLANT
PROPERTY BOUNDARY

ATLANTIC OCEAN

T. 36 S.

ST. LUCIE INLET
APPROX 13 MILES

SOUTHERN PLANT
PROPERTY BOUNDARY

S.E. SIDE
SAND DOLLAR NORTH
CONDOMINIUMS
7420 S. HIGHWAY A1A
JENSEN BEACH, FL
34957

0 1000 2000 3000 4000 5000

SCALE IN FEET

LOCATION PLAN: TRACED FROM
USGS QUADRANGLE MAP
ANKONA & EDEN FLA.

ST. LUCIE PLANT
VELOCITY CAP REPAIR PROJECT
LOCATION PLAN
ST. LUCIE COUNTY, FLA

DRAWING NUMBER

JPN-101-990-100

DISC

C

REV

0

SHEET 1 OF 3

ISSUED FOR USE
REVISION

BY CH COR APP

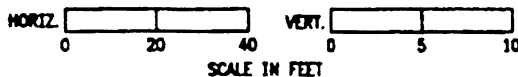
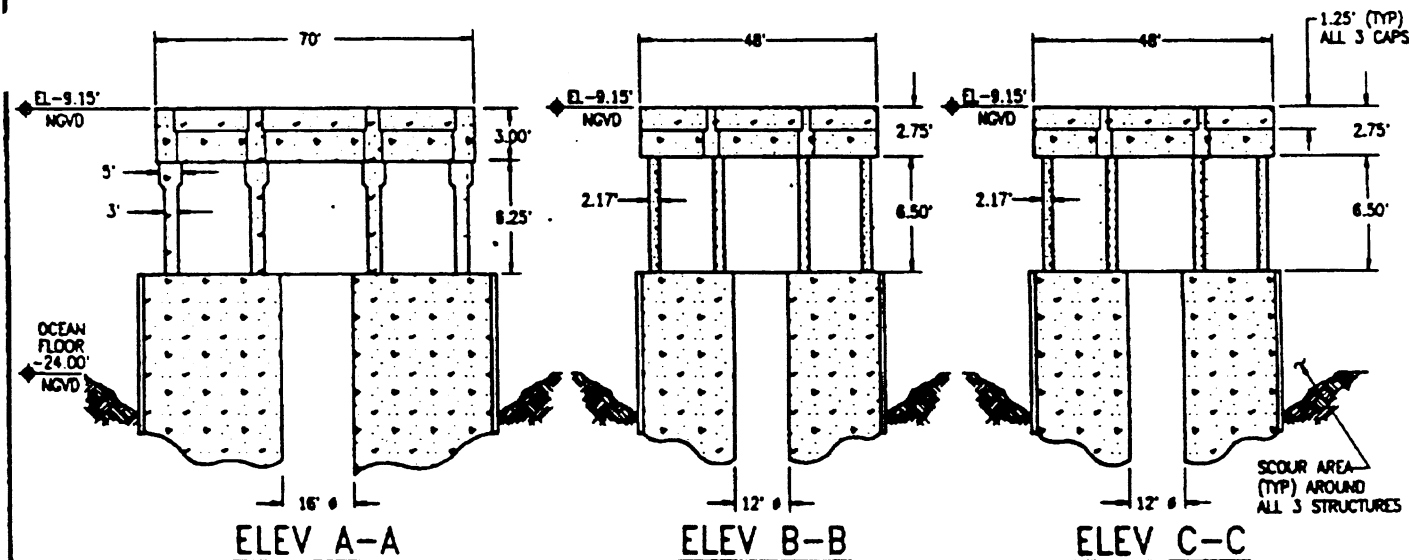
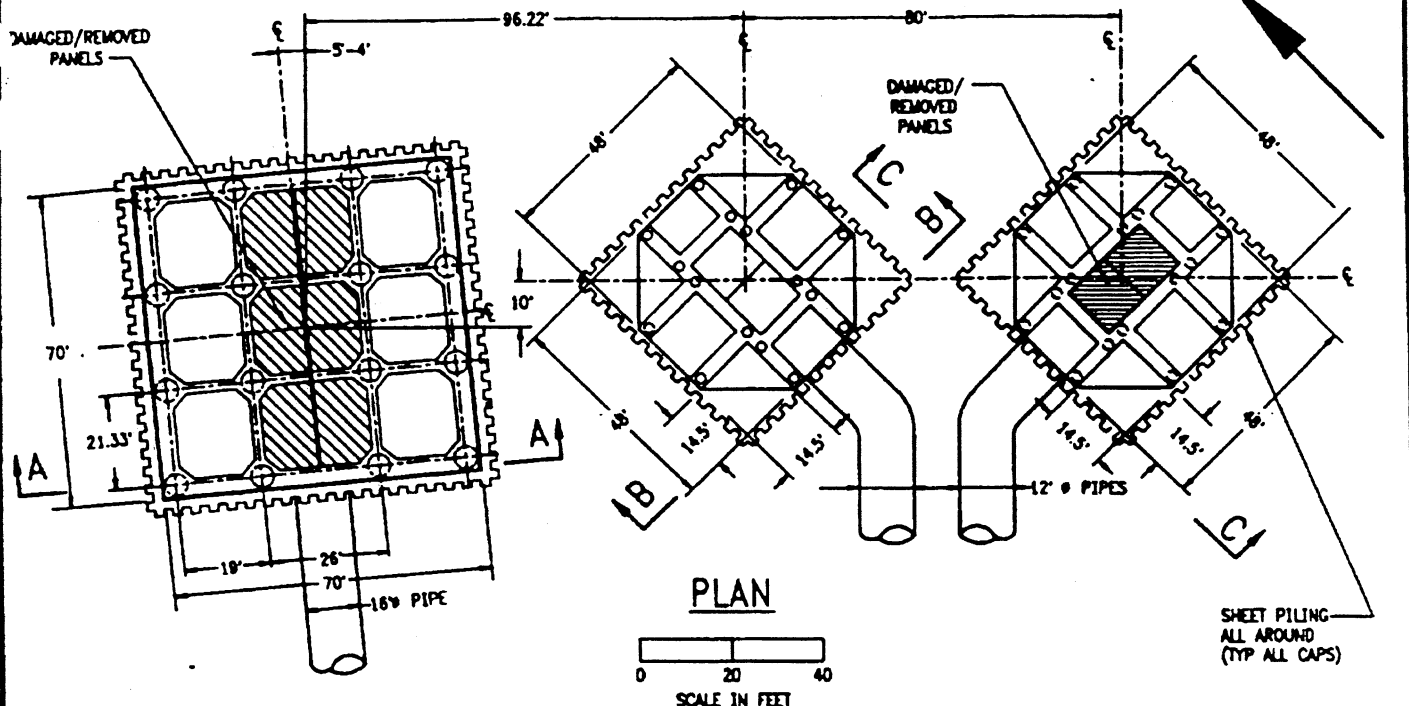


FPL

8 1/2 x 11 REV 10

0 6/27/90
NO DATE

EXISTING CONDITION



ST. LUCIE PLANT VELOCITY CAP REPAIR PROJECT PLAN & ELEVATION ST. LUCIE COUNTY, FLA

DRAWING NUMBER

JPN-101-990-100

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C

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0

SHEET 2 OF 3

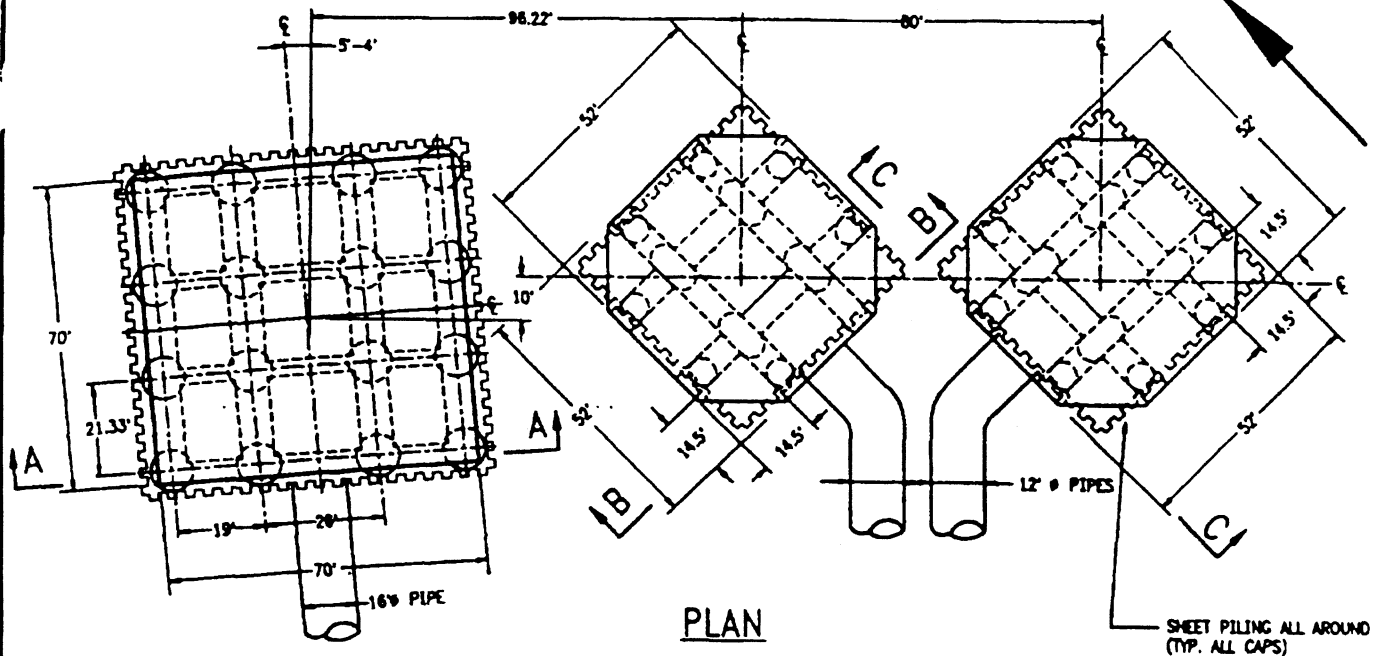
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REVISION

BY CH COR APP

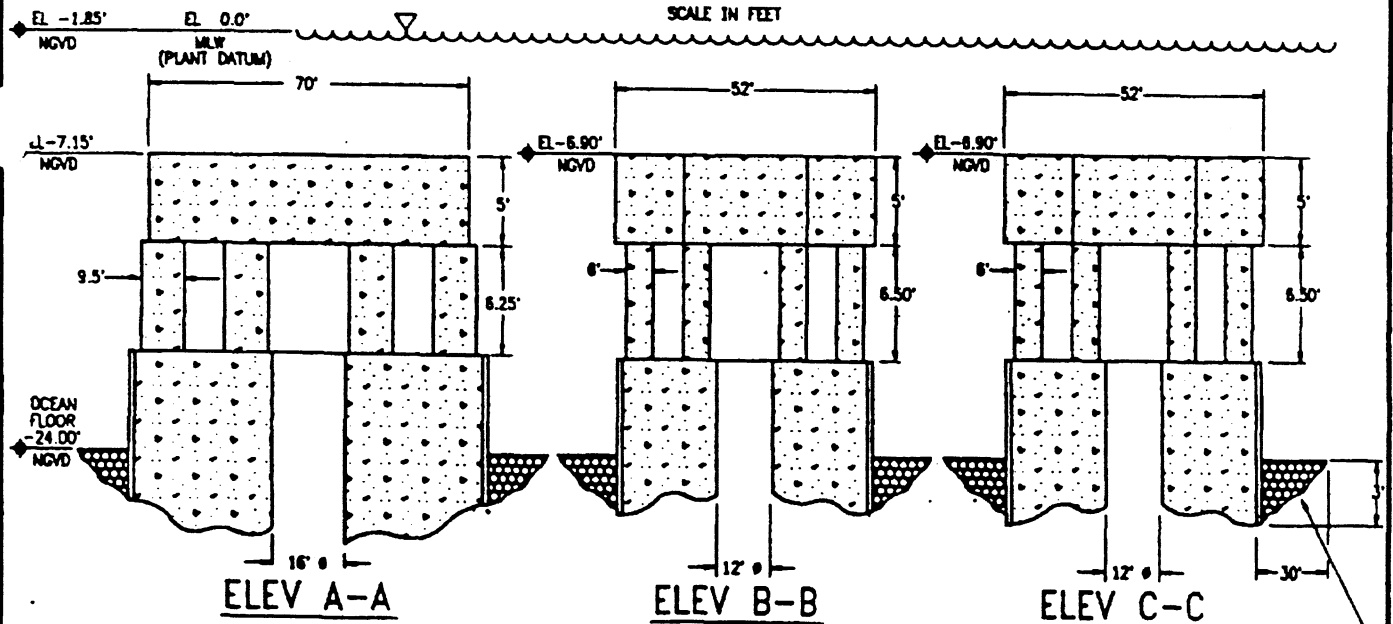


0 4/20/20
NO DATE

PROPOSED REPAIR



PLAN



ELEV A-A

ELEV B-B

ELEV C-C

ST. LUCIE PLANT
VELOCITY CAP REPAIR PROJECT
PLAN & ELEVATION
ST. LUCIE COUNTY, FLA

DRAWING NUMBER

JPN-101-990-100

DISC

C

REV

0

SHEET 3 OF 3



FPL

ISSUED FOR USE
REVISION

BY CH COR APP

DATE 6/23/90

8.1/2.8.11 REV. 10

(6) The designated hearing officer shall have all powers and duties granted to hearing officers by chapters 120 and 403 and by the rules of the department and the Administration Commission, including the authority to resolve disputes over the completeness of an application for certification.

*History.—*s. 1, ch. 73-33, § 6; ch. 76-76, § 1; ch. 77-174, § 134; ch. 79-190, § 2; ch. 81-131, § 36; ch. 81-167, § 37; ch. 83-55, § 26; ch. 86-186.

403.509 Final disposition of application.—

(1) Within 60 days of receipt of the designated hearing officer's recommended order, the board shall act upon the application by written order, approving in whole, approving with modifications, or denying the issuance of a certificate, in accordance with the terms of this act, and stating the reasons for issuance or denial. If the certificate is denied, the board shall set forth in writing the action the applicant would have to take to secure the board's approval of the application.

(2) Simultaneously with the board's action on the application, the department shall issue or deny any permit required pursuant to any federally delegated or approved permit program. The department's decision to issue or deny the permit shall be based upon the record and recommended order of the certification hearing. Unless the federally delegated or approved permit program provides otherwise, permits issued by the department under this subsection shall be effective for the term of the certification issued by the board. If renewal of any permit issued by the department pursuant to a federally delegated or approved permit program is required, such renewal shall not affect the certification issued by the board.

(3) In regard to the properties and works of any agency which is a party to the certification hearing, the board shall have the authority to decide issues relating to the use, the connection thereto, or the crossing thereof, for the electrical power plant and site and to direct any such agency to execute, within 30 days of the entry of certification, the necessary license or easement for such use, connection, or crossing, subject only to the conditions set forth in such certification.

(4) The issuance or denial of the certification by the board and the issuance or denial of any related department permit required pursuant to any federally delegated or approved permit program shall be the final administrative action required as to that application.

*History.—*s. 1, ch. 73-33, § 7; ch. 76-76, § 141; ch. 77-104, § 27; ch. 86-186.

403.5095 Alteration of time limits.—Any time limitation in this part may be altered by the designated hearing officer upon stipulation between the department and the applicant or for good cause shown by any party.

*History.—*s. 8, ch. 76-76.

403.510 Superseded laws, regulations, and certification power.—

(1) If any provision of this act is in conflict with any other provision, limitation, or restriction which is now in effect under any law or ordinance of this state or any political subdivision or municipality, or any rule or regulation promulgated thereunder, this act shall govern and control, and such other law or ordinance or rule or regu-

lation promulgated thereunder shall be deemed superseded for the purposes of this act.

(2) The state hereby preempts the regulation and certification of electrical power plant sites and electrical power plants as defined in this act.

(3) The board shall have the power to adopt reasonable procedural rules to carry out its duties under this act and to give effect to the legislative intent that this act is to provide an efficient, simplified, centrally coordinated, one-stop permitting process.

*History.—*s. 1, ch. 73-33, § 9; ch. 76-76.

403.511 Effect of certification.—

(1) Subject to the conditions set forth therein, any certification signed by the Governor shall constitute the sole license of the state and any agency as to the approval of the site and the construction and operation of the proposed electrical power plant, except for the issuance of department permits required under any federally delegated or approved permit program and except as otherwise provided in subsection (4).

(2) The certification shall authorize the electric utility named therein to construct and operate the proposed electrical power plant, subject only to the conditions of certification set forth in such certification, and except for the issuance of department permits required under any federally delegated or approved permit program. Except as provided in subsection (4), the certification agreement may include conditions which constitute variances from nonprocedural standards or regulations of the department or any other standards or regulations of any other agency which were expressly considered during the proceeding and which otherwise would be applicable to the construction and operation of the proposed electrical power plant. However, no variance shall be granted from standards or regulations of the department applicable under any federally delegated or approved permit program, except as expressly allowed in such program.

(3) The certification shall be in lieu of any license, permit, certificate, or similar document required by any agency pursuant to, but not limited to, chapter 161, chapter 253, chapter 298, chapter 370, chapter 373, chapter 380, chapter 381, chapter 387, chapter 404, the Florida Transportation Code, or 33 U.S.C. s. 1341.

(4) This part shall not affect in any way the rate-making powers of the Public Service Commission under chapter 366; nor shall this part in any way affect the right of any local government to charge appropriate fees or require that construction be in compliance with local building codes, standards, and regulations.

(5)(a) An electrical power plant certified pursuant to this act shall comply with rules adopted by the department subsequent to the issuance of the certification which prescribe new or stricter criteria, to the extent that the rules are applicable to electrical power plants. Except when express variances have been granted, subsequently adopted rules which prescribe new or stricter criteria shall operate as automatic modifications to certifications.

(b) Any holder of a certification issued pursuant to this act may choose to operate the certified electrical power plant in compliance with any rule subsequently

APPENDIX 10.4.0.4

**CONDITIONS OF CERTIFICATION – ST. LUCIE UNIT 2
MODIFICATION 05/16/1994**



Lawton Chiles
Governor

Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Virginia B. Wetherell
Secretary

RECEIVED

May 16, 1994

MAY 19 1994

Mr. Jim L. Brawner
Florida Power & Light Company
Post Office Box 088801
North Palm Beach, Florida 33408-8801

ENVIRONMENTAL AFFAIRS

Re: St. Lucie No. 2, PA 74-02 - Stormwater Project

Dear Mr. Brawner:

The Department of Environmental Protection hereby approves the Storm Water improvement Project as submitted on March 18, 1994, with the following provisos:

1. Silt screens, hay bales or other such sediment control measures shall be utilized during construction. The selected sediment control measures shall be installed landward of all protected wetlands. All areas shall be stabilized and vegetated (seeded/sodded) immediately after construction to prevent erosion into the wetlands and upland buffer zones.
2. Prior to the commencement of construction, the perimeter of the protected wetlands and buffer zones shall be staked and roped to prevent encroachment into the wetlands. The permittee shall notify the Department's environmental compliance staff in writing upon completion of roping and staking and schedule an inspection of this work. The roping and staking shall be subject to Department staff approval. The permittee shall modify the staking and roping if Department staff determines it is insufficient or is not in conformance with the intent of this permit. Staking and roping shall remain in place until all adjacent construction activities are complete.
3. The Department reserves the right to require remedial measures to be taken by the permittee if wetland and/or upland monitoring or other information demonstrates that adverse impacts to protected, conserved, incorporated or mitigated wetlands or uplands have occurred due to project related activities. The Department reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.

4. If the project design is changed as a result of other agency requirements, a Surface Water Management permit modification may be required. The permittee shall notify Department staff of design changes required by other agencies for a determination of any necessary permit modifications.
5. The permittee shall prosecute the work authorized in a manner so as to minimize any adverse impact of the works on fish, wildlife, natural environmental values, and water quality. The permittee shall institute necessary measures during the construction period, including full compaction of any fill material placed around newly installed structures, to reduce erosion, turbidity, nutrient loading and sedimentation in the receiving wetlands.
6. Discharges during construction and development shall be made only through the facilities authorized by the conditions of certification. No parking lot construction shall commence on-site until completion of permitted discharge structure and detention areas.
7. The permittee shall hold and save the Department harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, operation, maintenance or use of any facility authorized by the permit.
8. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse off-site water resource related impacts will not be caused by the completed permit activity. It is also the responsibility of the permittee to insure that adverse off-site water resource related impacts do not occur during construction.
9. Operation of the Surface Water Management System shall be the responsibility of the permittee. Prior to transfer of title for any portion of the project to a third party, modification of the permit will be required.
10. Prior to the commencement of construction of future phases, paving, grading, and drainage plans shall be submitted to the Department for review and approval.
11. The permittee shall not refuse immediate entry or access to any authorized representative of the Department who requests entry for purposes of inspection and presents appropriate credentials.

12. Discharge facilities:
Weir, 91 feet long, crest elevation at 5.5 NGVD.
13. The Department reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.
14. Facilities other than those stated herein shall not be constructed without an approved modification of the conditions.
15. A benchmark shall be provided in the vicinity of the control structure and a description provided to the Department when certifying construction completion of the drainage facilities.
16. Within 60 days of issuance of this approval, the Department shall be notified by the permittee or authorized agent (via South Florida Water Management District Form 0960 or equivalent) of the actual or anticipated construction start date and the expected completion date/duration.
17. When the duration of construction exceeds one year, construction status reports shall be submitted to the Department on an annual basis (via South Florida Water Management District Form 0961 or equivalent) beginning one year after the initial commencement of construction date.
18. Within 30 days after completion of construction of the Surface Water Management System, the permittee or authorized agent shall notify the Department of that completion date and submit certification by a Florida Registered Professional Engineer that all facilities have been constructed in accordance with the design approved by the Department (via South Florida Water Management District Form 0881 Construction Completion/Construction Certification or equivalent). Such certification may consist of wording in Paragraph 10.1 "Construction Completion Certification" of the current basis of review for Surface Water Management Permit applications within the South Florida Water Management District. If the certification language used is different from the suggested language, a set of record drawings consisting of elevations, locations and dimensions of components of the Surface Water Management System shall also be submitted.

page 4

Should you have any questions, please call me at (904)
487-0472.

Sincerely,

Hamilton S. Owen
Hamilton S. Owen, P.E.
Administrator, Siting
Coordination Office

cc: Jackie Kelly
Greg Coffelt
W. J. Barrow

APPENDIX 10.4.0.5

**CONDITIONS OF CERTIFICATION – ST. LUCIE UNIT 2
MODIFICATION 06/09/1994**



Lawton Chiles
Governor

Florida Department of
Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

RECEIVED

JUN 13 1994

MANAGER
ENVIRONMENTAL AFFAIRS
Philip B. Winkler
Secretary

June 9, 1994

Mr. Wayne Ondler, Manager
Environmental Affairs
Florida Power & Light company
Post Office Box 088801
North Palm Beach, Florida 33408-8801

Re: St. Lucie Plant Unit 2, PA 74-02

Dear Mr. Ondler:

The Department has received the amendment to the St. Lucie Unit 2 power plant siting application submitted on May 26, 1994. We have updated the reference application on file to reflect this latest amendment. It was noted that the new figure does not address the location of the intake or discharge pipes associated with Unit 2.

Sincerely,

A handwritten signature in cursive script that reads "Hamilton S. Oven".

Hamilton S. Oven, P.E.
Administrator, Siting
Coordination Office

Printed on recycled paper.

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

IN RE: SITE CERTIFICATION,) ST LUCIE POWER PLANT UNIT 2) FLORIDA POWER & LIGHT CO.)	CERTIFICATION NO. PA 74-02C OGC CASE NO. 94-1053
--	---

**FINAL ORDER MODIFYING
CONDITIONS OF CERTIFICATION**

On May 18, 1976, the Governor and Cabinet, acting as the Siting Board, issued a final order approving certification for Florida Power & Light Company's (FPL) St. Lucie Power Plant Unit 2. That certification order approved the construction and operation of a nuclear generating facility and associated facilities to be located in St. Lucie County, Florida.

On November 1, 1993, FPL filed a request to modify the conditions of certification pursuant to section 403.516(1)(b), Florida Statutes. FPL requested that the conditions be modified to allow use of both existing heated water discharge pipes as currently allowed by the federal NPDES permit. FPL also requested that duplicate reporting requirements involving local public documents room and notification of agencies be deleted, and that duplicate requirements for reviews of site security plans and radioactive release control technology be deleted.

Copies of FPL's request were distributed to all parties to the certification proceeding and made available for public review. On November 24, 1993, a Notice of Proposed

Modification of Power Plant Certification regarding the proposed modifications was published in the Florida Administrative Weekly. As of November 17, 1993, all of the parties to the original proceeding had received copies of the intent to modify. The notices specified that a hearing would be held if a party to the original certification hearing objects within 45 days from receipt of the proposed modification or if a person whose substantial interests will be affected by the proposed modification objects in writing within 30 days after issuance of the public notice. No written objection to the proposed modifications was received by the Department.

Accordingly, in the absence of any timely objection,
IT IS ORDERED:

The proposed changes to the St. Lucie Power Plant Unit 2, described in the November 1, 1993, request for modification, are APPROVED. Pursuant to section 403.516(1)(b), Florida Statutes, the Department hereby modifies the conditions of certification for the St. Lucie Unit 2 are MODIFIED as follows:

Special Conditions

XI. Control Measures During Construction

G. Fish Entrapment

Fish entrapment shall be monitored in the intake canal even during the period only one unit is in operation.

If unusually large numbers of fishes are entrapped,

the permittee will furnish the Department a plan to mitigate such entrapment. Once-the-Unit-2-multiport discharge-line-is-installed,--heated-water-shall-be discharged-only-from-that-line-when-only-one-unit-is operating.

XVI. Submission of Reports

Florida-Power-and-Light-Company-shall-submit-to-the local-Public-Documents-Room-located-at-the-Indian River-Community-College-Library-in-Fort-Pierce, Florida-a-copy-of-all-monitoring-and-other-reports required-to-be-submitted-to-the-Department-of Environmental-Regulation.--

XVII. Operational Safeguards

XVIII. Radiological

A. Site Security

The-applicant-shall-review-the-site-security-plan-at least-every-three-years-and-revise-the-plan-as-necessary as-based-upon-imposed-Nuclear-Regulatory-Commission (NRC)-requirements,--operating-experience,--new technology,--and-changes-in-the-probability-of-acts-of sabotage-or-terrorism.--The-Department-shall-be-notified in-writing-of-each-such-review.

i. --Upon-the-Department's-request-the-applicant-shall make-the-most-recent-site-security-plan-available-to

a-bonded-security-analyst-designated-and-retained-by
the-Department,--The-analyst-shall-be-a-recognized
expert-in-the-field-of-industrial-and-nuclear
facility-security,--The-security-plans-shall-be
thoroughly-evaluated-by-the-analyst-for-the-purpose
of-determining-the-efficacy-of-the-plan,--The
results-of-the-analyst-review-shall-be-communicated
to-the-applicant-and-the-NRE,--Should-the
Department's-analyst-detect-deficiencies-in-the
applicant's-site-security-plan, the-Department
should-bring-to-the-attention-of-the-applicant-and
the-NRE-such-deficiencies-and-will-initiate-a
request, consistent-with-NRE-procedural-requirements
that-remedial-action-be-taken-to-correct-the
deficiencies.

- 2- The-above-process-of-reviewing-the-site-security
plan-and-submitting-criticisms-thereof-shall-be
implemented-through-a-method-approved-by-the
applicant-and-the-NRE, designed-to-assure-the
confidentiality-of-the-plan-as-required-by-practices
and-regulation-of-the-NRE,--

AB. Decommissioning

BE. Emergency Plan

B- Technology-Review

The-applicant-shall-submit-a-report-to-the
Department-and-the-nuclear-Regulatory-commission

every-five-years-commencing-with-plant-operation,
containing-a-review-of-new-radioactivity-release
control-technology-and-how-the-effectiveness-of-such
technology-relates-to-achievement-of-releases-"as
low-as-reasonably-achievable"-as-defined-in-Appendix
E-of-10-C.F.R., Part-50, the-amount-of-reduction-in
radioactive-releases, if-such-technology-were
employed, and-the-cost-of-backfitting-such-new
technology.

E- Reporting

The-applicant-shall-furnish-to-the-Department-copies
of-the-following-reports-for-St.-Lucie-2-required-to
be-filed-in-the-NRC-Public-Documents-Room:

1--Annual-Radiological-Environmental-Monitoring-----
Report

2--Semiannual-Radioactive-Effluent-Release-Report

3--Non-Routine-Radioactive-Effluent-Reports-as-----

required-by-Environmental-Technical-Specifications

to-be-made-a-part-of-the-future-Operating-License

for-this-unit-by-the-NRC.--Where-proprietary

information-which-is-required-by-NRC-regulations-to

be-withheld-from-public-disclosure-is-included-in

such-reports-filed-with-the-NRC, the-applicant-shall

submit-to-the-Department-a-brief-description-of-such

proprietary-information.

GENERAL CONDITIONS

1. Change in Discharge

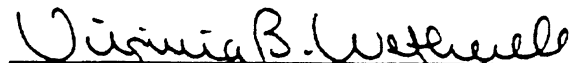
All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any non-radiological pollutant as defined in S 403.031(7)(2), Florida Statutes 1993 ~~1974~~, not identified

.

Any party to this Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department of Environmental Protection in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal, accompanied by the applicable filing fees, with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date that the Final Order is filed with the Department of Environmental Protection.

DONE AND ENTERED this 31st day of March, 1994 in Tallahassee, Florida.

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION**


VIRGINIA B. WETHERELL
Secretary

Marjory Stoneman Douglas Bldg.
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000
Telephone: (904) 488-4805

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing was sent by U.S.

Mail to the following this 6th day of April, 1994.

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Conservation Alliance of St.
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c/o Mr. Harry H. Alder
304 St. Andrews Lane
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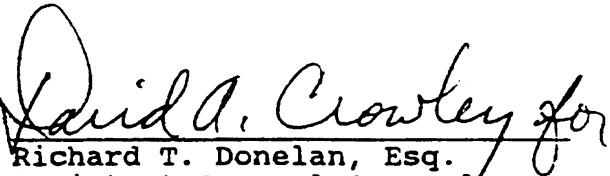
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Martin Harold Hodder, Esq.
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League of Women Voters of
St. Lucie County
c/o Ms. Celeste Bush,
President
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APPENDIX 10.4.0.6

**CONDITIONS OF CERTIFICATION – ST. LUCIE UNIT 2
MODIFICATION 04/22/1996**

ORIGINAL

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN RE: FLORIDA POWER & LIGHT COMPANY)	
ST. LUCIE UNIT 2, MODIFICATIONS OF)	DEP CASE NO. PA 74-02
CONDITIONS OF CERTIFICATION)	
ST. LUCIE COUNTY, FLORIDA)	OGC CASE NO. 94-1053

FINAL ORDER MODIFYING
CONDITIONS OF CERTIFICATION

On May 18, 1976, the Governor and Cabinet, sitting as the Siting Board, issued a final order approving certification for Florida Power & Light Company's St. Lucie Nuclear Power Plant Unit 2. That certification order approved the construction and operation of an 802 MW, nuclear power plant and associated facilities located in St. Lucie County, Florida.

On December 1, 1995, Florida Power & Light (FPL) filed a request to amend the conditions of certification pursuant to Section 403.516(1)(b), Florida Statutes. FPL requested that the conditions be modified to allow automatic modification of conditions of certification concerning water discharges whenever the Department or EPA were to approve modifications of the federally delegated National Pollutant Discharge Elimination System (NPDES) Permit for the facility.

Copies of FPL's proposed modification were made available for public review in January, 1996. On January 26, 1996, a Proposed Modification of Power Plant Certification was published in the Florida Administrative Weekly. As of January 26, 1996, all parties to the original proceeding had received copies of the intent to modify. The notice specified that a hearing would be held if a party to the original certification hearing objects within 45 days from receipt of the proposed modification or if a person whose substantial interests will be affected objects in writing within 30

days after issuance of the public notice. No written objection to the proposed modifications was received by the Department.

Accordingly, in the absence of any timely objection,

IT IS ORDERED:

The proposed changes to the Florida Power & Light Company's St. Lucie Nuclear Power Plant Unit 2 as described in their December 1, 1995, request for modification are APPROVED. Pursuant to Section 403.516(1)(b), F.S., the conditions of certification for the St. Lucie Unit 2, are MODIFIED as follows:

GENERAL CONDITIONS

10. Modification of Conditions

The conditions of this certification may be modified in the following manner:

- a. No change
- b. No change
- c. This certification shall be automatically modified to conform to any subsequent amendments, modifications, or renewals made by DEP to separately issued National Pollutant Discharge Elimination System (NPDES) permit for the facility under the federally delegated program. FPL shall send each party to the original certification proceedings (at the party's last known address as shown in the record of such proceeding) notice of requests for modifications or renewals to the NPDES permit if the request involves a relief mechanism (e.g., mixing zone, variance, etc.) from standards. DEP shall notify all parties to the certification proceeding of any intent to modify conditions under this section prior to taking final agency action.

Any party to this Notice has the right to seek judicial review of the Order Pursuant to Section 120.68, Florida Statutes, by the filing of Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department of Environmental Protection in the Office of General, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date that the Final Order is filed with the Department of Environmental Protection.

DONE AND ENTERED this 22nd day of April, 1996 in Tallahassee,
Florida.

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to S120.52
Florida Statutes, with the designated
Department Clerk, receipt of which
is hereby acknowledged.

Rebecca B. - 4/24/96
Clerk Date

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION**

Virginia B. Wetherell
for VIRGINIA B. WETHERELL
SECRETARY
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing was sent by U.S.
Mail to the following this 24th day of April, 1996.

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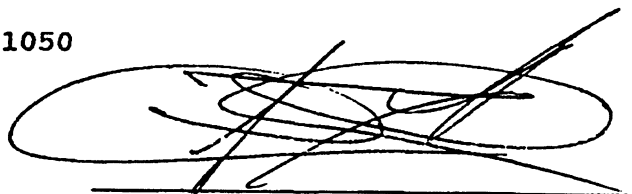
Harry Chiles
Assistant Attorney General
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League of Women Voters of
St. Lucie County
c/o Ms. Celeste Bush,
President
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Fort Pierce, FL 34982

Steel Hector & Davis
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Suite 601
Tallahassee, FL 32301

A handwritten signature in black ink, appearing to read 'Chip Collette', is written over a horizontal line. The signature is stylized with loops and a long horizontal stroke.

Charles T. "Chip" Collette



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Building
2800 Blairstone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

April 14, 2006

- CERTIFIED MAIL - RETURN RECEIPT REQUESTED -

Mr. Ed Benken
Environmental Compliance Supervisor
Florida Power and Light Company
St. Lucie Power Plant
6451 South Ocean Drive
Jensen Beach, FL 34957

**RE: Florida Power and Light St. Lucie
Modification to Conditions of Certification
DEP Case Number PA 74-02H
OGC Case Number 06-0289**

ORDER MODIFYING CONDITIONS OF CERTIFICATION

Dear Mr. Benken:

The Florida Department of Environmental Protection ("Department") gives notice of its intent to modify the Conditions of Certification of the Florida Power and Light (FP&L) St. Lucie power plant.

On February 8 2005, the Department issued the final NPDES permit No. FL0002208-003-IW1S/NR. The Department has prepared a proposed Order modifying the conditions of Certification to incorporate this permit.

On or before February 24, 2006, all parties to the certification proceeding were provided with notice by certified mail of the Department's intent to modify the Conditions of Certification for this facility, along with a copy of the proposed Order Modifying Conditions of Certification. Additionally, on or before February 24, 2006, notice of the Department's intent to modify the Conditions of Certification for this facility was published on the Department's internet home page at <http://www.dep.state.fl.us/> under the link or button titled "Official Notices." That notice specified that pursuant to Section 403.516, Florida Statutes ("F.S."), and Rule 62-17.211, F.A.C., all parties to the certification proceeding have 45 days from the issuance of the notice by mail to such party's last address of record in which file a written objection to the modification; that any person who is not already a party to the certification proceeding and whose substantial interests will be affected by the requested modification has 30 days from the date of publication of the public notice in the FAW to object in writing; that failure to act within the time frame constitutes a waiver of the right to become a party; and that the Department will issue a Final Order Modifying the Conditions of Certification for this facility if no written objections are received by the Department.

"More Protection, Less Process"
Printed on recycled paper

No objections to the modification have been received by the Department. The Conditions of Certification for the Florida Power and Light St. Lucie power plant are hereby modified as follows:

All reference to "Permittee" shall be changed to "Licensee".

I. No Change

II. Effluent Standards and Limitations

Wastewater discharged from the site of Unit 2 shall meet the standards set forth in Chapters 62-4, 62-160, 62-302, 62-601, 62-650 and 62-660, F.A.C., and any subsequent amendments except for variance granted pursuant to Sections 403.201(c) and 403.511(2), and the sections of NPDES permit FL0002208-003-IW1S applicable to Unit 2 and any subsequent modifications, amendments or renewals, to wit:

A. Thermal

1. Discharge

~~At the point of discharge heated water temperature from the multiport diffuser will not exceed 30°F above ambient at any time, except that the maximum discharge temperature shall be limited to 32°F above ambient during condenser and/or circulating water pump maintenance, throttling circulating water pumps to minimize use of chlorine, and/or fouling of circulating water system. This temperature may be measured at a point within the discharge canal. (In determining the temperature differential the time of travel through the plant may be considered.)~~

2. Thermal Mixing Zone

~~The heated water discharged from the multiport diffuser shall not exceed 17°F above ambient outside of a thermal mixing zone of 10.7 acre feet. The mixing zone shall be bounded by an area 1385.5 feet long extending seaward from the most landward discharge port, 21.0 feet to either side of the discharge pipe axis, and 8.0 feet in height above the bottom of the discharge ports.~~

3. Surface

~~The surface temperature of the surrounding receiving water at no time will be raised to more than 97°F nor shall the adjacent coastal waters be raised more than 2°F higher than the ambient temperature during the months of June, July, August and September nor more than 4°F higher than the ambient temperature during the remainder of the year.~~

B. Chemical

Liquid wastes discharges shall not contain concentrations of pollutants in excess of the following limitations:

1. Chlorine (Free Available Chlorine):
at condenser 0.2 mg/l average
discharge 0.5 mg/l maximum
2. Oil and Grease: 15 mg/l Daily average from low
volume waste, pre-operational
metal cleaning wastes, and
radwaste discharges
3. Polychlorinated biphenyls or other None
polycyclic Halogenated compounds:
4. Boron: 4 mg/l (net)
5. TSS: 30 mg/l Daily
average 100 mg/l Daily maximum at the
discharge from the low volume
wastes, metal cleaning wastes,
and radwastes discharge

III. - XVI. No Change

XVII. Radiological

A. No Change

B. Emergency Plan

The applicant shall work with the ~~Division of Disaster Preparedness and the Department of Health and Rehabilitative Services~~ State Division of Emergency Management in the Department of Community Affairs and the State Department of Health, Bureau of Radiation Control in annually updating the emergency procedures and evacuation planning as necessary, including but not limited to improvements in communication and warning systems and in updating predicted plume overlays.

C.-E. No Change

F. Interagency Agreement

The applicant shall comply with the State of Florida Radiological Emergency Plan dated May 1975 or as subsequently revised, and the Radiological Response Agreement between the Florida ~~Division of Health, Department of Health and Rehabilitative Services~~ and the Florida Power and Light

April 13, 2006

Page Four

Company dated January 16, 1974, as attached and incorporated herein as Appendix B or as may be subsequently revised.

Any party to the this Order has a right to seek judicial review of it pursuant to Section 120.68, Florida Statutes by filing a Notice of Appeal, pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000, and by filing a copy of the Notice of Appeal, accompanied by the applicable filing fees, with the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty days from the date this Order is filed with the Clerk of the Department of Environmental Protection.

Executed in Tallahassee, Florida.

Hamilton S. Owen

Hamilton S. Owen, P.E.

Administrator, Siting Coordination Office

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52
Florida Statutes, with the designated
Department Clerk, receipt of which is
hereby acknowledged.

Danise Cunningham
Clerk

4-14-06
Date

April 13, 2006
Page Five

CC

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APPENDIX 10.4.0.7

**CONDITIONS OF CERTIFICATION – ST. LUCIE UNIT 2
MODIFICATION 04/14/2006**

CONDITIONS OF CERTIFICATION

Modified 04-14-06

Table of Contents

GENERAL	1
1. <i>Change in Discharge</i>	1
2. <i>Noncompliance Notification</i>	1
3. <i>Facilities Operation</i>	1
4. <i>Adverse Impact</i>	1
5. <i>Right of Entry</i>	2
6. <i>Revocation or Suspension</i>	2
7. <i>Civil and Criminal Liability</i>	2
8. <i>Property Rights</i>	2
9. <i>Severability</i>	3
10. <i>Modification of Conditions</i>	3
11. <i>Review of Site Certification</i>	4
SPECIAL	5
I. <i>Air</i>	5
II. <i>Effluent Standards and Limitations</i>	5
III. <i>Water Monitoring Program</i>	6
A. Chemical and Physical Monitoring Program	6
B. Emergency Cooling Canal Monitoring	6
C. Water Monitoring Program Review	7
IV. <i>Other Monitoring Programs</i>	7
V. <i>Dredging Operations</i>	7
A. Spoil Disposal	7
B. Turbidity Control	7
C. Dike Removal	8
VI. <i>Stormwater Runoff</i>	8
VII. <i>Defouling Operations</i>	8
VIII. <i>Sanitary Wastes Disposal System</i>	8
IX. <i>Solid Wastes</i>	8
X. <i>Vegetation and Dunes</i>	8
A. Vegetation	9
B. Dunes	9
XI. <i>Control Measures During Construction</i>	9
A. Discharge and Intake Lines	9
B. Dewatering	9
C. pH	10

D.	Facility Lighting	10
E.	Trash.....	10
F.	Edible Refuse.....	10
G.	Fish Entrapment.....	10
XII.	<i>Environmental Control Program</i>	10
XIII.	<i>Irreversible Damage</i>	10
XIV.	<i>Water Withdrawal</i>	11
XV.	<i>Transformer Oil Collection Pits</i>	11
XVI.	<i>Operational Safeguards</i>	11
XVII.	<i>Radiological</i>	12
A.	Decommissioning.....	12
B.	Emergency Plan.....	12
C.	Radiological Release Limitations	12
D.	Fuel Limitation.....	13
E.	Monitoring	13
F.	Interagency Agreement.....	13
G.	Reservation of Legal Rights	14
History		14

GENERAL

1. *Change in Discharge*

All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any non-radiological pollutant as defined in §403.031(7), Florida Statutes 1993, not identified in the application, or more frequent than, or at a level in excess of that authorized herein, shall constitute a violation of the certification. Any anticipated facility expansions or production increases which will result in new or increased discharges of pollutants or expansion in steam generating capacity must be reported by submission of a new application. Prior to any process modification which will result in new or increased discharges of pollutants, the licensee shall obtain appropriate modifications of the conditions of certification.

2. *Noncompliance Notification*

If, for any reason, the licensee does not comply with or will be unable to comply with any limitation specified in this certification, the licensee shall notify the appropriate District Manager of the Department by telephone during the working day that said noncompliance occurs and shall confirm this in writing within seventy-two (72) hours of becoming aware of such conditions, and shall supply the following information:

- a. A description of the discharge and cause of non-compliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge and any impact that might have occurred or may occur from such noncompliance.

3. *Facilities Operation*

The licensee shall at all times take all reasonable steps to maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the licensee to achieve compliance with the terms and conditions of this certification.

4. *Adverse Impact*

The licensee shall take all reasonable steps to minimize any adverse impact resulting from noncompliance with any limitation specified in this certification.

5. *Right of Entry*

The licensee shall allow the Secretary of the Florida Department of Environmental Protection and/or authorized representatives, upon the presentation of credentials:

- a. To enter upon the licensee's premises where an effluent source is located or in which records are required to be kept under the terms and conditions of this permit; and
- b. To have access to and copy any records required to be kept under the conditions of this certification; and
- c. To inspect any monitoring equipment or monitoring method required in this certification and to sample any discharge or pollutants.

6. *Revocation or Suspension*

After notice and opportunity for a hearing, this certification may be suspended or revoked in whole or in part during its term for any violation specified in Section 403.514, Florida Statutes.

7. *Civil and Criminal Liability*

Nothing in this certification shall be construed to relieve the licensee from civil or criminal penalties for noncompliance with any condition of this certification, applicable rules or regulations of the Department or Chapter 403, Florida Statutes, except for variance granted.

Nothing in this certification shall be construed to preclude the institution of any legal action or relieve the licensee from any responsibilities, liabilities, or penalties established pursuant to any other applicable State Statutes, or regulation, including Departmental rules and regulations promulgated by the Department pursuant to Chapter 403, F.S.

8. *Property Rights*

The issuance of this certification does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of Federal, State or local law or regulations. The applicant will obtain necessary authorization from the appropriate agency of the State of Florida, to use any submerged lands occupied by the discharge structure.

9. Severability

The provisions of this certification are severable, and if any provision of this certification or the application of any provision of this certification to any circumstances, is held invalid, the application of such provision to other circumstances and the remainder of the certification shall not be affected thereby.

10. Modification of Conditions

The conditions of this certification may be modified in the following manner:

a. Upon the adoption by the Department of a rule pursuant to Chapter 120, Florida Statutes, containing limitations or requirements applicable to any then continuing or future activities under the certification, which rule provisions are new or more stringent than the requirements contained herein, the conditions of this certification shall be automatically modified consistent with such rule. If such requirements are less stringent than the requirements contained herein, the conditions of this certification which are referred to by reference to the Florida Administrative Code shall be automatically modified consistent with such rule. In the application of such later adopted rule, this paragraph shall not be construed to mean that the St. Lucie Unit No. 2 plant is a new source if a distinction between new and existing sources is made within the later adopted rule.

b. On its own motion or on petition of the applicant and, after review of such information as the Department deems appropriate, the Department may, by order of the Secretary or his designee, modify the conditions of this certification as it deems necessary to attain the objectives of Chapter 403, Florida Statutes. The Department shall provide notice and an opportunity for hearing in accordance with Chapter 403 and Chapter 120, Florida Statutes, and rules or regulations adopted pursuant thereto.

c. This certification shall be automatically modified to conform to any subsequent amendments, modifications or renewals made by DEP to separately issued National Pollutant Discharge Elimination System (NPDES) permit for the facility under the federally delegated program. FPL shall send each party to the original certification proceedings (at the party's last known address as shown in the record of such proceeding) notice of requests for modifications or renewals to the NPDES permit if the

request involves a relief mechanism (e.g., mixing zone, variance, etc.) From standards. DEP shall notify all parties to the certification proceeding of any intent to modify conditions under this section prior to taking final agency action.

11. Review of Site Certification

The certification shall be final unless revoked or suspended pursuant to law. Five years from the date of issuance of any National Pollutant Discharge Elimination System Permit issued pursuant to the Federal Water Pollution Control Act Amendments of 1972, for Unit 2, the Department shall review all monitoring data that has been submitted to it during the preceding five year period for the purpose of determining the extent of the licensee's compliance with the conditions of this certification and the environmental impact of this facility. The Department shall submit the results of its review and recommendations to the licensee and all parties of record in this certification proceeding.

SPECIAL

I. Air

St. Lucie Unit No. 2 shall comply with all regulations of the Nuclear Regulatory Commission and the provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, Florida Administrative Code.

II. Effluent Standards and Limitations

Wastewater discharged from the site of Unit 2 shall meet the standards set forth in Chapters 62-4, 62-160, 62-302, 62-601, 62-650 and 62-660, F.A.C., and any subsequent amendments except for variance granted pursuant to Sections 403.201(c) and 403.511(2), and the sections of NPDES permit FL0002208-003-IW1S applicable to Unit 2 and any subsequent modifications, amendments or renewals, and the following:

Liquid wastes discharges shall not contain concentrations of pollutants in excess of the following limitations:

1.	Chlorine (Free Available Chlorine):	
	at condenser	0.2 mg/l average
	discharge	0.5 mg/l maximum
2.	Oil and Grease:	15 mg/l Daily average from <u>low volume waste, pre-</u> <u>operational metal cleaning</u> <u>wastes, and radwaste</u> <u>discharges</u>
3.	Polychlorinated biphenyls or other polycyclic Halogenated compounds:	None
4.	Boron:	4 mg/l (net)
5.	TSS:	30 mg/l Daily average 100 mg/l Daily <u>maximum at the discharge</u> <u>from the low volume</u> <u>wastes, metal cleaning</u> <u>wastes, and radwastes</u> <u>discharge</u>

III. Water Monitoring Program

A monitoring program shall be undertaken by Florida Power & Light Company on the receiving waters and area waters as generally described as follows:

A. Chemical and Physical Monitoring Program

The following parameters shall be monitored and reported to the Department quarterly:

Parameter	Sampling Location	Type of Sample	Frequency of Sampling
Flow	**Intake	Pump logs	hourly
Temperature	**Intake/POD*	---	hourly
TSS	Neutralization Basin	Composite	weekly
Oil and Grease	Neutralization Basin	Grab	weekly
Free Chlorine Residual	*POD Condenser Outlet	Multiple Grabs	weekly during chlorination
Total Chlorine Residual	*POD Condenser Outlet	Multiple Grabs	weekly during chlorination
Boron	*POD	Grab	when batch discharges are required ***

* May be monitored at the centerline of the discharge canal, at least one foot below the surface, between State Road A1A and the discharge pipe headwall.

** May be monitored in intake canal (Plant Intake Structure).

*** From the refueling water storage tank and nonaerated waste hold up tanks (4).

B. Emergency Cooling Canal Monitoring

There shall be instituted a monitoring program to study the dissolved oxygen (D.O.) concentrations in Big Mud Creek and the Emergency Cooling Canal.

1. Monitoring of Tests - The dissolved oxygen (D.O.) of the water withdrawn from Big Mud Creek via the emergency cooling system intake shall be monitored during each test. If the results of the monitoring program should indicate that water containing a D.O. level of less than 4 mg/l is being withdrawn, then the D.O. level of the water in the discharge canal shall be monitored as well during each subsequent test. The results of each test will be reported to the Department in the next quarterly monitoring report.

2. Corrective Measures - If the monitoring should indicate that water containing less than 2 mg/l of dissolved oxygen is being discharged to the Atlantic Ocean, a procedure will be developed and implemented to prevent the discharge of oxygen depleted water.

C. Water Monitoring Program Review

The results and analysis of the biological, chemical and physical monitoring program will be submitted to the Division of Environmental Permitting of the Department for review at the end of the first year after Unit 2 commences operation and each year thereafter to determine the necessity and/or extent of their continuation. The methods and procedures utilized in the monitoring program shall be approved by the Department and also be reviewed annually by the Department and Florida Power & Light.

IV. Other Monitoring Programs

There shall also be implemented the pre-operational and post-operational environmental monitoring programs prescribed by the Nuclear Regulatory Commission and other Federal agencies. Copies of any reports required by such Federal agencies shall be submitted to the Department.

V. Dredging Operations

A. Spoil Disposal

There shall be no surface discharge of turbid waters to waters of the State from spoil disposal areas. Any spoil excavated and permanently moved during construction or maintenance dredging shall be deposited on an upland area. A berm or other control device shall be constructed around any spoil disposal areas to insure against spillage or discharge of excavated material which may cause turbidity in excess of 29 Nephelometric Turbidity Units (NTU) above background in waters of the State.

B. Turbidity Control

Turbidity control devices shall be installed prior to construction or maintenance dredging to insure that turbidity of State waters is not increased more than 29 Nephelometric Turbidity Units.

C. Dike Removal

The dike around the mangrove area north of the discharge canal shall be opened up to Big Mud Creek by breaching the dike in three (3) places. Each breach in the dike shall be a minimum of ten feet (10') wide at the bottom and the bottom elevation of the breach shall not be higher than one foot below mean sea level (-1' MSL) or deeper than -3' MSL.

VI. Stormwater Runoff

During construction and plant operation necessary measures shall be employed to settle, filter or absorb silt containing or pollutant loaded stormwater runoff to prevent contamination of waters of the State. Such measures may include sediment traps, barriers and use of berms or vegetation. Exposed or disturbed soil shall be sodded as soon as possible to minimize silt and sediment runoff into waters of the State.

VII. Defouling Operations

Ninety (90) days prior to conducting any defouling operations on intake or discharge lines, a plan of operation shall be submitted to the Department detailing when and how the defouling operation will take place. The defouling operation shall be conducted in such a manner that the water quality standards of Chapter 62-302, FAC, will not be violated.

VIII. Sanitary Wastes Disposal System

Sanitary wastes shall be collected and treated in accordance with Chapters 62-600, 62-601, 62-604, 62-610, 62-620 and 62-640, FAC, and DEP permits DO56-34536 and DO56-37127 or such permits as may be subsequently reissued or modified.

IX. Solid Wastes

Solid wastes generated by the construction or operation of the certified facility shall be handled and disposed of in conformance with all applicable regulations of the Nuclear Regulatory Commission and Chapters 62-701 and 62-730, Florida Administrative Code.

X. Vegetation and Dunes

A. Vegetation

Native vegetation will be planted at the earliest feasible time to replace any portion of the light screen installed behind the beach dune for Unit No. 1 that is disturbed for Unit No. 2 construction. Facility lighting added for Unit No. 2 will be shielded or directed to minimize sky shine. Rather than planting Australian Pine, the licensee shall use native vegetation such as live oak, native figs or wild tamarind in order protect the barrier sand dune and to act as a light shield if needed to protect turtle hatchlings, unless directly prohibited by the Nuclear Regulatory Commission.

B. Dunes

In restoring the ocean dune to its original condition after installation of the Unit No. 2 discharge and intake lines, the licensee will replant the dune at the earliest feasible time with dune stabilizing plants native to the area, such as sea oats (*Uniola paniculata*) or sea grape (*Coccoloba uvifera*).

XI. Control Measures During Construction

The licensee shall take the following mitigation action during construction of the proposed plant to limit adverse effects:

A. Discharge and Intake Lines

1. Construct a temporary dune and use sheet piling to protect against wave damage when the dune is cut. Native plantings will be maintained as much as possible.
2. Survey the beach area subject to construction activities for sea turtle nests and relocate any present if construction takes place on the beach during the nesting season.
3. Dispose of dredge spoils at an approved onshore site.
4. Use sheet piling or other acceptable methods around the area being dredged to minimize siltation of the adjacent waters.

B. Dewatering

Wastewater discharged from site dewatering will meet Florida water quality criteria prior to discharge.

C. pH

Chemical releases will be neutralized prior to discharge to waters of the State to prevent violations of pH water quality standards.

D. Facility Lighting

Elevated plant lighting will be shutdown to the extent possible during passage of storm fronts to minimize bird kills.

E. Trash

Trash shall be disposed of either on or off site in accordance with the procedure set forth in Chapter 17-5 and 17-17, FAC. If open burning of refuse or construction wastes are performed in accordance with Chapter 17-5, FAC, no additional permits shall be required, but the Division of Forestry shall be notified prior to such burning.

F. Edible Refuse

Edible refuse will be carefully disposed of to prevent accessibility by raccoons with resulting increased turtle predation.

G. Fish Entrapment

Fish entrapment shall be monitored in the intake canal even during the time only one unit is in operation. If unusually large numbers of fishes are entrapped, the licensee will furnish the Department a plan to mitigate such entrapment.

XII. Environmental Control Program

A control program shall be established to provide for a periodic review of all construction activities to assure those activities conform to the environmental conditions set forth in the conditions of certification.

XIII. Irreversible Damage

If unexpected harmful effect or evidence of irreversible damage are detected during facility construction, the applicant shall provide to the Department an acceptable

analysis of the problem and a plan of action to eliminate or significantly reduce the harmful effects or damage.

XIV. Water Withdrawal

The withdrawal of water for the testing and functioning of the emergency cooling systems for the St. Lucie Plant from that portion of the Indian River Known as Big Mud Creek shall be in accordance with the following:

A. Testing of the alternate emergency cooling systems not to exceed 4,000,000 gallons per year for Unit No. 2 when combined with Unit No. 1.

B. Flow of water in the alternate emergency cooling system, in the event that the main source of emergency cooling water from the Atlantic Ocean is not available, shall not exceed 60,000 gallons per minute, and may continue until the main source of emergency cooling water has been restored.

C. The licensee shall notify the Southeast District Office of the Department and the South Florida Water Management District prior to each test of the emergency cooling canal system, and shall also notify the Department of any use of the emergency cooling canal system lasting more than twelve (12) hours.

XV. Transformer Oil Collection Pits

The gravel filled transformer oil collection pits shall be constructed with appropriate bottom slopes to allow removal of any spill oil via the sump. The licensee shall notify the Department within 60 days of issuance of certification whether or not the transformer oil to be used on site will contain any polychlorinated biphenyls or other toxic polycyclic halogenated compounds. If oils containing polychlorinated biphenyls or other toxic polycyclic halogenated compounds are used in transformers, then the sides and bottom of the transformer pits shall be lined with concrete or other suitable impervious material.

XVI. Operational Safeguards

The overall design and layout of the plant must be such as to minimize hazards to humans and the environment. Warning signs, barrier fences and security control measures will be utilized to prevent public exposure to hazardous conditions. OSHA standards will be complied with to protect employees and the public.

XVII. Radiological

A. Decommissioning

Upon application to the NRC for authority to decommission the plant, the applicant shall provide the Department a written plan indicating how radioactive materials will be removed from the site or contained on site. Should the Department's review of the written plan reveal deficiencies, the Department shall bring such deficiencies to the attention of the applicant and the NRC and will initiate a request, consistent with NRC procedural requirements that remedial action be taken to correct the deficiencies.

B. Emergency Plan

The applicant shall work with the State Division of Emergency Management in the Department of Community Affairs and the State Department of Health, Bureau of Radiation Control in annually updating the emergency procedures and evacuation planning as necessary, including but not limited to improvements in communication and warning systems and in updating predicted plume overlays.

C. Radiological Release Limitations

The recommendation in the Power Plant Site Certification Analysis that certification be issued is based in part upon the fact that in order to obtain a construction permit and operating license from NRC, the applicant must comply with all applicable regulations, requirements, and standards of the U.S. NRC which limit the release of radioactive materials in solid waste, liquid or gaseous effluents to the environs. The above regulations, requirements and standards include the following:

1. Standards for Protection Against Radiation, U.S. Nuclear Regulatory Commission Rules and Regulations, Title 10, Chapter 1, Part 20, Code of Federal Regulations, as presently in effect or hereafter amended.

2. Limitations and conditions for the controlled release of radioactive materials in solid, liquid and gaseous effluents contained in the Environmental Technical Specifications attached to and made a part of the future Operating License for St. Lucie Unit No. 2 issued to the applicant by the U.S. NRC.

The Department has the statutory duty to insure that the location and operation of St. Lucie 2 will produce minimal adverse effects on human health, the environment, the ecology and the land and its wildlife, and the ecology of State waters and their aquatic life. (Fla. Stat. Section 403.502.) The Department has determined that

the construction and operation of St. Lucie 2 must comply with the above radiological release limitations in order to minimize adverse effects on human health and the environment. This certification is conditioned upon full compliance by the applicant with the applicable above regulations, requirements and standards.

The NRC has the primary duty and responsibility imposed by statute, to enforce compliance by the applicant with NRC standards and technical specifications, to assure that the construction and operating of St. Lucie 2 will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public. See Section 103(d) of the Atomic Energy Act, 42 U.S.C. section 2133(d) (1970); accord. 42 U.S.C. section 2332(a) (1970).

However, should the Department determine that the NRC has failed to discharge its duty and responsibility, it may bring any such deficiencies to the attention of the applicant and the NRC, and will initiate a request, consistent with NRC procedural requirements, that appropriate enforcement action be taken to correct the deficiencies. Should such appropriate enforcement action not be forthcoming, and the Department determines that such enforcement action is necessary to insure that adverse effects on human health and the environment by continued operation of St. Lucie 2 are minimized, the Department reserves the right to take appropriate State enforcement action pursuant to Chapter 403, Florida Statutes, against the applicant for violation of any of the above radiological release limitations on the grounds that the violation of such limitations constitutes a violation of this express condition of certification.

D. Fuel Limitation

The Fuel for St. Lucie Unit No. 2 shall be enriched uranium dioxide fuel.

E. Monitoring

The Environmental Radiological Surveillance Program required by the Environment Technical Specifications to be made a part of the future Operation License for St. Lucie 2 by NRC shall be implemented by the applicant. Should the Department determine that additional monitoring is required, it may take appropriate action to require such monitoring by amendment of this condition of certification.

F. Interagency Agreement

The applicant shall comply with the State of Florida Radiological Emergency Plan dated May 1975 or as subsequently revised, and the Radiological Response Agreement between the Florida Department of Health and the Florida Power

and Light Company dated January 16, 1974, as attached and incorporated herein as Appendix B or as may be subsequently revised.

G. Reservation of Legal Rights

Applicant's acceptance of these radiological conditions of certification does not, in and of itself, constitute a waiver by Applicant of its contention that any such radiological conditions are invalid under the doctrine of federal preemption.

History

Limited Certification Order (site preparation and construction) issued 12/17/75; signed by Governor Askew

Full Certification Order issued 05/18/76; signed by Governor Askew

Modified 4/7/80; signed by Governor Graham

Modified 12/7/81; signed by Secretary Tschinkel

Modified 1/27/82; signed by Secretary Tschinkel

Modified 2/4/82 - correction of 1/27/82 Modification; signed by Secretary Tschinkel

Modified 4/29/86; signed by Secretary Tschinkel

Modified 9/28/87; signed by Secretary Twachtman

Modified 4/6/94; signed by Secretary Wetherell

Modified 4/24/96; signed by Secretary Wetherell

Modified 04/14/06; signed by Siting Administrator Owen

APPENDIX 10.4.1.1

GENERAL WATER USE PERMIT #56-01238 - W



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045 • IDD (561) 697-2574
Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680 • www.sfwmd.gov

CON 24-06

Application No.: 020327-12

General Permit No.: 56-01238-W

May 21, 2002

FLORIDA POWER AND LIGHT ST LUCIE PLANT
6501 SOUTH A1A
JENSEN BEACH, FL 34957

Dear Permittee:

SUBJECT: General Water Use Permit No.: 56-01238-W

Project: IMPLEMENT REMEDIAL ACTION PLAN

Location: ST LUCIE COUNTY, S16/T36S/R41E

Permittee: FLORIDA POWER AND LIGHT ST LUCIE PLANT

This letter is to notify you of the District's agency action concerning your Notice of Intent to Use Water. This action is taken pursuant to Rule 40E-20.042, Florida Administrative Code (F.A.C.). Based on the information provided, District rules have been adhered to and a General Water Use Permit is in effect for this project subject to:

1. Not receiving a filed request for Chapter 120, Florida Statutes, administrative hearing and
2. The attached Limiting Conditions.

This permit is issued for the purpose of aquifer remediation. Contaminated groundwater is recovered, treated in an approved treatment system (FDEP 568630677), and discharged back to the aquifer via an on-site infiltration gallery.

GOVERNING BOARD

Trudi K. Williams, P.E., *Chair*
Lennart E. Lindahl, P.E., *Vice-Chair*
Pamela Brooks-Thomas

Michael Collins
Hugh M. English
Gerardo B. Fernández

Patrick J. Gleason, Ph.D., P.C.
Nicolás J. Gutiérrez, Jr., Esq.
Harkley R. Thornton

EXECUTIVE OFFICE

Henry Dean, *Executive Director*

Application Number: 020327-12
FLORIDA POWER AND LIGHT ST LUCIE PLANT
May 21, 2002
Page 2

Date Of Issuance: May 21, 2002

Expiration Date: May 21, 2009

Water Use Classification: Industrial

Water Use Permit Status: Proposed

Environmental Resource Permit Status: Not Applicable

Right Of Way Permit Status: Not Applicable

Ground Water From: Surficial Aquifer System

Permitted Allocation(s):

Annual Allocation:	4,380,000 Gallons
Maximum Monthly Allocation:	446,400 Gallons

Existing Withdrawal Facilities - Ground Water

Source: Surficial Aquifer System

4 - 6" X 30' X 2 GPM Wells Cased To 10 Feet

Proposed Withdrawal Facilities - Ground Water

Source: Surficial Aquifer System

1 - 8" X 30' X 2 GPM Well Cased To 10 Feet

Rated Capacity

Source(s)	Status Code	GPM	MGD	MGM	MGY
Surficial Aquifer System	E	8	0.01	0.4	4
Surficial Aquifer System	P	2	0.00	0.1	1
Totals:		10	0.01	0.5	5

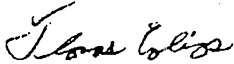
Application Number: 020327-12
FLORIDA POWER AND LIGHT ST LUCIE PLANT
May 21, 2002
Page 3

Should you object to the Limiting Conditions, please refer to the attached Notice of Rights which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Please contact this office if you have questions concerning this matter. If we do not hear from you prior to the time frame specified in the Notice of Rights, we will assume that you concur with the District's recommendations.

Certificate Of Service

I HEREBY CERTIFY that a Notice of Rights has been mailed to the addressee not later than 5:00 p.m. this 21st day of May, 2002, in accordance with Section 120.60(3), Florida Statutes.

Sincerely,



Thomas Colios
Supervising Hydrogeologist
Water Use Regulation Division

TDC /nd

Certified Mail No.: 7000 0600 0025 9426 6834

Enclosure

c: Florida Power And Light
Indian River Bd of County Commissioners
St Lucie County Health Department
Utility Director, St. Lucie County
Wes Upham, City of Port St. Lucie

Application Number: 020327-12
FLORIDA POWER AND LIGHT ST LUCIE PLANT
May 21, 2002
Page 4

Limiting Conditions

1. This permit shall expire on May 21, 2009.
2. Application for a permit modification may be made at any time.
3. Water use classification:
Industrial water supply
4. Source classification:
Ground Water from:
Surficial Aquifer System
5. Annual allocation shall not exceed 4 38 MG.
Maximum monthly allocation shall not exceed 0 4464 MG.
6. In the event of a declared water shortage, water withdrawal reductions will be ordered by the District in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C. The Permittee is advised that during a water shortage, pumpage reports shall be submitted as required by Chapter 40E-21, F.A.C.
7. Withdrawal Facilities:
Ground Water - Existing:
4 - 6" X 30' X 2 GPM Wells Cased To 10 Feet
Ground Water - Proposed:
1 - 8" X 30' X 2 GPM Well Cased To 10 Feet
8. Permittee shall mitigate any adverse impacts to existing legal uses as a consequence of withdrawals permitted herein. When adverse impacts occur, or is imminent, the District reserves the right to curtail withdrawal rates. Adverse impacts are:
A) reduction in well water levels that impairs the ability of an adjacent well, including a domestic well, lawn irrigation well, or public water supply well, to produce water by 10% or greater,
B) significant reduction in levels in an adjacent water body, such as a lake, pond, or a canal system, that impairs the ability to produce water by 10% or greater,
C) saline water intrusion or induced movement of pollutants into the water supply of an adjacent water use, resulting in a significant reduction in water quality, and
D) change in water quality caused by the permittee that results in significant impairment or loss of use of a well or water body.

Limiting Conditions

9. Permittee shall mitigate any adverse impact to existing off-site land use as a consequence of withdrawals permitted herein. If increased withdrawals cause an adverse impact on existing land use, the District reserves the right to curtail future withdrawal rates. Adverse impacts are:
 - A) significant reduction in water levels in an adjacent surface water body, including impoundments, to the extent that the designed function of the water body is impaired,
 - B) land collapse or subsidence caused by reduction in water levels; and
 - C) damage to crops and other types of vegetation.
10. If adverse impacts occur to natural resources as a result of the Permittee's water withdrawals, the Permittee shall mitigate for such impacts. When adverse impacts occur, or are imminent, District reserves the right to curtail withdrawal rates. Examples of adverse impacts are:
 - A) reduction in ground water levels that results in significant lateral movement of the fresh water/salt water interface,
 - B) reduction in water levels that adversely impact the hydroperiod of protected wetland environments,
 - C) significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,
 - D) induced movement or induction of pollutants into the water supply resulting in a significant reduction in water quality, and
 - E) significant damage to the natural system including damage to habitat for rare or endangered species.
11. If any condition of the permit is violated, the permit shall be subject to review and possible modification, enforcement action, or revocation.
12. Authorized representatives of the District shall be permitted to enter, inspect, and observe the permitted system to determine compliance with special conditions.
13. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.
14. The permit does not convey any property right to the Permittee, nor any rights and privileges other than those specified in the Permit and Chapter 40E-2, Florida Administrative Code
15. Permittee shall submit all data as required by the implementation schedule for each of the limiting conditions to: S.F.W.M.D., Supervising Hydrogeologist - Post-Permit Compliance, Water Use Regulation Dept. (4320), P.O. Box 24680, West Palm Beach, FL 33416-4680.

NOTICE OF RIGHTS

Section 120.569(1), Fla. Stat. (1997), requires that each notice shall inform the recipient of any administrative hearing or judicial review that is available under this section, s. 120.57, or s. 120.68; shall indicate the procedure which must be followed to obtain the hearing or judicial review, and shall state the time limits which apply. Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

PETITION FOR ADMINISTRATIVE PROCEEDINGS

1. A person whose substantial interests are affected by the South Florida Water Management District's (SFWMD) action has the right to request an administrative hearing on that action. The affected person may request either a formal or an informal hearing, as set forth below. A point of entry into administrative proceedings is governed by Rules 28-106.111 and 40E-1.511, Fla. Admin. Code, (also published as an exception to the Uniform Rules of Procedure as Rule 40E-0.109), as set forth below. Petitions are deemed filed upon receipt of the original documents by the SFWMD Clerk.

a. Formal Administrative Hearing:

If a genuine issue(s) of material fact is in dispute, the affected person seeking a formal hearing on a SFWMD decision which does or may determine their substantial interests shall file a petition for hearing pursuant to Sections 120.569 and 120.57(1), Fla. Stat. or for mediation pursuant to Section 120.573, Fla. Stat. within 21 days, except as provided in subsections c. and d. below, of either written notice through mail or posting or publication of notice that the SFWMD has or intends to take final agency action. Petitions must substantially comply with the requirements of Rule 28-106.201(2), Fla. Admin. Code, a copy of the which is attached to this Notice of Rights.

b. Informal Administrative Hearing:

If there are no issues of material fact in dispute, the affected person seeking an informal hearing on a SFWMD decision which does or may determine their substantial interests shall file a petition for hearing pursuant to Sections 120.569 and 120.57(2), Fla. Stat. or for mediation pursuant to Section 120.573, Fla. Stat. within 21 days, except as provided in subsections c. and d. below, of either written notice through mail or posting or publication of notice that the SFWMD has or intends to take final agency action. Petitions must substantially comply with the requirements of Rule 28-106.301(2), Fla. Admin. Code, a copy of the which is attached to this Notice of Rights.

c. Administrative Complaint and Order:

If a Respondent(s) objects to a SFWMD Administrative Complaint and Order, pursuant to Section 373.119, Fla. Stat. (1997), the person named in the Administrative Complaint and Order may file a petition for a hearing no later than 14 days after the date such order is served. Petitions must substantially comply with the requirements of either subsection a. or b. above.

d. State Lands Environmental Resource Permit:

Pursuant to Section 373.427, Fla. Stat., and Rule 40E-1.511(3), Fla. Admin. Code (also published as an exception to the Uniform Rules of Procedure as Rule 40E-0.109(2)(c)), a petition objecting to the SFWMD's agency action regarding consolidated applications for Environmental Resource Permits and Use of Sovereign Submerged Lands (SLERPs), must be filed within 14 days of the notice of consolidated intent to grant or deny the SLERP. Petitions must substantially comply with the requirements of either subsection a. or b. above.

e. Emergency Authorization and Order:

A person whose substantial interests are affected by a SFWMD Emergency Authorization and Order, has a right to file a petition under Sections 120.569, 120.57(1), and 120.57(2), Fla. Stat., as provided in subsections a. and b. above. However, the person, or the agent of the person responsible for causing or contributing to the emergency conditions shall take whatever action necessary to cause immediate compliance with the terms of the Emergency Authorization and Order.

f. Order for Emergency Action:

A person whose substantial interests are affected by a SFWMD Order for Emergency Action has a right to file a petition pursuant to Rules 28-107.005 and 40E-1.611, Fla. Admin. Code, copies of which are attached to this Notice of Rights, and Section 373.119(3), Fla. Stat., for a hearing on the Order. Any subsequent agency action or proposed agency action to initiate a formal revocation proceeding shall be separately noticed pursuant to section g. below.

g. Permit Suspension, Revocation, Annulment, and Withdrawal:

If the SFWMD issues an administrative complaint to suspend, revoke, annul, or withdraw a permit, the permittee may request a hearing to be conducted in accordance with Sections 120.569 and 120.57, Fla. Stat., within 21 days of either written notice through mail or posting or publication of notice that the SFWMD has or intends to take final agency action. Petitions must substantially comply with the requirements of Rule 28-107.004(3), Fla. Admin. Code, a copy of the which is attached to this Notice of Rights.

2. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the SFWMD's final action may be different from the position taken by it previously. Persons whose substantial interests may be affected by any such final decision of the SFWMD shall have, pursuant to Rule 40E-1.511(2), Fla. Admin. Code (also published as an exception to the Uniform Rules of Procedure as Rule 40E-0.109(2)(c)), an additional 21 days from the date of receipt of notice of said decision to request an administrative hearing. However, the scope of the administrative hearing shall be limited to the substantial deviation.

3. Pursuant to Rule 40E-1.511(4), Fla. Admin. Code, substantially affected persons entitled to a hearing pursuant to Section 120.57(1), Fla. Stat., may waive their right to such a hearing and request an informal hearing before the Governing Board pursuant to Section 120.57(2), Fla. Stat., which may be granted at the option of the Governing Board.

4. Pursuant to Rule 28-106.111(3), Fla. Admin. Code, persons may file with the SFWMD a request for extension of time for filing a petition. The SFWMD, for good cause shown, may grant the extension. The request for extension must contain a certificate that the petitioner has consulted with all other parties, if any, concerning the extension and that the SFWMD and all other parties agree to the extension.

CIRCUIT COURT

5. Pursuant to Section 373.617, Fla. Stat., any substantially affected person who claims that final agency action of the SFWMD relating to permit decisions constitutes an unconstitutional taking of property without just compensation may seek judicial review of the action in circuit court by filing a civil action in the circuit court in the judicial circuit in which the affected property is located within 90 days of the rendering of the SFWMD's final agency action.

6. Pursuant to Section 403.412, Fla. Stat., any citizen of Florida may bring an action for injunctive relief against the SFWMD to compel the SFWMD to enforce the laws of Chapter 373, Fla. Stat., and Title 40E, Fla. Admin. Code. The complaining party must file with the SFWMD Clerk a verified complaint setting forth the facts upon which the complaint is based and the manner in which the complaining party is affected. If the SFWMD does not take appropriate action on the complaint within 30 days of receipt, the complaining party may then file a civil suit for injunctive relief in the 15th Judicial Circuit in and for Palm Beach County or circuit court in the county where the cause of action allegedly occurred.

7. Pursuant to Section 373.433, Fla. Stat., a private citizen of Florida may file suit in circuit court to require the abatement of any stormwater management system, dam, impoundment, reservoir, appurtenant work or works that violate the provisions of Chapter 373, Fla. Stat.

DISTRICT COURT OF APPEAL

8 Pursuant to Section 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the SFWMD Clerk within 30 days of rendering of the final SFWMD action.

LAND AND WATER ADJUDICATORY COMMISSION

9. A party to a "proceeding below" may seek review by the Land and Water Adjudicatory Commission (LAWAC) of SFWMD's final agency action to determine if such action is consistent with the provisions and purposes of Chapter 373, Fla. Stat. Pursuant to Section 373.114, Fla. Stat., and Rules 42-2.013 and 42-2.0132, Fla. Admin. Code, a request for review of (a) an order or rule of the SFWMD must be filed with LAWAC within 20 days after rendition of the order or adoption of the rule sought to be reviewed; (b) an order of the Department of Environmental Protection (DEP) requiring amendment or repeal of a SFWMD rule must be filed with LAWAC within 30 days of rendition of the DEP's order, and (c) a SFWMD order entered pursuant to a formal administrative hearing under Section 120.57(1), Fla. Stat., must be filed no later than 20 days after rendition of the SFWMD's final order. Simultaneous with filing, a copy of the request for review must be served on the DEP Secretary, any person named in the SFWMD or DEP final order, and all parties to the proceeding below. A copy of Rule 42-2.013, Fla. Admin. Code is attached to this Notice of Rights

PRIVATE PROPERTY RIGHTS PROTECTION ACT

10. A property owner who alleges a specific action of the SFWMD has inordinately burdened an existing use of the real property, or a vested right to a specific use of the real property, may file a claim in the circuit court where the real property is located within 1 year of the SFWMD action pursuant to the procedures set forth in Subsection 70.001(4)(a), Fla. Stat.

LAND USE AND ENVIRONMENTAL DISPUTE RESOLUTION

11. A property owner who alleges that a SFWMD development order (as that term is defined in Section 70.51(2)(a), Fla. Stat. to include permits) or SFWMD enforcement action is unreasonable, or unfairly burdens the use of the real property, may file a request for relief with the SFWMD within 30 days of receipt of the SFWMD's order or notice of agency action pursuant to the procedures set forth in Subsections 70.51(4) and (6), Fla. Stat.

MEDIATION

12. A person whose substantial interests are, or may be, affected by the SFWMD's action may choose mediation as an alternative remedy under Section 120.573, Fla. Stat. Pursuant to Rule 28-106.111(2), Fla. Admin. Code, the petition for mediation shall be filed within 21 days of either written notice through mail or posting or publication of notice that the SFWMD has or intends to take final agency action. Choosing mediation will not adversely affect the right to an administrative hearing if mediation does not result in settlement.

Pursuant to Rule 28-106.402, Fla. Admin. Code, the contents of the petition for mediation shall contain the following information:

- (1) the name, address, and telephone number of the person requesting mediation and that person's representative, if any;
- (2) a statement of the preliminary agency action;
- (3) an explanation of how the person's substantial interests will be affected by the agency determination; and
- (4) a statement of relief sought.

As provided in Section 120.573, Fla. Stat. (1997), the timely agreement of all the parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57, Fla. Stat., for requesting and holding an administrative hearing. Unless otherwise agreed by the parties, the mediation must be concluded within 60 days of the execution of the agreement. If mediation results in settlement of the dispute, the SFWMD must enter a final order incorporating the agreement of the parties. Persons whose substantial interest will be affected by such a modified agency decision have a right to petition for hearing within 21 days of receipt of the final order in accordance with the requirements of Sections 120.569 and 120.57, Fla. Stat., and SFWMD Rule 28-106.201(2), Fla. Admin. Code. If mediation terminates without settlement of the dispute, the SFWMD shall notify all parties in writing that the administrative hearing process under Sections 120.569 and 120.57, Fla. Stat., remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action.

VARIANCES AND WAIVERS

13. A person who is subject to regulation pursuant to a SFWMD rule and believes the application of that rule will create a substantial hardship or will violate principles of fairness (as those terms are defined in Subsection 120.542(2), Fla. Stat.) and can demonstrate that the purpose of the underlying statute will be or has been achieved by other means, may file a petition with the SFWMD Clerk requesting a variance from or waiver of the SFWMD rule. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have concerning the SFWMD's action. Pursuant to Rule 28-104.002(2), Fla. Admin. Code, the petition must include the following information:

- (a) the caption shall read:
Petition for (Variance from) or (Waiver of) Rule (Citation)
- (b) The name, address, telephone number and any facsimile number of the petitioner;
- (c) The name, address, telephone number and any facsimile number of the attorney or qualified representative of the petitioner;;
- (d) the applicable rule or portion of the rule;
- (e) the citation to the statute the rule is implementing;
- (f) the type of action requested;
- (g) the specific facts that demonstrate a substantial hardship or violation of principals of fairness that would justify a waiver or variance for the petitioner;
- (h) the reason why the variance or the waiver requested would serve the purposes of the underlying statute; and
- (i) a statement of whether the variance or waiver is permanent or temporary. If the variance or waiver is temporary the petition shall include the dates indicating the duration of the requested variance or waiver.

A person requesting an emergency variance from or waiver of a SFWMD rule must clearly so state in the caption of the petition. In addition to the requirements of Section 120.542(5), Fla. Stat. pursuant to Rule 28-104.004(2), Fla. Admin. Code, the petition must also include:

- a) the specific facts that make the situation an emergency; and
- b) the specific facts to show that the petitioner will suffer immediate adverse effect unless the variance or waiver is issued by the SFWMD more expeditiously than the applicable timeframes set forth in Section 120.542, Fla. Stat.

WAIVER OF RIGHTS

- 14 Failure to observe the relevant time frames prescribed above will constitute a waiver of such right

28-106.201 INITIATION OF PROCEEDINGS (INVOLVING DISPUTED ISSUES OF MATERIAL FACT)

- (2) All petitions filed under these rules shall contain:
- (a) The name and address of each agency affected and each agency's file or identification number, if known;

- (b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding, and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and
- (f) A demand for relief.

28-106.301.1 INITIATION OF PROCEEDINGS (NOT INVOLVING DISPUTED ISSUES OF MATERIAL FACT)

- (2) All petitions filed under these rules shall contain:
 - (a) The name and address of each agency affected and each agency's file or identification number, if known;
 - (b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding, and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
 - (c) A statement of when and how the petitioner received notice of the agency decision;
 - (d) A statement that the party is requesting a hearing involving disputed issues of material fact, or a hearing not involving disputed issues of material fact; and
 - (e) A demand for relief.

28-107.004 SUSPENSION, REVOCATION, ANNULMENT, OR WITHDRAWAL

- (3) Requests for hearing filed in accordance with this rule shall include:
 - (a) The name and address of the party making the request, for purposes of service;
 - (b) A statement that the party is requesting a hearing involving disputed issues of material fact, or a hearing not involving disputed issues of material fact; and
 - (c) A reference to the notice, order to show cause, administrative complaint, or other communication that the party has received from the agency.

42-2.013 REQUEST FOR REVIEW PURSUANT TO SECTION 373.114 OR 373.217

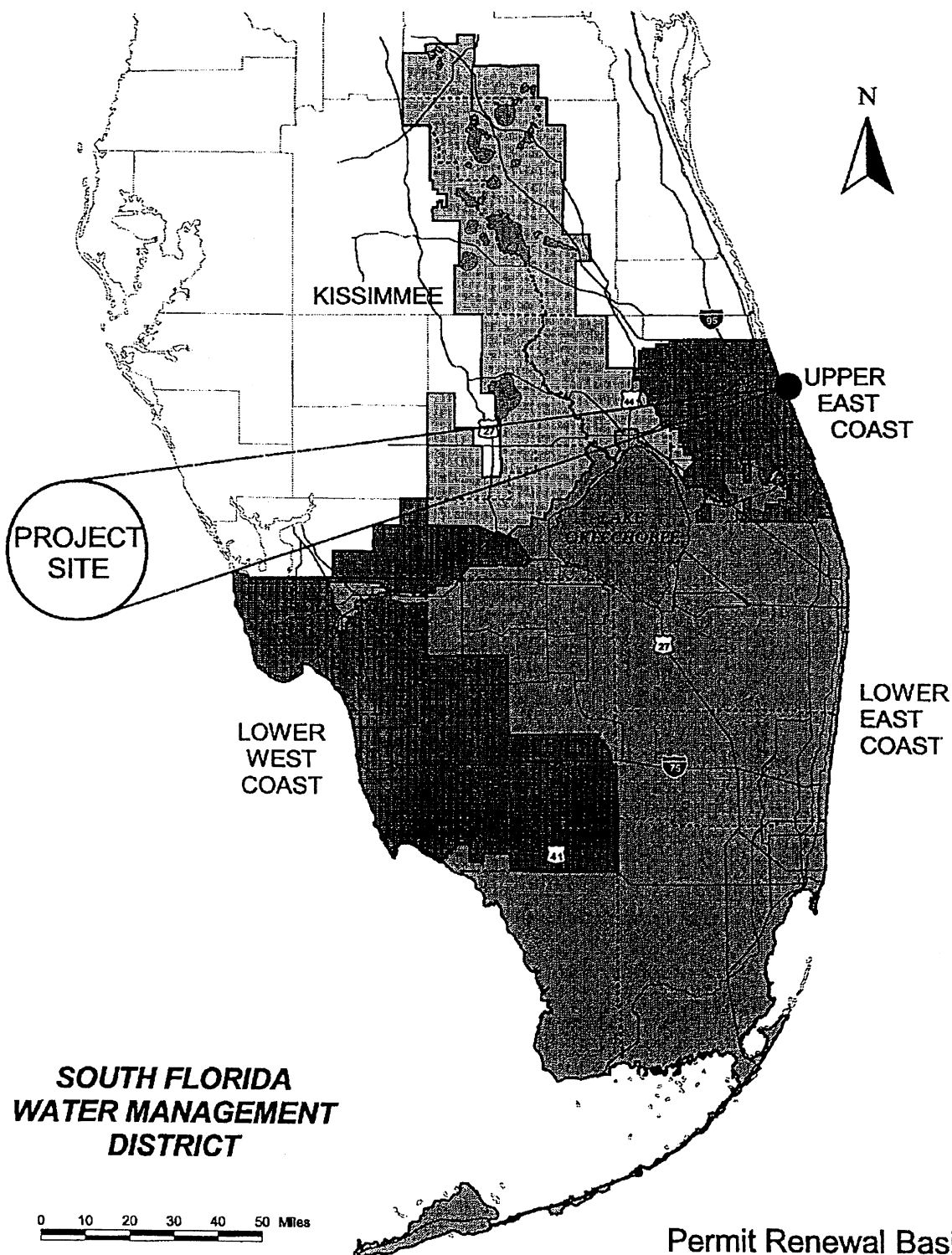
- (1) In any proceeding arising under Chapter 373, F.S., review by the Florida Land and Water Adjudicatory Commission may be initiated by the Department or a party by filing a request for such review with the Secretary of the Commission and serving a copy on any person named in the rule or order, and on all parties to the proceeding which resulted in the order sought to be reviewed. A certificate of service showing completion of service as required by this subsection shall be a requirement for a determination of sufficiency under Rule 42-2.0132. Failure to file the request with the Commission within the time period provided in Rule 42-2.0132 shall result in dismissal of the request for review.
- (2) The request for review shall identify the rule or order requested to be reviewed, the proceeding in which the rule or order was entered and the nature of the rule or order. A copy of the rule or order sought to be reviewed shall be attached. The request for review shall state with particularity:
 - (a) How the order or rule conflicts with the requirements, provisions and purposes of Chapter 373, F.S. or rules duly adopted thereunder;
 - (b) How the rule or order sought to be reviewed affects the interests of the party seeking review;
 - (c) The oral or written statement, sworn or unsworn, which was submitted to the agency concerning the matter to be reviewed and the date and location of the statement, if the individual or entity requesting the review has not participated in a proceeding previously instituted pursuant to Chapter 120, F.S., on the order for which review is sought;
 - (d) If review of an order is being sought, whether and how the activity authorized by the order would substantially affect natural resources of statewide or regional significance, or whether the order raises issues of policy, statutory interpretation, or rule interpretation that have regional or statewide significance from a standpoint of agency precedent and all the factual bases in the record which the petitioner claims support such determination(s); and
 - (e) The action requested to be taken by the Commission as a result of the review, whether to rescind or modify the order, or remand the proceeding to the water management district for further action, or to require the water management district to initiate rulemaking to adopt, amend or repeal a rule.

28-107.005 EMERGENCY ACTION

- (1) If the agency finds that immediate serious danger to the public health, safety, or welfare requires emergency action, the agency shall summarily suspend, limit, or restrict a license.
- (2) The 14-day notice requirement of Section 120.569(2)(b), F.S., does not apply and shall not be construed to prevent a hearing at the earliest time practicable upon request of an aggrieved party.
- (3) Unless otherwise provided by law, within 20 days after emergency action taken pursuant to paragraph (1) of this rule, the agency shall initiate a formal suspension or revocation proceeding in compliance with Sections 120.569, 120.57, and 120.60, F.S.

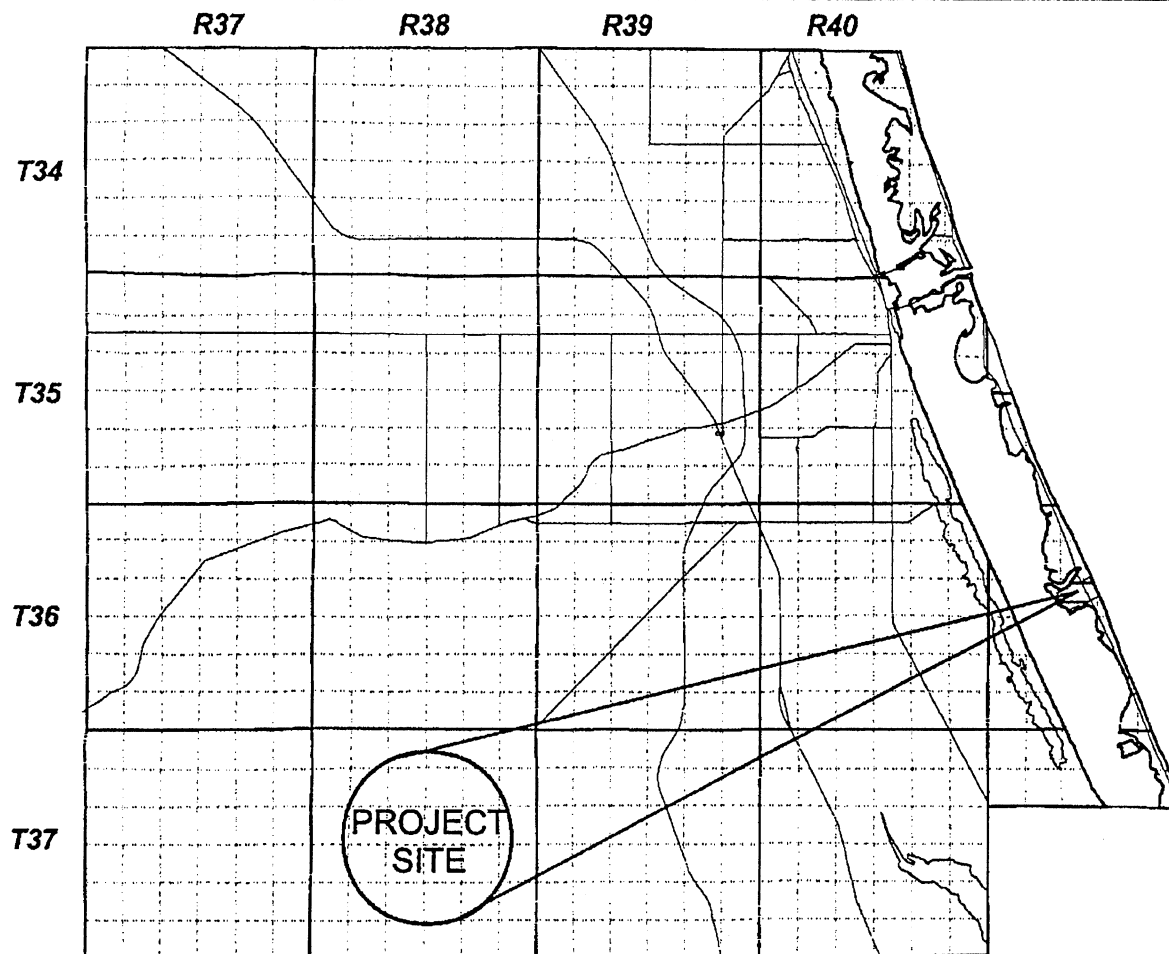
40E-1.611 EMERGENCY ACTION

- (1) An emergency exists when immediate action is necessary to protect public health, safety or welfare; the health of animals, fish or aquatic life; the works of the District; a public water supply, or recreational, commercial, industrial, agricultural or other reasonable uses of land and water resources.
- (2) The Executive Director may employ the resources of the District to take whatever remedial action necessary to alleviate the emergency condition without the issuance of an emergency order, or in the event an emergency order has been issued, after the expiration of the requisite time for compliance with that order.



Permit Renewal Basins
Exhibit 1

**ST LUCIE
COUNTY**
FLORIDA

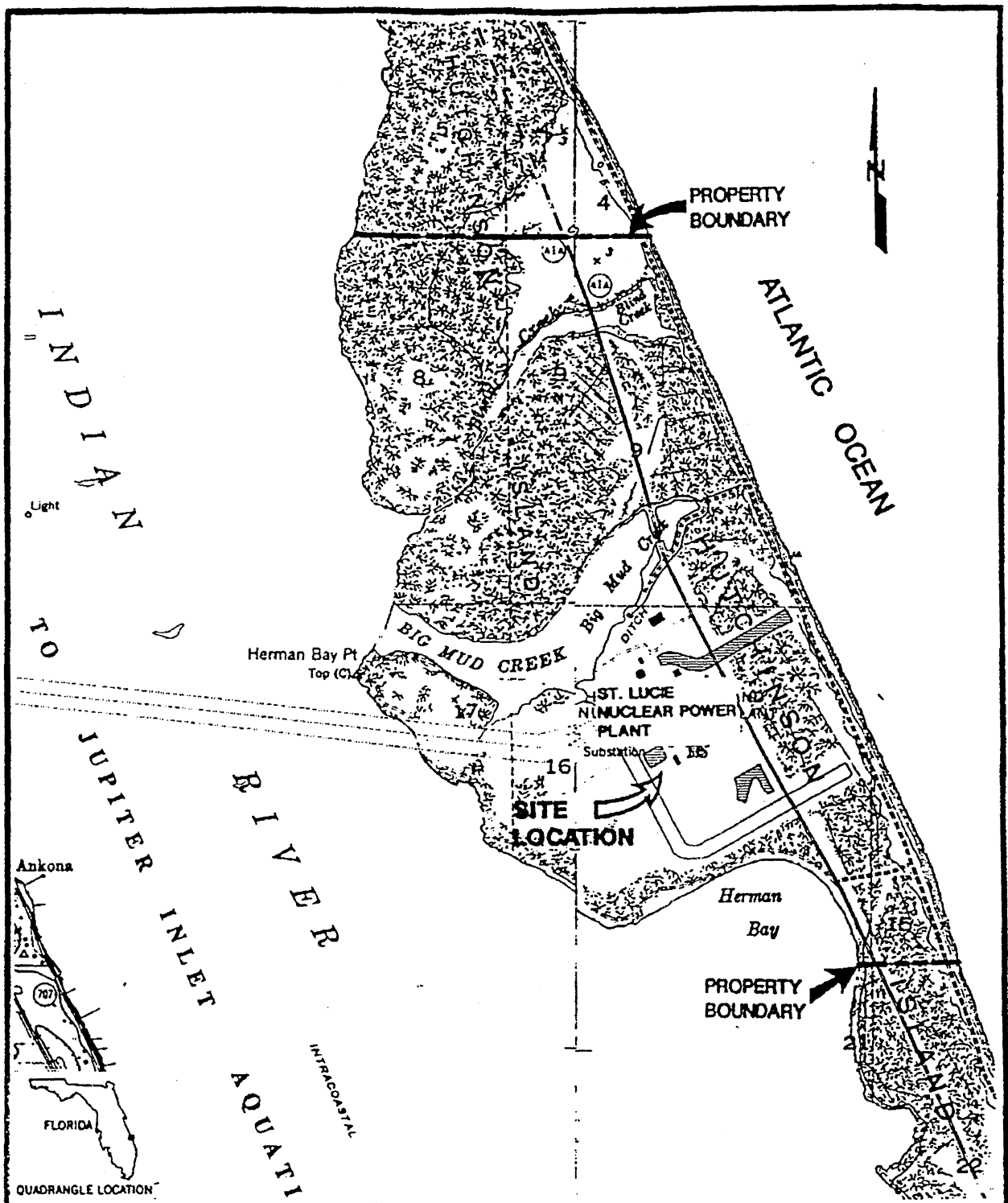


App # 020327-12

Permit # 56-01238-W

Project: IMPLEMENT REMEDIAL ACTION PLAN

0 4 8 Miles



ANKONA 1983 QUAD.
 EDEN 1983 QUAD.
 SOURCE: USGS 7.5 MIN. QUAD.
 T36S, R41E

ITEM I-1

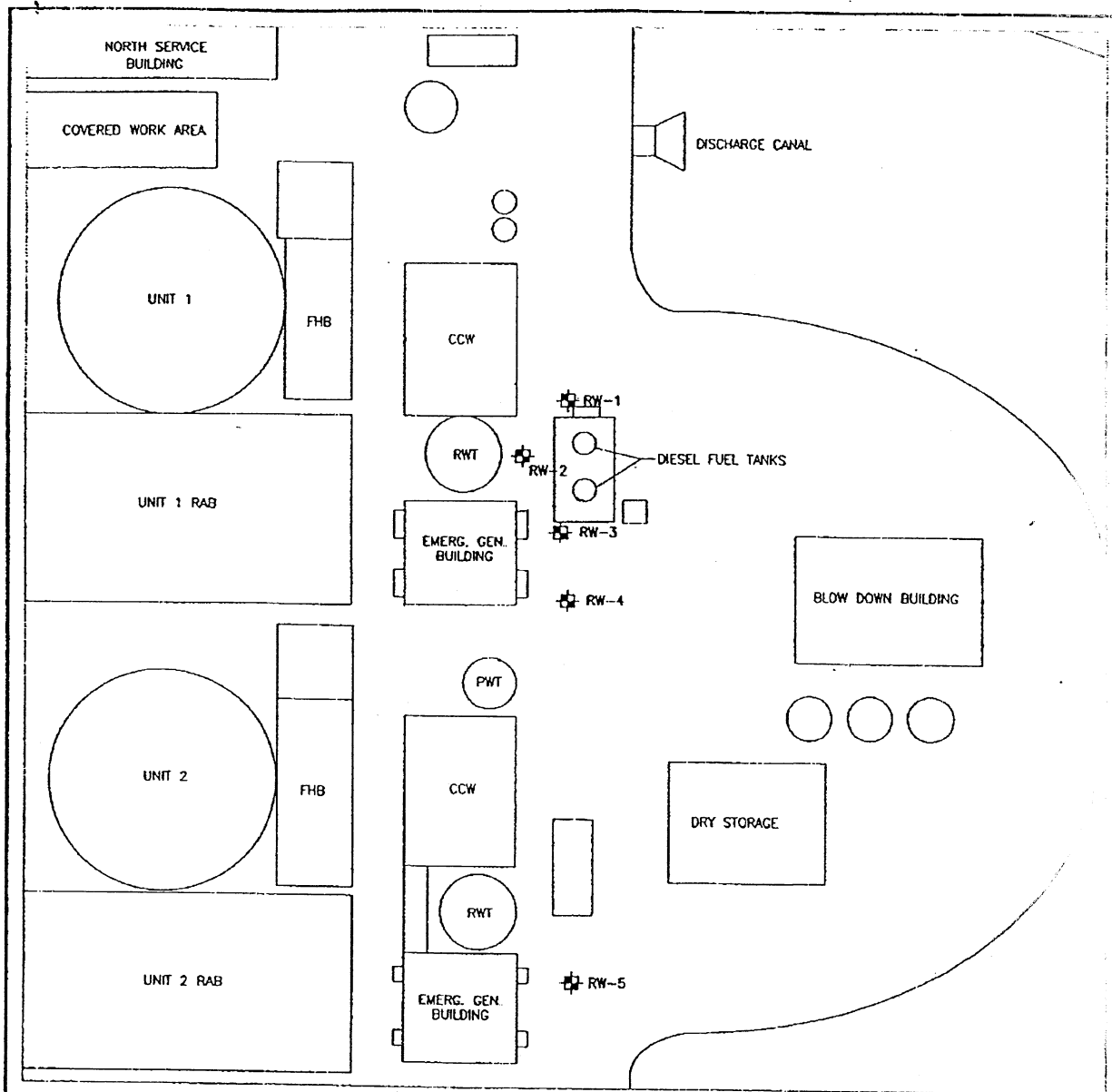
FIGURE 1

FLORIDA POWER AND LIGHT COMPANY
 SITE LOCATION MAP

SCALE: 1"=2000'

FLORIDA POWER & LIGHT CO.
 ST. LUCIE NUCLEAR POWER PLANT
 ST. LUCIE COUNTY, FLORIDA

EXHIBIT 3



ITEM I-1

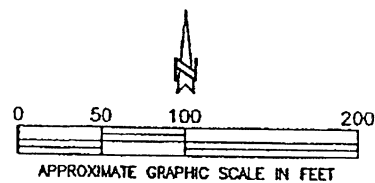
LEGEND

 RECOVERY WELL (RW)

NOTES

THIS DRAWING WAS NOT SURVEYED BY PROFESSIONAL LAND SURVEYORS. LOCATIONS OF ITEMS ARE CONSIDERED TO BE APPROXIMATE.

SOURCE: ATLANTIC TESTING & ENGINEERING, 1999



FLORIDA POWER & LIGHT CO. ST. LUCIE NUCLEAR POWER PLANT DIESEL SPILL SITE FORT PIERCE, FL FDEP FAC ID # 568630677 SITE LAYOUT / SAMPLING LOCATION MAP		
 FOSTER WHEELER ENVIRONMENTAL CORPORATION		
SCALE AS SHOWN DATE 9/14/01	PREPARED R.PAV CHECKED <i>dwk</i> APPROVED <i>HM</i>	CAD FILE NO. DSSSL03.DWG FIGURE No. 1

TABLE - A
Description Of Wells.

Application Number: 020327-12

Well ID	21552	21553	21554	21555	21556
Name	RW-1	RW-3	RW-4	RW-2	RW-5
Map Designator	RW-1	RW-3	RW-4	RW-2	RW-5
FLUWID Number					
Well Field					
Existing/Proposed	E	E	E	E	P
Well Diameter(Inches)	6	6	6	6	8
Total Depth(feet)	30	30	30	30	30
Cased Depth(feet)	10	10	10	10	10
Facility Elev. (ft. NGVD)					
Screened Interval					
From	10	10	10	10	0
To	30	30	30	30	0
Pumped Or Flowing	P	P	P	P	P
Pump Type	submersible	submersible	submersible	submersible	submersible
Pump Int. Elev. Feet (NGVD)					
Feet (BLS)	30	30	30	30	-30
Pump Capacity(GPM)	2	2	2	2	2
Year Drilled	1993	1993	1993	1993	9999
Planar Location					
Source	Migrate	Migrate	Migrate	Migrate	Migrate
Feet East	901692	901824	901797	901684	901807
Feet North	1096674	1096362	1096326	1096526	1096076
Accounting Method	unspecified	unspecified	unspecified	unspecified	unspecified
Use Status	Primary	Primary	Primary	Primary	Standby
Water Use Type	Industrial	Industrial	Industrial	Industrial	Industrial
Aquifer	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System

Exhibit No: 5

APPENDIX 10.4.1.2

AIR POLLUTION PERMIT #1110071-005 – AF (EU 001, 002, 003)



Department of Environmental Protection

Jeb Bush
Governor

Southeast District
400 N. Congress Avenue, Suite 200
West Palm Beach, Florida 33401

Colleen M. Castille
Secretary

NOTICE OF AIR POLLUTION PERMIT

January 30, 2006

ELECTRONIC CORRESPONDENCE
ed_benken@fpl.com

ISSUED TO:

Florida Power & Light Company, Port St. Lucie Nuclear Power Plant
6501 S. Ocean Drive
Jensen Beach, FL 34957-2041

Permit Number: 1110071-005-AF
Issue Date: January 30, 2006
Expiration Date: April 18, 2010

Authorized Representative:
Mr. Edwin Benken

PROJECT:

Project:	FESOP Revision for Florida Power & Light Company, Port St. Lucie Nuclear Power Plant
Facility Description:	Nuclear Power Plant (SIC # 4911)
Location:	6501 South State Road A1A, Port St. Lucie, St. Lucie County, Florida
Lat./Long.:	27°20'52" N / 80°14' 45" W
UTM:	Zone 17; 573.86 Km. E; 3025 01 Km. N

Dear Mr. Benken:

This is Permit Revision Number 1110071-005-AF to operate an air pollution source issued pursuant to Chapter 403.087, Florida Statutes (F.S.) and F.A.C. Rule 62-210.300(2)(b). This is an operation permit revision to change the fuel allocation for different emissions units.

NOTICE OF RIGHTS:

Any party to this Order has the right to seek judicial review of the permit under Section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection in the Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

STATEMENT OF BASIS:

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Rules 62-4, and 62-204 through 62-297, and in conformance with all existing regulations of the Florida Department of Environmental Protection. The above named owner or operator is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department, in accordance with the terms and conditions of this permit.

PART I -- SUMMARY INFORMATION

PERMIT CONTENTS:

Part I -- Summary Information
Part II -- Facility-Wide Specific Conditions
Part III -- Emissions Unit Specific Conditions
Appendix A -- General Conditions

OPERATE: This permit addresses the following air pollution emissions units:

Emissions Unit ID No.	Emissions Units Description
001	Emergency Diesel Generators (4) for Main Plant
002	Emergency Diesel Generators (2) for Office Buildings
003	Miscellaneous Diesel Driven Equipment

This permit also addresses the following air pollution activities, which are deemed to be exempt from permitting, based on the information provided by the applicant to the Department. Exempt activities have no emissions unit specific conditions, but are subject to applicable general pollutant emissions limiting standards specified in Part II of this permit.

Exempt Activity Description
Facility wide fugitive emissions from storage tanks, roadways, and paint/sandblasting

SIGNIFICANT DATES:

Application Received: **December 14, 2005**
Draft permit issuance Date: **January 06, 2006**
Public Notice of Intent Published on: **January 12, 2006**
Proof of publication received on: **January 17, 2006**
No comments were received during the 14-day Public Comment Period.

PERMIT HISTORY:

Permit No. 1110071-001-AC & 002-AO issued October 18, 1995
Permit No. 1110071-003-AO issued June 27, 2000
Notice of Administratively corrected operation permit for Permit No. 1110071-003-AO issued August 22, 2000
Permit No. 1110071-004-AF issued April 19, 2005

This permit supersedes all permits issued previously.

PART II -- FACILITY-WIDE SPECIFIC CONDITIONS

Conditions in this part generally apply to all emissions units and activities covered under this permit.

1.0 Administrative Requirements

- 1.1 Regulating Agencies: All applications, tests, reports, notifications, or other submittals required by this permit shall be submitted to the Florida Department of Environmental Protection, Southeast District Office, Air Program 400 North Congress Avenue, Suite 200, West Palm Beach, Florida, 33401, phone 561-681-6600 Fax 561-681-6790.
- 1.2 Citation Format: In this permit, references to F.A.C. Rule 62-xxx refer to rules promulgated under Title 62 of the Florida Administrative Code; references (if any) to 40 CFR 60.xx (or 61.xx or 63.xx) refer to regulations codified under Part 60 (or 61 or 63) of Title 40 of the Code of Federal Regulations.
- 1.3 Specific and General Conditions: The owner or operator shall be subject to the specific conditions of this permit and the owner or operator shall be aware of, and operate under, the General Conditions, attached as Appendix A of this permit. General Conditions are binding and enforceable pursuant to Chapter 403, F.S.
[Rule 62-4.160, F.A.C.]
- 1.4 Applicable Regulations: This facility is subject to regulation of Florida Administrative Code (F.A.C.) Rules 62-4, and 62-204 through 62-297. Issuance of this permit does not relieve the facility owner or operator from compliance with any other applicable federal, state or local permitting requirements or other regulations.
- 1.5 Other Permits: This air pollution permit does not preclude the owner or operator from obtaining any other types of required permits, licenses or certifications from this Department or other departments or agencies.
- 1.6 Renewal of This Permit Required: An application for renewal of this operation permit must be submitted to the Department of Environmental Protection, Southeast District Office, Air Program at least 60 days prior to the expiration date of this permit. To apply for an operation permit, the applicant shall submit the appropriate application form in quadruplicate, the appropriate application fee, all required compliance test results, and such additional information as the Department may by law require
[Rules 62-4.030, 62-4.050, and 62-4.220, F.A.C.]

Note that public notice may be required again at the time of renewal or revision of this permit if the facility or permit is materially changed from that described by this permit.
[Rule 62-210.350(4)(a), F.A.C.]

2.0 General Pollutant Emissions Limiting Standards

- 2.1 Objectionable Odor Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor
[Rule 62-296.320(2), F.A.C.]
- 2.2 General Visible Emissions Standard: Unless otherwise specified by permit or rule, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than 20 percent opacity.
[Rule 62-296.320(4)(b)1., F.A.C.]
- 2.3 Volatile Organic Compounds/Organic Solvents Emissions: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emissions control devices or systems deemed necessary and ordered by the Department.

Such controls include the following:

- Tightly cover or close all VOC containers when they are not in use

- Tightly cover all open tanks that contain VOCs when they are not in use.
 - Maintain all pipes, valves, fittings, etc., which handle VOCs in good operating condition.
 - Confine rags used with VOCs to tightly closed, fireproof containers when not in use.
 - Immediately confine and clean up VOC spills and make sure wastes are placed in closed containers for reuse, recycling or proper disposal.
- [Rule 62-296.320(1)(a), F.A.C.]

- 2.4 **Unconfined Emissions of Particulate Matter:** No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions.

Reasonable precautions include the following:

- Paving and maintenance of roads, parking areas and yards
 - Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
 - Application of asphalt, water, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.
 - Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.
 - Landscaping or planting of vegetation.
 - Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter
 - Confining abrasive blasting where possible.
- [Rule 62-296.320(4)(c), F.A.C.]

3.0 Operation Requirements

- 3.1 **Circumvention:** No person shall circumvent any air pollution control device, or allow the emissions of air pollutants without the applicable air pollution control device operating properly.
- [Rule 62-210.650, F.A.C.]

- 3.2 **Excess Emissions:** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing best operational practices to minimize emissions are adhered to, and the duration of excess emissions shall be minimized but in no case exceeds two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
- Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited
- [Rule 62-210.700, F.A.C.]

4.0 Compliance Testing Requirements

- 4.1 **Test Notification:** Unless otherwise specified in this permit, the Department of Environmental Protection, Southeast District Office, Air Program shall be notified in writing of expected compliance test dates at least fifteen (15) days prior to compliance testing. The notification shall include the following information: the date, time, and location of each test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner
- [Rule 62-297.310(7)(a), F.A.C.]

- 4.2 **Testing at Capacity:** Compliance testing shall be conducted with the emissions units operating at the permitted capacity (90 to 100% of the maximum permitted operation rate of the emissions units). If an emissions unit is not tested at permitted capacity, the emissions unit shall not be operated above 110% of the test load until a new test showing compliance is conducted. Operation of the emissions unit above 110% of the test load is allowed for no

more than 15 days for the purpose of conducting additional compliance testing to regain the authority to operate at the permitted capacity.

[Rule 62-297.310(2), F.A.C.]

- 4.3 Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emissions standard in Rules 62-204 through 62-297 or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department

[Rule 62-297.310(7)(b), F.A.C.]

5.0 Reporting and Record Keeping Requirements

- 5.1 Report Excess Emissions: In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. (condition 5.2 below). A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department

[Permit No. 1110071-004-AF & Rule 62-210.700(6), F.A.C.]

- 5.2 Report Plant Operation Problems: If the owner or operator is temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the owner or operator shall immediately notify the Department. Notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the owner or operator from any liability for failure to comply with Department rules

[Rule 62-4.130, F.A.C.]

- 5.3 Retain Records: All records required by this permit shall be kept by the owner or operator and made available for Department inspection for a minimum of five (5) years from the date of such records.

[Rule 62-4.070(3), F.A.C.]

- 5.4 Compliance Test Reports: Compliance test reports shall be submitted to the Department of Environmental Protection, Southeast District Office, Air Compliance Section, as soon as practical, but no later than 45 days after the last sampling run of each test is completed.

Test reports shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. Test reports, other than for an EPA or DEP Method 9 test, shall include the following information and other information as necessary to make a complete report required pursuant to Rule 62-297.310(8)(c), F.A.C.:

- The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters and their operating parameters during each test run
- All measured and calculated data required to be determined by each applicable test procedure for each run
- The detailed calculations for one run that relate the collected data to the calculated emissions rate
- The applicable emissions standard and the resulting maximum allowable emissions rate for the emissions unit, plus the test result in the same form and unit of measure
- The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
- The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emissions limiting standard

[Rules 62-297.310(8)(a) (b) & (c), F.A.C.]

- 5.5 Annual Report Required: On or before March 1 of each calendar year, a completed DEP Form 62-210.900(5), Annual Operating Report (AOR) Form for Air Pollutant Emitting Facility, shall be submitted to the Department of Environmental Protection, Southeast District Office, Air Program

[Rule 62-210.370(3), F.A.C.]

PART III -- EMISSIONS UNIT SPECIFIC CONDITIONS

Subpart A: This part of this permit addresses the following emissions units:

Emissions Unit ID Number	Emissions Units Description
001	Emergency Diesel Generators (4) for Main Plant
002	Emergency Diesel Generators (2) for Office Buildings
003	Miscellaneous Diesel Driven Equipment

Emissions unit 001 consists of four emergency diesel generators with two diesel engines per each generator for a total of eight diesel engines. The generators are divided into two categories; each category consists of two (2) generators. First category consists of two generators each one rated at 3,400 Kw and the second category consists of two generators each one rated at 3,800 Kw. The maximum heat input for emissions unit # 001 is 293.2 mmbtu per hour.

Emissions units 002 consist of two emergency diesel generators, one that supplies power to the D-13 Building rated at 250 Kw and the second supplies power to the administrative building rated at 800 Kw. The maximum heat input for emissions unit # 002 is 8.9 mmbtu per hour.

Emissions Unit 003 consists of various small-bore diesel driven equipment. These emissions units have no pollution control devices.

Emissions Limiting Standards and Operation Restrictions

- A.1 Nitrogen Oxide (NO_x) Emissions: NO_x emissions shall not exceed 99.40 tons in any twelve consecutive month period.
[Permit No. 1110071-004-AF]
- A.2 Allowable Fuels: Fuel burned shall be limited to number 2 fuel oil with a maximum sulfur content of 0.05 percent by weight, as demonstrated by the shipment records as specific condition A.9.
[Permit No. 1110071-004-AF]
- A.3 Fuel Consumption Limits: The amount of fuel consumption for these emissions units shall not exceed either (a) and (b), or (c) of this permit condition as follows:
- (a). Emissions Unit # 001 – 97,000 gallons for any 12-month consecutive period; and
 - (b). Emissions Units 002 and 003 – 190,000 gallons for any 12-month consecutive period; or
 - (c). Emissions Units 001, 002, and 003 – any combination of fuel consumption for the emissions units provided the NO_x emissions from all units do not exceed 80 tons for any 12-month consecutive period.
[Rule 62-4.070(3), F.A.C., and requested by applicant]

{Permitting note: At the request of the applicant, the fuel allocations for EU001 and EU002 & EU003 have been changed as above. However, there is no change in the total allowable emissions of NO_x for the facility.}

Compliance Monitoring and Testing Requirements

- A.4 Nitrogen Oxide (NO_x) Emissions: Compliance with the allowable limiting standards for NO_x in specific condition A.1 shall be determined by calculation using the monthly fuel consumed and the latest published AP-42 emissions factor for the emissions source, unless more accurate data become available.
[Permit No. 1110071-004-AF]
- A.5 Fuel Consumption: The permittee shall monitor all fuel consumptions for Emissions Units 001, 002, & 003 by keeping records of fuel usage.
[Permit No. 1110071-004-AF]

- A.6 Operating Procedures: These emissions units shall be properly operated and maintained at all times in a condition to minimize emissions of air pollutants. The permittee shall ensure that all facility staff, responsible for these emissions units, is trained in their operation and maintenance in accordance with the guidelines and procedures as established by the equipment manufacturers.
[Permit No. 1110071-004-AF]

Reporting and Record Keeping Requirements

- A.7 Nitrogen Oxides (NOx) limits: The permittee shall record and maintain records of the Nox emissions on a monthly basis. The permittee shall maintain records for each 12-month consecutive period demonstrating compliance with specific condition A.1 detailing NOx emissions based on emissions units. The monthly records must be completed by the 30th of the following month
[Permit No. 1110071-004-AF]
- A.8 Fuel Consumption Limits: The permittee shall record and maintain records of the fuel consumption on a monthly basis. In order to document compliance with the fuel consumption limits in specific condition A.3, the permittee shall maintain records of fuel usage for each 12-month consecutive period. The monthly records must be completed by the 30th of the following month
[Permit No. 1110071-004-AF]
- A.9 Allowable Fuels: The permittee shall maintain records to demonstrate that each shipment of diesel fuel has 0.05 percent or less (by weight) of sulfur and that the sulfur content was determined by ASTM methods ASTM D4057-88 and ASTM D129-91, ASTM D2622-94 or ASTM D4294-90 or other approved ASTM methods, adopted and incorporated by reference in Rule 62-297.440(1). Certifications from the fuel supplier in accordance with the above requirement shall be satisfactory records and shall be monitored at the facility physical location for inspection.
[Permit No. 1110071-004-AF]
- A.10 The permittee shall maintain fuel usage, repairs/maintenance records for each engine.
[Permit No. 1110071-004-AF]

Executed in West Palm Beach, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Kevin R. Neal
District Director
Southeast District
1/27/2006
Date

KRN/DG/L I/bf

Attachment

c: Edward Preast, P.E. ed_prest@fpl.com
Raisa Neginsky, Air Compliance Section, SED/DEP Raisa.Neginsky@dep.state.fl.us
Stan Ganthier, Air Compliance Section, SED/DEP Stanley.Ganthier@dep.state.fl.us

FILING AND ACKNOWLEDGMENT: FILED, on this date, pursuant to § 120.52(7), F.S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk

Date

APPENDIX - A

GENERAL CONDITIONS Pursuant Rule 62-4.160, Florida Administrative Code (F.A.C.):

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes (F.S.) The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
 - a. Have access to and copy any records that must be kept under conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of noncompliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit
9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department

APPENDIX - A

GENERAL CONDITIONS CONTINUED:

may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.
11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. The permittee shall comply with the following:
 - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least 10 years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c. Records of monitoring information shall include:
 - (1) The date, exact place, and time of sampling or measurements;
 - (2) The person responsible for performing the sampling or measurements;
 - (3) The dates analyses were performed;
 - (4) The person responsible for performing the analyses;
 - (5) The analytical techniques or methods used;
 - (6) The results of such analyses.
14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

Specific Authority 403.061, 403.087, 403.088 FS. Law Implemented 403.061, 403.087, 403.088 FS History – New 8-31-88, Amended 10-4-89, 7-11-93, Formerly 17-4.160

FINAL DETERMINATION

FPL – St. Lucie Plant
DEP File No. 1110071-005-AF

The Department has distributed copy of the public notice of intent to issue a federally enforceable state operating permit (FESOP) Revision to Florida Power & Light Company (FPL) on January 06, 2006.

This permit revises the Specific Condition Part III 1.3 of the previously issued permit No. 1110071-004-AF. This facility is located at 6501 South S.R. A1A, Port St. Lucie, St. Lucie County, Florida.

The purpose of this application is to relax the fuel consumption limits on the diesel-fired engines located at the facility. The relaxation will not result in an increase in allowable emissions of nitrogen oxides.

This permit is being issued as federally enforceable. The Public Notice of Intent to Issue was published in **The Fort Pierce Tribune** on January 12, 2006.

COMMENTS/CHANGES

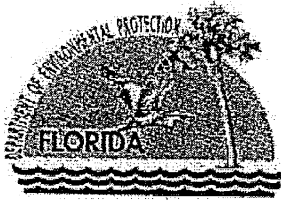
No comments were received during the Public Comment Period.

CONCLUSION

The final action of the Department is to issue the permit

APPENDIX 10.4.2.1

ERP #56-0041384-001



Department of Environmental Protection

Jeb Bush
Governor

OCT 30 2003

Southeast District
400 N. Congress Ave. Suite 200
West Palm Beach, Florida 33401

David B. Struhs
Secretary

Certified - Return Receipt Requested

Florida Power and Light
c/o William Jefferson
700 Universe Blvd.
Juno Beach, FL 33408

Dear Mr. Jefferson:

Enclosed is Environmental Resource Permit No. 56-0041384-001 issued pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.).

Appeal rights for you as the permittee and for any affected third party are described in the text of the permit along with conditions which must be met when permitted activities are undertaken. Please review this document carefully to ensure compliance with both the general and specific conditions contained herein. As the permittee, you are responsible for compliance with these conditions. **Please ensure all construction personnel associated with your activity review and understand the approved drawings and conditions.** Failure to comply with this permit may result in liability for damages and restoration, and the imposition of civil penalties up to \$10,000.00 per violation per day pursuant to Sections 403.141 and 403.161, F.S.

In addition, please ensure the construction commencement notice and all other reporting conditions are forwarded to the appropriate office as indicated in the specific conditions.

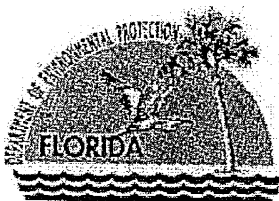
If you have any questions about this document, please contact me at 561/681-6635 or at Leah.Oberlin@dep.state.fl.us.

Sincerely,

Leah A. Oberlin
Environmental Specialist III
Submerged Lands & Environmental
Resources Program

"More Protection, Less Process"

Printed on recycled paper.



Jeb Bush
Governor

Department of Environmental Protection

Southeast District
400 N. Congress Ave. Suite 200
West Palm Beach, Florida 33401

David B. Struhs
Secretary

CONSOLIDATED ENVIRONMENTAL RESOURCE PERMIT AND SOVEREIGN SUBMERGED LANDS AUTHORIZATION

PERMITTEE/AUTHORIZED ENTITY:

Florida Power and Light
c/o William Jefferson
700 Universe Blvd.
Juno Beach, FL 33408

Permit/Authorization No.: 56-0041384-001

Date of Issue: OCT 30 2003

Expiration Date of

Construction Phase: OCT 29 2008

County: St. Lucie

Project: St. Lucie Power Plant – Scour Repair for
outfall pipe

This permit is issued under the authority of Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.). The activity is not exempt from the requirement to obtain an Environmental Resource Permit. Pursuant to Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity.

ACTIVITY DESCRIPTION:

The purpose of the project is to repair ocean scouring caused by the ocean discharge Y diffuser pipe. The authorized repairs shall include the following:

- a. Provide support for the discharge piping "Y" diffuser to replace the material that has been lost by scour and undermining. This will ensure that the piping remains in its design and configuration. The pipe will be shored with Hydrocast units. This involves placing a fabric bag in place under the pipe, held in place with cinder blocks. When the bags are in place, concrete (2000-psi minimum) will be mixed on the barge and pumped through a hose to a diver. The Hydrocast units will be placed beginning from the westernmost part of the void and working toward the end of the pipe. After the Hydrocast units are in place, divers will place ports in selected areas that may still have voids remaining. These ports will be installed by cutting holes in the sheet pile wall and welding plates over the holes. The concrete pump hose will be attached to the ports, and concrete will be pumped into the remaining voids.
- b. Provide stabilization of the scoured area in the vicinity of the piping discharge to ensure that the undermining of the material beneath the "Y" diffuser will not recur. The ocean floor shall not be restored to its original profile. Instead, the scoured area will be stabilized using Armorflex mats. These units will be rigged and lowered from the deck of the barge. Surface supplied divers will direct the crane operator once the units have entered the water. The leading edge of the mat (in front of the discharge pipes) will be pinned by the outermost Hydrocast bag supporting the pipe cantilever. The perimeter of the mats will be anchored using nylon revetment cable loops tied to driven anchors (4 feet minimum) or equivalent rock anchors if 4-foot depth cannot be obtained. Factory edge mat joints shall be woven together using cable pigtailed. Non-factory edge joint shall be woven together using cable pigtailed and backfilled with tremie concrete.

ACTIVITY LOCATION:

The project is located within the Atlantic Ocean, Class III Waters, approximately 1200 feet east of the St. Lucie County FP&L Plant at 6501 S. Ocean Drive, Jensen Beach, (Section 9, Township 36 South, Range 41 East), latitude 27° 21' 11.23", longitude 80° 14' 9.57" in St. Lucie County.

Permittee: Florida Power & Light - St. Lucie Plant
File No.: 56-0041384-001
Page 2

This permit also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Management Act.

This permit also constitutes certification of compliance with water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341.

This activity also requires a proprietary authorization, as the activity is located on sovereign submerged lands owned by the Board of Trustees of the Internal Improvement Trust Fund, pursuant to Article X, Section 11 of the Florida Constitution, and Sections 253.002 and 253.77, F.S. The activity is not exempt from the need to obtain a proprietary authorization. The Department has the responsibility to review and take final action on this request for proprietary authorization in accordance with Section 18-21.0051, and the Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C. In addition to the above, this proprietary authorization has been reviewed in accordance with Chapter 253 and Chapter 18-21, Section 62-343.075, F.A.C.

As staff to the Board of Trustees, the Department has reviewed the activity described above, and has determined that the activity qualifies for a consent to use sovereign, submerged lands, as long as the work performed is located within the boundaries as described herein and is consistent with the terms and conditions herein. Therefore, consent is hereby granted, pursuant to Chapter 253.77, F.S., to perform the activity on the specified sovereign submerged lands.

Federal authorization for the proposed project is reviewed by DEP pursuant to an agreement between the Department and the U.S. Army Corps of Engineers (Corps). The agreement is outlined in a document titled *Coordination Agreement Between the U.S. Army Corps of Engineers and the Florida Department of Environmental Protection State Programmatic General Permit, Section 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act*.

Your project has been reviewed for compliance with a State Programmatic General Permit (SPGP). As shown on the attached drawings, the proposed project is not consistent with the SPGP program. A copy of your application has been sent to the Corps who may require a separate permit. Failure to obtain their authorization prior to construction could subject you to enforcement action. For further information, contact the Corps directly.

You are hereby advised that authorizations also may be required by other federal, state, and local entities. This authorization does not relieve you from the requirements to obtain all other required permits and authorizations.

The above named permittee is hereby authorized to construct the work shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof. This permit and authorization to use sovereign submerged lands are subject to the limits, conditions, and locations of work shown in the attached drawings, and is also subject to the attached 19 General Conditions, 12 General Consent Conditions, and 9 Specific Conditions, which are a binding part of this permit and authorization. You are advised to read and understand these drawings and conditions prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these drawings and conditions prior to commencing the authorized activities. Failure to comply with all drawings and conditions shall constitute grounds for revocation of the permit and appropriate enforcement action.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and with the general and specific conditions of this permit/certification/authorization as specifically described below.

Permittee: Florida Power & Light - St. Lucie Plant

File No.: 56-0041384-001

Page 3

GENERAL CONDITIONS:

(1) All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.

(2) This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by the Department staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

(3) Activities approved by this permit shall be conducted in a manner which does not cause violations of state water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of state water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

(4) The permittee shall notify the Department of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the Department an "Environmental Resource Permit Construction Commencement" notice (Form No. 62-343.900(3), F.A.C.) indicating the actual start date and the expected completion date.

(5) When the duration of construction will exceed one year, the permittee shall submit construction status reports to the Department on an annual basis utilizing an "Annual Status Report Form" (Form No. 62-343.900(4), F.A.C.). Status Report Forms shall be submitted the following June of each year.

(6) Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the supplied "Environmental Resource Permit As-Built Certification by a Registered Professional" (Form No. 62-343.900(5), F.A.C.). The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the Department that the system is ready for inspection. Additionally, if deviation from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor.

(7) The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, has submitted a "Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase" (Form No. 62-343.900(7), F.A.C.); the Department determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the Department in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the Department, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 62-343.110(1)(d), F.A.C., the permittee shall be liable for compliance with the terms of the permit.

(8) Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.

(9) For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the Department along with any other final operation and maintenance documents required by sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, prior to lot or unit sales or prior to the completion of the system, whichever occurs first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State where appropriate. For those systems which are proposed to be maintained by the county or municipal entities, final operation and maintenance documents must be received by the Department when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.

(10) Should any other regulatory agency require changes to the permitted system, the permittee shall notify the Department in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

(11) This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C.

(12) The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

(13) The permittee is advised that the rules of the South Florida Water Management District require the permittee to obtain a water use permit from the South Florida Water Management District prior to construction dewatering, unless the work qualifies for a general permit pursuant to subsection 40E-20 302(4), F.A.C., also known as the "No Notice" rule.

(14) The permittee shall hold and save the Department harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.

(15) Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.

(16) The permittee shall notify the Department in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of section 62-343.130, F.A.C. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

(17) Upon reasonable notice to the permittee, Department authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

(18) If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate Department office.

Permittee: Florida Power & Light - St. Lucie Plant

File No.: 56-0041384-001

Page 5

(19) The permittee shall immediately notify the Department in writing of any previously submitted information that is later discovered to be inaccurate.

GENERAL CONSENT CONDITIONS:

(1) No activities other than those set forth in this permit are authorized. Any additional activities on state-owned sovereignty submerged lands must receive further consent from the Governor and Cabinet, sitting as the Board of Trustees of the Internal Improvement Trust Fund (hereinafter the "Board") or their properly designated agent.

(2) Grantee agrees that all title and interest to all lands lying below the historical mean high water line or ordinary high water line are vested in the Board, and shall make no claim of title or interest in said lands by reason of the occupancy or use thereof.

(3) Grantee agrees to use or occupy the subject premises for those purposes specified herein, and Grantee shall not permit the premises or any part thereof to be used or occupied for any other purpose or knowingly permit or suffer any nuisances or illegal operations of any kind on the premises.

(4) Grantee agrees to maintain the premises in good condition in the interest of the public health, safety and welfare. The premises are subject to inspection by the Board or its designated agent at any reasonable time.

(5) Grantee agrees to indemnify, defend and hold harmless the Board and the State of Florida from all claims, actions, lawsuits and demands arising out of this consent.

(6) No failure, or successive failures, on the part of the Board to enforce any provision, waiver or successive waivers on the part of the Board of any provision herein, shall operate as a discharge thereof or render the same inoperative or impair the right of the Board to enforce the same in the event of subsequent breach.

(7) Grantee binds itself and its successors and assigns to abide by the provisions and conditions set forth herein. In the event Grantee fails or refuses to comply with the provisions and conditions of this consent, the consent of use may be terminated by the Board after written notice to the Grantee. Upon receipt of such notice, the Grantee shall have thirty (30) days in which to correct the violation. Failure to correct the violations within this period shall result in the automatic revocation of this Letter of Consent.

(8) All costs, including attorneys' fees, incurred by the Board in enforcing the terms and conditions of this consent shall be paid by the Grantee. Grantee agrees to accept service by certified mail of any notice required by Chapter 18-14, Florida Administrative Code, at the address shown on page one of this Agreement and further agrees to notify the Board in writing of any change of address at least ten days before the change becomes effective.

(9) Grantee agrees to assume responsibility for all liabilities that accrue to the sovereignty submerged land or to the improvements thereon, including any and all drainage or special assessments or taxes of every kind and description which are now or may be hereafter lawfully assessed and levied against the property during the effective period of this consent.

(10) Grantee agrees that any dispute arising from matters relating to this consent shall be governed by the laws of Florida and initiated only in Leon County, Florida.

(11) The Letter of Consent associated with these General Consent Conditions as well as these conditions themselves are subject to modification after 5 years in order to reflect any applicable changes in statutes, rule or policies of the Board or its designated agent.

(12) In the event that any part of the structure(s) consented to herein is determined by a final adjudication issued by a court of competent jurisdiction to encroach on or interfere with adjacent riparian rights, Grantee agrees to either obtain written consent for the offending structure from the affected riparian owner or to remove the interference or encroachment within 60 days from the date of the adjudication. Failure to comply shall constitute a material breach of this consent and shall be grounds for its immediate termination.

SPECIFIC CONDITIONS:

(1) The project drawings, sheets 1 through 4; the 4-page Manatee Exhibit; and DEP forms 62.343 900(3), (4), (5), and (7) are attached to and become part of this permit.

(2) If the approved permit drawings conflict with the specific conditions, then the specific conditions shall prevail.

(3) After selection of the contractor to perform the authorized activities and prior to the initiation of any work authorized by this permit, the permittee (or authorized agent) and the contractor shall attend a pre-construction conference with a representative of the Department. The permittee shall contact the Department by phone or in writing to schedule the conference: Department of Environmental Protection, Southeast District Branch Office, Submerged Lands & Environmental Resources Program, Compliance/Enforcement Section, 772-398-2806 1801 S.E. Hillmoor Drive, Ste. C 204, Port St. Lucie, FL 34952.

(4) The permittee shall comply with the standard manatee protection construction conditions listed in the attachment, "Standard Manatee Construction Conditions, June 2001."

(5) At least one person shall be designated as a manatee and marine turtle observer when in-water work is being performed. That person shall have experience in manatee and marine turtle observation, and be equipped with polarized sunglasses to aid in observation. The observer must be on site during all in-water construction activities and will advise personnel to cease operation upon sighting a manatee or marine turtle within 50 feet of any in-water construction activity. Movement of a work barge, other associated vessels, or any in-water work shall not be performed after sunset, when the possibility of spotting manatees is negligible.

(6) The permittee shall obtain a public easement for the pipeline and associated diffuser scour protection area within one year of obtaining this permit.

(7) The pipe will be shored with Hydrocast units. This involves placing a fabric bag in place under the pipe, held in place with cinder blocks. When the bags are in place, concrete (2000-psi minimum) will be mixed on the barge and pumped through a hose to a diver. The Hydrocast units will be placed beginning from the westernmost part of the void and working toward the end of the pipe. After the Hydrocast units are in place, divers will place ports in selected areas that may still have voids remaining. These ports will be installed by cutting holes in the sheet pile wall and welding plates over the holes. The concrete pump hose will be attached to the ports, and concrete will be pumped into the remaining voids.

(8) The scoured area will be stabilized using Armorflex mats. These units will be rigged and lowered from the deck of the barge. Surface supplied divers will direct the crane operator once the units have entered the water.

(9) The leading edge of the mat (in front of the discharge pipes) will be pinned by the outermost Hydrocast bag supporting the pipe cantilever. The perimeter of the mats will be anchored using nylon revetment cable loops tied to driven anchors (4 feet minimum) or equivalent rock anchors if 4-foot depth cannot be obtained. Factory edge mat joints shall be woven together using cable pigtails. Non-factory edge joint shall be woven together using cable pigtails and backfilled with tremie concrete.

RIGHTS OF AFFECTED PARTIES

This permit and consent of use on sovereign submerged lands are hereby granted. This action is final and effective on the date filed with the Clerk of the Department unless a sufficient petition for an administrative hearing is timely filed under sections 120.569 and 120.57 of the Florida Statutes as provided below. If a sufficient petition for an administrative hearing is timely filed, this action automatically becomes only proposed agency action on the application, subject to the result of the administrative review process. Therefore, on the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because an administrative hearing may result in the reversal or substantial modification of this action, the applicant is advised not to commence construction or other activities until the deadlines noted below for filing a petition for an administrative hearing or request for an extension of time have expired.

Permittee: Florida Power & Light - St. Lucie Plant

File No.: 56-0041384-001

Page 7

Mediation is not available.

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received by the clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

Under rule 62-110.106(4) of the Florida Administrative Code, a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon. If a request is filed late, the Department may still grant it upon a motion by the requesting party showing that the failure to file a request for an extension of time before the deadline was the result of excusable neglect.

If a timely and sufficient petition for an administrative hearing is filed, other persons whose substantial interests will be affected by the outcome of the administrative process have the right to petition to intervene in the proceeding. Intervention will be permitted only at the discretion of the presiding officer upon the filing of a motion in compliance with rule 28-106.205 of the Florida Administrative Code.

In accordance with rules 28-106.111(2) and 62-110.106(3)(a)(4), petitions for an administrative hearing by the applicant must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. Under section 120.60(3) of the Florida Statutes, however, any person who has asked the Department for notice of agency action may file a petition within 14 days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition for an administrative hearing within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 of the Florida Statutes.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

Permittee: Florida Power & Light - St. Lucie Plant
File No.: 56-0041384-001
Page 8

A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by rule 28-106 301.

Under sections 120.569(2)(c) and (d) of the Florida Statutes, a petition for administrative hearing must be dismissed by the agency if the petition does not substantially comply with the above requirements or is untimely filed.

This permit constitutes an order of the Department. Subject to the provisions of paragraph 120.68(7)(a) of the Florida Statutes, which may require a remand for an administrative hearing, the applicant has the right to seek judicial review of the order under section 120.68 of the Florida Statutes, by the filing of a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the order is filed with the Clerk of the Department.

Executed in West Palm Beach, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



John F. Moulton
Assistant Director of District Management
Southeast District


TR/jeb/km/lo

Copies furnished to:

Compliance & Enforcement (Danna Small)
USACOE – jon.soderberg@usace.army.mil
Florida Marine Patrol
FFWCC, Bureau of Protected Species Management, Carol.Knox@fwc.state.fl.us
Eric Cartright, 6501 S. Ocean Drive, Jensen Beach, FL 34957
Jim Brawner, Senior Environmental Specialist, 700 Universe Blvd., Juno Beach, FL 33408

Permittee: Florida Power & Light - St. Lucie Plant
File No.: 56-0041384-001
Page 9

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this permit and authorization to use sovereign submerged lands, including all copies, were mailed before the close of business on OCT 30 2003, to the above listed persons.

FILING AND ACKNOWLEDGMENT

FILED, on this date, under 120.52(7) of the Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Marion 10/30/03
Clerk Date

Prepared by Leah Oberlin

12 pages attached.

Send To Printer Back To TerraServer Change to 11x17 Print Size Show Grid Lines Change to Landscape

USGS 12 km NE of Port St. Lucie, Florida, United States 01 Jul 1987

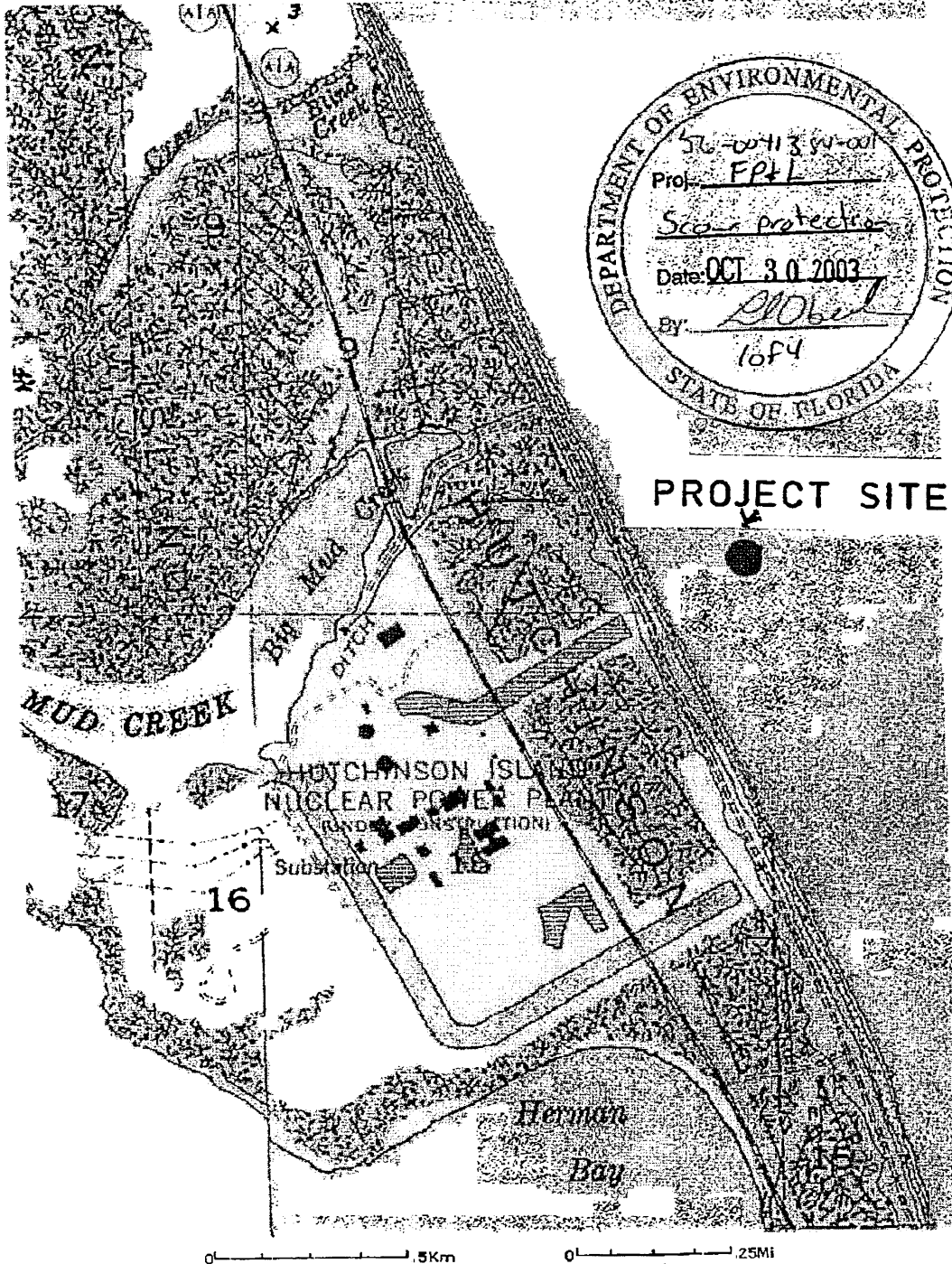


Image courtesy of the U.S. Geological Survey
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1320

**FLORIDA POWER & LIGHT
ST. LUCIE POWER PLANT
DIFFUSER SCOUR PROTECTION**

MAT AREA
6,450± (S.F.)

PREVIOUS AND PRESENT
PROJECT AREA 9,300 (S.F.)

PREVIOUS AND PRESENT
PROJECT BOUNDARY

CONCRETE-FILLED
GEOTEXTILE BAG

EXISTING CONCRETE APRON

TREMIE CONCRETE

EXISTING SHEET PILING

EXISTING 12" SUBAQUEOUS
DISCHARGE PIPE



FPL

ENGINEER'S SEAL

SITE PLAN

0' 5' 10' 20'

SCALE: 1" = 20' PART M

SCALE: 1" = 100'

DEPARTMENT OF
STATE OF FLORIDA
PROTECTION

Proj: FPL 56-00473 Sub-001

Score protected

Date: OCT 30 2003

By: ADP

adp

GROUT SEAM
(SEE DETAIL SHEET 6 OF 7)

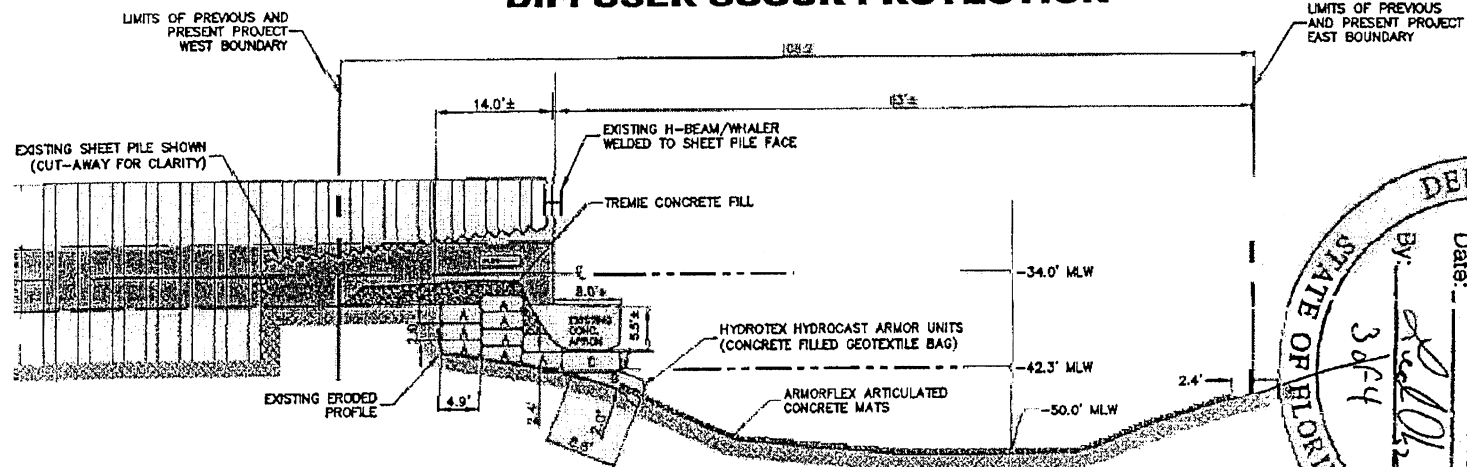
- CONCRETE FILLED GEOTEXTILE BAG

RECEIVED **FIGURE 1**

URS

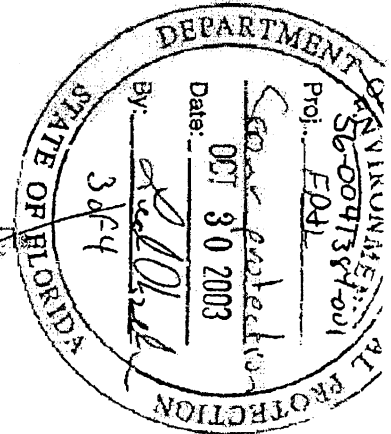
THE FOLLOWING ARE THE
DOCS. FROM THE
FOLDER (SIC) 100-4711
ALL (SIC) 100-4711

FLORIDA POWER & LIGHT ST. LUCIE POWER PLANT DIFFUSER SCOUR PROTECTION



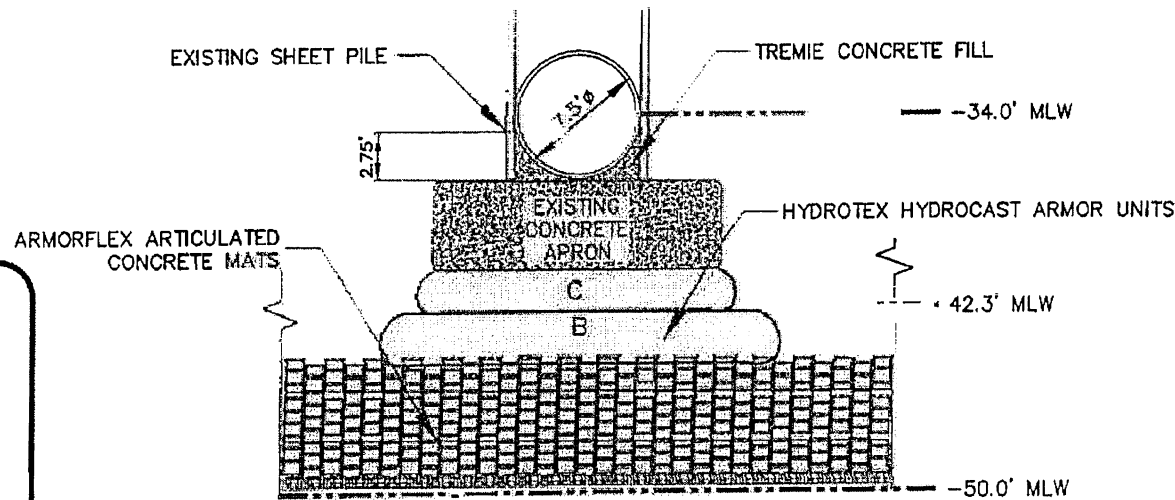
**7.5' DISCHARGE NE-SW DIFFUSER PROFILE VIEW
SECTION A-A**

HORZ. SCALE: 1" = 20'
VERT. SCALE: AS SHOWN



ENGINEER'S SEAL

[Handwritten signature]



**7.5' DISCHARGE NE-SW DIFFUSER SECTION VIEW
SECTION B-B**

HORZ. SCALE: 1" = 10'
VERT. SCALE: AS SHOWN

RECEIVED

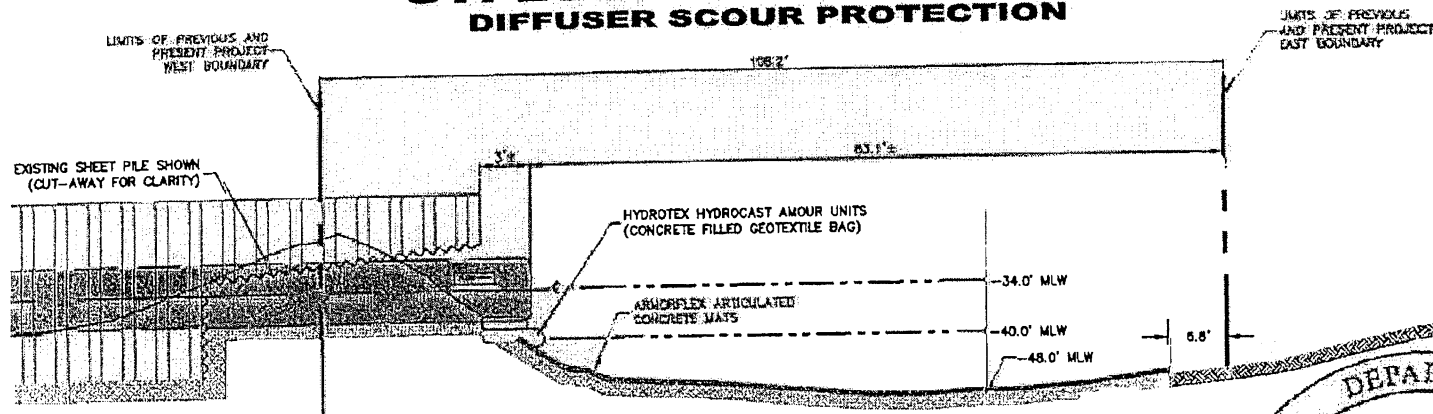
OCT 29 2003

DEPT OF ENV PROTECT
WEST PALM BEACH

FIGURE 2

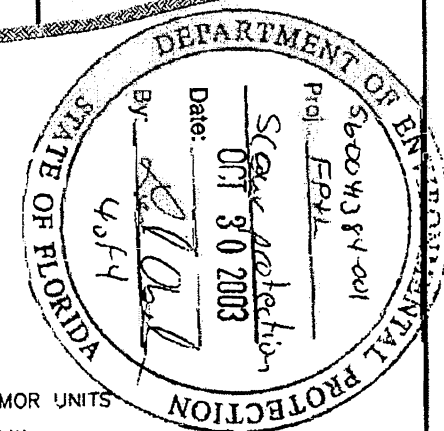
URS

FLORIDA POWER & LIGHT ST. LUCIE POWER PLANT DIFFUSER SCOUR PROTECTION



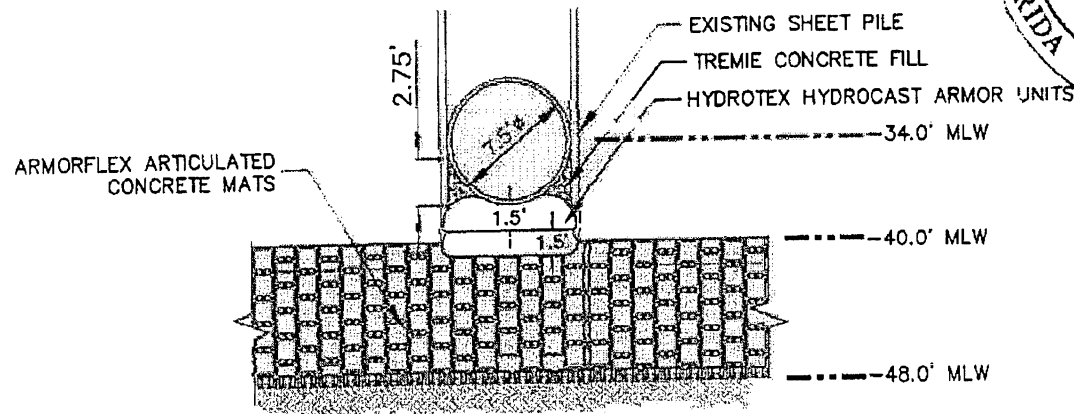
**7.5' DISCHARGE E-W DIFFUSER PROFILE VIEW
SECTION C-C**

HORZ. SCALE: 1" = 20'
VERT. SCALE: AS SHOWN



ENGINEER'S SEAL

[Handwritten signature]



**7.5' DISCHARGE E-W DIFFUSER SECTION VIEW
SECTION D-D**

HORZ. SCALE: 1" = 10'
VERT. SCALE: AS SHOWN

RECEIVED

OCT 29 2003

DEPT OF ENV PROTECTION
WEST PALM BEACH

FIGURE 3

URS
FLORIDA CERTIFICATE NO. 1202

YOUR CURRENT LICENSE, EXPIRE DATE
BIOLOGICAL ENGINEERING BOARD
FPCB (04/01) 044-0000
FPCB (04/01) 044-0000

STANDARD MANATEE CONSTRUCTION CONDITIONS

June 2001

The permittee shall comply with the following manatee protection construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatee(s).
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972, The Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act.
- c. Siltation barriers shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exist from essential habitat.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- e. If manatee(s) are seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.

Any collision with and/or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-561-562-3909) in south Florida.

- g. Temporary signs concerning manatees shall be posted prior to and during all construction/dredging activities. All signs are to be removed by the permittee upon completion of the project. A sign measuring at least 3 ft. by 4 ft. which reads *Caution: Manatee Area* will be posted in a location prominently visible to water related construction crews. A second sign should be posted if vessels are associated with the construction, and should be placed visible to the vessel operator. The second sign should be at least 8 1/2" by 11" which reads *Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. Any collision with and/or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. The U.S. Fish and Wildlife Service should also be contacted in Jacksonville (1-904-232-2580) for north Florida or in Vero Beach (1-561-562-3909) for south Florida.*

CAUTION

MANATEE HABITAT

SLOW SPEED is required when operating a vehicle
in the construction area

A. Equipment must be SHUT DOWN if a manatee
comes within 50 feet of operation

Any collision with and/or injury to a manatee shall be reported immediately
to the **FWC** at

1 888 404 FWCC

-888 404 3922

Manatee Awareness Sign

CAUTION

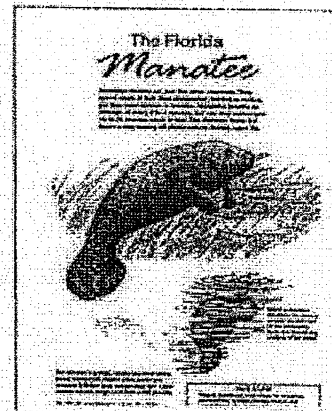


The "Caution: Manatee Area" sign is 3' by 4' and is available from all of the companies listed on the sign supplier list. These caution signs are intended to remind boaters using the facility of the presence of manatees while on the water. This sign will meet the manatee awareness display condition required by lease/permit.

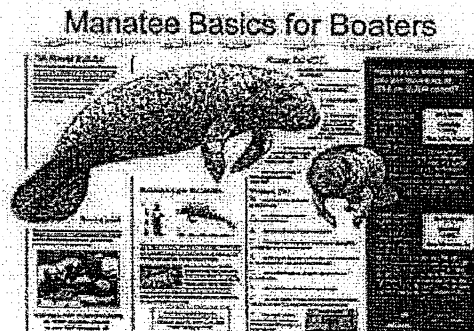
Manatee Educational Signs



These signs are 2' by 3' and are available only through Wilderness Graphics. "Protecting the Gentle Giant" lists the potential threats to manatees and what the public can do to help protect them. "The Florida Manatee" provides a general description of manatees and their behavior. These signs will meet the manatee educational display condition if required by lease/permit if they are displayed as a pair.



The "Manatee Basics for Boaters" sign is 3' by 4' and is available from all of the companies listed on the sign supplier list. This educational sign provides information on the characteristics of manatees and the potential threat to this endangered species from boat operation. This sign will meet the manatee educational display if required by the lease/permit.



An 8 1/2x11 copy of each of the signs is available upon request

Florida Fish and Wildlife Conservation Commission
620 South Meridian Street, OES-BPS - Tallahassee, FL - 32399-1600
Phone: (850) 922-4330 - Fax: (850) 922-4338
www.floridaconservation.org/psm

Approved Sign Suppliers for Manatee Signs

Revised April 2003

Temporary and permanent manatee educational and awareness signs are available through the companies listed below or from other local suppliers throughout the state. Permit/lease holders, marinas, and boat docking/launching facilities should contact the sign companies directly to arrange for shipping and billing of the signs.

▪ **ASAP Signs & Designs**

624-B Pinellas Street
Clearwater, FL 33756
Phone: (727) 443-4878
Fax: (727) 442-7573

Wilderness Graphics, Inc.

P. O. Box 1635
Tallahassee, FL 32302
Phone: (850) 224-6414
Fax: (850) 561-3943
www.wildernessgraphics.com

Municipal Supply & Sign Co.

1095 Fifth Avenue, North
P. O. Box 1765
Naples, FL 33939-1765
Phone: (800) 329-5366 or
(239) 262-4639
Fax: (239) 262-4645
www.municipalsigns.com

Universal Signs & Accessories

2912 Orange Avenue
Ft. Pierce, FL 34947
Phone: (800) 432-0331 or
(772) 461-0665
Fax: (772) 461-0669

▪ **Cape Coral Signs & Designs**

1311 Del Prado Boulevard
Cape Coral, FL 33990
Phone: (239) 772-9992
Fax: (239) 772-3848

**United Rentals Highway
Technologies**

309 Angle Road
Ft. Pierce, FL 34947
Phone: (772) 489-8772
or (800) 489-8758 (FL only)
Fax: (772) 489-8757

▪ **New City Signs**

1829 28th Street North
St. Petersburg, FL 33713
Phone: (727) 323-7897
Fax: (727) 323-1897

Form # 62-343.900(4), F.A.C.
Form Title: Annual Status Report
Date: October 3, 1995

ENVIRONMENTAL RESOURCE PERMIT ANNUAL STATUS REPORT FORM

Florida Department of Environmental Protection

Permit No. _____

County: _____

Project Name: _____

Phase: _____

The following activity has occurred at the above referenced project during the past year, between
June 1, 200__ and May 30, 200__.

Permit Condition / Activity	% of Completion	Date of anticipated Completion	Date of Completion
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Use Additional Sheets As Necessary)

Benchmark Description (one per major control structure): _____

Print Name _____

Phone _____

Permittee's or Authorized
Agent's Signature _____

Title and Company _____

Date _____

This form shall be submitted to the above referenced Department Office during June of each year for
activities whose duration of construction exceeds one year.

Form #62-343,900(3), F.A.C.
Form Title: Construction
Commencement
Notice
Date: October 3, 1995

ENVIRONMENTAL RESOURCE PERMIT
Construction Commencement Notice

PROJECT: _____ PHASE: _____

I hereby notify the Department of Environmental Protection that the construction of the surface water management system authorized by Environmental Resource Permit No. _____ has commenced / is expected to commence on _____ 200____, and will require a duration of approximately _____ months _____ weeks _____ days to complete. It is understood that should the construction term extend beyond one year, I am obligated to submit the Annual Status Report for Surface Water Management System Construction.

PLEASE NOTE: If the actual construction commencement date is not known, Department staff should be so notified in writing in order to satisfy permit conditions.

Permittee or
Authorized Agent

Title and Company

Date

Phone

Address

Form #62-343.900(7), F.A.C.
Form Title: Request for Transfer
to Operation Phase
Date: October 3, 1995

REQUEST FOR TRANSFER OF ENVIRONMENTAL RESOURCE PERMIT CONSTRUCTION PHASE TO OPERATION PHASE

(To be completed and submitted by the operating entity)

Florida Department of Environmental Protection

It is requested that Department Permit No. _____ authorizing the construction and operation of a surface water management system for the below mentioned project be transferred from the construction phase permittee to the operation phase operating entity.

PROJECT: _____

FROM: Name: _____
Address: _____
City: _____ State: _____
Zipcode: _____

TO: Name: _____
Address: _____
City: _____ State: _____
Zipcode: _____

The surface water management facilities are hereby accepted for operation and maintenance in accordance with the engineers certification and as outlined in the restrictive covenants and articles of incorporation for the operating entity. Enclosed is a copy of the document transferring title of the operating entity for the common areas on which the surface water management system is located. Note that if the operating entity has not been previously approved, the applicant should contact the Department staff prior to filing for a permit transfer.

The undersigned hereby agrees that all terms and conditions of the permit and subsequent modifications, if any, have been reviewed, are understood and are hereby accepted. Any proposed modifications shall be applied for and obtained prior to such modification.

Operating Entity

Name _____ Title _____

Telephone _____

Enclosure:

- () Copy of recorded transfer of title surface water management system
- () Copy of plat(s)
- () Copy of recorded restrictive covenants, articles of incorporation, and certificate of incorporation

**ENVIRONMENTAL RESOURCE PERMIT
AS-BUILT CERTIFICATION BY A REGISTERED PROFESSIONAL**

Permit Number: _____

Project Name: _____

I hereby certify that all components of this surface water management system have been built substantially in accordance with the approved plans and specifications and are ready for inspection. Any substantial deviations (noted below) from the approved plans and specifications will not prevent the system from functioning as designed when properly maintained and operated. These determinations are based upon on-site observation of the system conducted by me or by my designee under my direct supervision and/or my review of as-built plans certified by a registered professional or other appropriate individual as authorized by law.

Name (please print)

Signature of Professional

Company Name

Florida Registration Number

Company Address

Date

City, State, Zip Code

Telephone Number

(Affix Seal)

Substantial deviations from the approved plans and specifications:

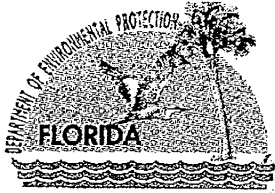
(Note: attach two copies of as-built plans when there are substantial deviations)

Within 30 days of completion of the system, submit two copies of the form to:

Florida Department of Environmental Protection
c/o Danna Small
Submerged Lands & Environmental Resource Program
Compliance & Enforcement Section
1801 S.E. Hillmoor Drive, Ste. C 204,
Port St. Lucie, FL 34952

APPENDIX 10.4.2.2

STANDARD ERP #SI 56-0041384-003



Jeb Bush
Governor JUN 01 2006

Department of Environmental Protection

Southeast District
400 N. Congress Ave Suite 200
West Palm Beach, Florida 33401

RECEIVED
JUN 05 2006
ENVIRONMENTAL SERVICES

Colleen M. Castille
Secretary

Certified Mail
Return Receipt Requested

70042510000097113561

Florida Power & Light Company
c/o Jim Brawner
700 Universe Blvd
Juno Beach, FL 33408
jim_brawner@fpl.com

Project: FPL- ISFSI Project
ERP File No: SI 56-0041384-003

Dear Mr. Brawner:

Enclosed is the Standard General Environmental Resource Permit SI 56-0041384-003 for FPL- ISFSI Project issued pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.)

Appeal rights for you as the permittee and for any affected third party are described in the text of the permit along with conditions which must be met when permitted activities are undertaken. Please review this document carefully to ensure compliance with both the general and specific conditions contained herein. As the permittee, you are responsible for compliance with these conditions. **Please ensure all construction personnel associated with your activity review and understand the approved drawings and conditions.** Failure to comply with this permit may result in liability for damages and restoration, and the imposition of civil penalties up to \$10,000.00 per violation per day pursuant to Sections 403.141 and 403.161, F.S.

In addition please ensure the construction commencement notice and all other reporting conditions are forwarded to the appropriate office as indicated in the specific conditions.

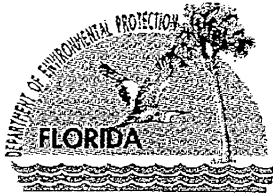
If you have any questions about this document, please contact me at 561/681-6640 or e-mail Indarjit.Jagnarine@dep.state.fl.us.

Sincerely,

Indar Jagnarine, P.E.
Professional Engineer III
Submerged Lands & Environmental
Resources Program

"More Protection Less Process"

Printed on recycled paper



Jeb Bush
Governor

JUN 01 2006

Department of Environmental Protection

Southeast District
400 N. Congress Ave Suite 200
West Palm Beach, Florida 33401

Colleen M. Castille
Secretary

ENVIRONMENTAL RESOURCE PERMIT

PERMITTEE:

Florida Power & Light Company
c/o Jim Brawner
700 Universe Blvd
Juno Beach, FL 33408
jim_brawner@fpl.com

Permit Numbers: SI 56-0041384-003

Date of Issue: *June 1st 2006*

Expiration Date of Construction

Phase: *May 31st 2011*

County: St. Lucie County

Project: FPL - ISFSI Project

This permit is issued under the authority of Part IV of Chapter 373, F.S., and Title 62, Florida Administrative Code (F.A.C.). The activity is not exempt from the requirement to obtain an Environmental Resource Permit. Pursuant to operating agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity.

ACTIVITY DESCRIPTION:

The proposed activity involves the construction of an Independent Spent Fuel Storage Installation (ISFSI) pad at the St. Lucie Power Station (PSL) on an approximately 5.9-acre portion of the PSL property. The project involves the construction and operation of a surface water management system to serve the ISFSI.

ACTIVITY LOCATION:

The proposed ISFSI will be constructed within the existing PSL property, located on Hutchinson Island, within St. Lucie County, Florida, Lat 27°34'58" N, Long 80°24'64" W. The proposed ISFSI Site is bordered to the west by the Industrial Wastewater Ditch (IWW), to the north by the Protected Area (PA) fence, to the east by an existing paved parking area, and to the south by the Industrial Wastewater Drainage Basin.

This permit also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Management Act.

This permit also constitutes certification of compliance with water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341.

Federal authorization for the proposed project is reviewed by DEP pursuant to an agreement between the Department and the U.S. Army Corps of Engineers (Corps). The agreement is outlined in a document titled *Coordination Agreement Between the U.S. Army Corps of Engineers and the Florida Department*.

Permittee: Florida Power & Light Company
Project: ISFSI Project

Permit Numbers: SI 56-0041384-003

of Environmental Protection State Programmatic General Permit, Section 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act Your project has been reviewed for compliance with a State Programmatic General Permit (SPGP). As shown on the attached exhibits, the proposed project is consistent with the SPGP program. No further permitting for this activity is required by the Corps.

The above named permittee is hereby authorized to construct the work shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof. **This permit is subject to the limits, conditions, and locations of work shown in the attached drawings, and is also subject to the attached General Conditions (1-19) and Specific Conditions (1-6), which are a binding part of this permit.** You are advised to read and understand these drawings and conditions prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these drawings and conditions prior to commencing the authorized activities. Failure to comply with all drawings and conditions shall constitute grounds for revocation of the permit and appropriate enforcement action.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and with the general and specific conditions of this permit, and as specifically described below.

SURFACE WATER SYSTEM DESIGN:

Total Applicant-owned area contiguous to property: 1132 acres

Project Area: 5.9 acres

Drainage Area: 5.9 acres

Receiving Body: Stormwater discharge is to the FPL intake canal via an outlet control structure.

Existing Facility: Runoff from the area where the proposed pads and aprons will be located currently drains generally to the south via overland flow. The majority of the overland discharge is to the existing small ponds and associated drainage ditches (permitted as industrial waste water ponds). Periodically, in conjunction with major storms, the IWW system (Industrial Wastewater regulated by the site's NPDES permit) is pumped to the intake canal as a means to control the system water level.

Proposed Facilities: The proposed project involves the construction of the ISFSI and associated grading on an approximately 5.9 acre area portion of the PSL property. The ISFSI will serve as a facility for the interim storage of spent nuclear fuel from the power generation plant. The proposed ISFSI will be comprised of flat concrete pads where the casks will be stored. The ISFSI pad site is located in an area of the plant referred to as the "South 40". An existing drainage ditch (IWW) is located approximately 50 feet to the west of the site. The Intake Canal is located to the south (approximately 150 feet) and west.

The proposed surface water management system includes a system of inlets, catch basins and pipes conveying stormwater flow to a sediment forebay and detention pond. The proposed sediment forebay will be about 1-ft deep and about 8,500 square feet in area. The forebay will be set with a bottom elevation of 8 ft MLW and discharge to the proposed detention pond via an 85-ft long riprap overflow weir with crest elevation of 9 ft MLW. A filtered orifice set at the bottom of the forebay will ensure the forebay stays dry.

Permittee: Florida Power & Light Company
Project: ISFSI Project

Permit Numbers: SI 56-0041384-003

The detention pond is to function as a wet pond, with a 4-ft deep permanent pool. The pond is about 85-ft wide by 256-long at the orifice invert elevation of 6.0 ft, and its side slopes are 4 horizontal to 1 vertical. The bottom of the pond is set at elevation 2.0 ft. An outlet control structure is proposed to contain a minimum 3-inch orifice, a 2-ft long "25-year" weir, and an overflow / drop inlet. The proposed detention pond will be about 22,000 square feet in area and about 8 ft deep (maximum). The pond will discharge to the intake canal via an outlet control structure.

Basin Information:

Basin	Area (AC)	WSWT Elev (ft MLW)	Normal/Dry Ctrl Elev (ft MLW)	Method of Determination
Project site	5.9	6.0	6.0	Site-specific boring

Discharge Structure Information: The outlet control structure is a multi-level outlet structure which contains:

- 3-inch diameter orifice outlet at Elevation 6.0 ft MLW;
- 2-ft long "25-year" weir at Elevation 7.0 ft MLW;
- Overflow weir / drop inlet at the top of the structure at Elevation 8.25 ft MLW

Design Storm Freq.: 25-yr, 3-day

Design Rainfall: 10.2 inches

Basin	Allow Disch (cfs.)	Method of Determination	Design Disch (cfs.)	Design Stage (ft. MLW)
Project site	30.7	Pre/post	19.9	8.6

Water Quality: The regulatory treatment volume equal of 2.5-inches of runoff over the project's impervious area.

Minimum Design Elevations: Minimum finish floor elevation is @ 18.0 feet which is above the 100-year, 3-day stage. The ISFSI pad design elevation (top of pad) was established to accommodate the storm surge and wave run-up associated with the Probable Maximum Hurricane.

Environmental Review: No wetlands exist on the proposed site area. No evidence of threatened or endangered species exists at the project area.

System Operation: The Florida Power & Light Company

Water Use Permit Status: A water use permit has not been applied to this project at this time. A water use permit may be required if any dewatering is proposed.

DRI Status: This project is not a DRI.

Permittee: Florida Power & Light Company
Project: ISFSI Project

Permit Numbers: SI 56-0041384-003

Save Our Rivers: This project is not within or adjacent to lands under consideration by the Save Our Rivers program

Swim Basin: This project is located within a designated SWIM basin

Right-of-way Permit Status: A right-of-way permit is not required from the South Florida Water Management District

Well Field Zone Of Influence: This project is not located within the zone of influence of a well-field

GENERAL CONDITIONS:

- (1) All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.
- (2) This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by the Department staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
- (3) Activities approved by this permit shall be conducted in a manner which does not cause violations of state water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of state water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving water body exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.
- (4) The permittee shall notify the Department of the anticipated construction start date within 30 days of the date that this permit is issued. **At least 48 hours prior to commencement** of activity authorized by this permit, the permittee shall submit to the Department an "Environmental Resource Permit Construction Commencement" notice (Form No. 62-343 900(3), F.A.C.) indicating the actual start date and the expected completion date.

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- (5) When the duration of construction will exceed one year, the permittee shall submit construction status reports to the Department on an annual basis utilizing an "Annual Status Report Form" (Form No 62-343 900(4), F A C) Status Report Forms shall be submitted the following June of each year
- (6) **Within 30 days after completion of construction** of the permitted activity, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the supplied "Environmental Resource Permit As-Built Certification by a Registered Professional" (Form No 62-343 900(5), F A C) The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications This submittal shall serve to notify the Department that the system is ready for inspection Additionally, if deviation from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted Both the original and revised specifications must be clearly shown The plans must be clearly labeled as "as-built" or "record" drawing All surveyed dimensions and elevations shall be certified by a registered surveyor
- (7) The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, has **submitted a "Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase"** (Form No. 62-343.900(7), F.A.C.); the Department determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the Department in accordance with Sections 90 and 100 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, accepts responsibility for operation and maintenance of the system The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective Following inspection and approval of the permitted system by the Department, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee Until the permit is transferred pursuant to Section 62-343 110(1)(d), F A C , the permittee shall be liable for compliance with the terms of the permit
- (8) Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity
- (9) For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and
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submitted to the Department along with any other final operation and maintenance documents required by sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, prior to lot or unit sales or prior to the completion of the system, whichever occurs first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State where appropriate. For those systems which are proposed to be maintained by the county or municipal entities, final operation and maintenance documents must be received by the Department when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.

- (10) Should any other regulatory agency require changes to the permitted system, the permittee shall notify the Department in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.
- (11) This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C.
- (12) The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.
- (13) The permittee is advised that the rules of the South Florida Water Management District require the permittee to obtain a water use permit from the South Florida Water Management District prior to construction dewatering, unless the work qualifies for a general permit pursuant to subsection 40E-20.302(4), F.A.C., also known as the "No Notice" rule.
- (14) The permittee shall hold and save the Department harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.
- (15) Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.

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- (16) The permittee shall notify the Department in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of section 62-343 130, F A C. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.
 - (17) Upon reasonable notice to the permittee, Department authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.
 - (18) If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate Department office.
 - (19) The permittee shall immediately notify the Department in writing of any previously submitted information that is later discovered to be inaccurate.

SPECIFIC CONDITIONS:

- 1 **Surface Water Management System.** The surface water system shall be constructed as shown in the attached exhibits. The permittee shall ensure that the permit conditions are explained to all construction personnel working on the project and for providing each contractor and subcontractor with a copy of this permit before the authorized work begins.
- 2 **Discharge facilities:** 2-ft long "25-year" weir at Elevation 7 0 ft MLW; 3-inch diameter orifice outlet at Elevation 6 0 ft MLW; Overflow weir / drop inlet at the top of the structure at Elevation 8 25 ft MLW; 5 – 10-inch discharge culverts to intake canal.
- 3. **Turbidity, Erosion and Sedimentation Controls.** The permittee shall correct any turbidity, erosion or shoaling that causes adverse impacts to the water resources. At all times during the construction, the permittee shall use best management techniques for turbidity, erosion and sedimentation control. All wetland areas or water bodies which are outside the specific limits of construction authorized by this permit must be protected from erosion, siltation, scouring and/or dewatering. Methods for controlling erosion, turbidity and sedimentation shall include, but are not limited to the use of turbidity booms, staked filter cloth; sodding, seeding, and mulching; staged construction; and the development of entrenched silt fences around the immediate project site. Erosion barriers shall be installed prior to any excavation or placement of fill material and shall be maintained in effective condition at all locations until construction is completed and disturbed areas are stabilized. Thereafter, the permittee must remove the barriers. The permittee shall be responsible for ensuring that erosion control devices/procedures are inspected/maintained daily during all phases of construction authorized by this permit. Once these conditions are met, the erosion control devices shall be removed within 14 days. Staked filter cloth shall be positioned at the edge of the permitted fill slopes where they are adjacent to wetlands in order to prevent turbid run-off and erosion.

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- 4 **Maintenance of Storm Drainage System.** At a minimum, the following maintenance shall be conducted:
- Catch Basins and Manholes: A monitoring program, including inspection and monitoring of sediment accumulation, will be implemented for catch basins and manhole structures. At a minimum, catch basins will be inspected monthly and cleaned on an as-needed basis (when sediment accumulation is within 1-foot of the outlet invert). Collection of accumulated sediment and hydrocarbons will be accomplished by means of vacuum pumping. Disposal of accumulated sediment and hydrocarbons should be performed in accordance with applicable local, state, and federal guidelines and regulations.
- Outlet Control Structure: The outlet control structure should be inspected for accumulation of sediment and debris, after storm events which result in flow over the 25-year weir, and periodically to ensure its effective performance. Sediment and debris should be removed as needed.
- 5 **Additional Water Quality Requirement.** The Department reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.
- 6 **Drawings and Attachments.** Drawing exhibits 1 through 6, a table of exotic plants, and DEP forms: 62-343.900(3), (4), (5), (6), and (7) F A C , are hereby attached to and become part of this permit. If the approved permit drawings conflict with the specific conditions, then the specific conditions shall prevail.
- 7 **Compliance with General Conditions.** The permittee shall be aware of and operate under the attached general limiting conditions. General conditions are binding upon the permittee and enforceable pursuant to Chapters 403 and 373 of the Florida Statutes.

RIGHTS OF AFFECTED PARTIES

This permit is hereby granted unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of sections 120.569 and 120.57, F.S. before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received by the clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

Petitions by the applicant or any of the parties listed below must be filed within 21 days of receipt of this written notice. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first.

Under section 120.60(3) of the Florida Statutes, however, any person who has asked the Department for notice of agency action may file a petition within 21 days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition or request for mediation within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 of the Florida Statutes. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

- (a) The name, address, and telephone number of each petitioner; the Department permit identification number and the county in which the subject matter or activity is located;
- (b) A statement of how and when each petitioner received notice of the Department action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department action;
- (d) A statement of the material facts disputed by the petitioner, if any;
- (e) A statement of facts that the petitioner contends warrant reversal or modification of the Department action;
- (f) A statement of which rules or statutes the petitioner contends require reversal or modification of the Department action; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Permittee: Florida Power & Light Company
Project: ISFSI Project

Permit Numbers: SI 56-0041384-003

In addition to requesting an administrative hearing, any petitioner may elect to pursue mediation. The election may be accomplished by filing with the Department a mediation agreement with all parties to the proceeding (i.e., the applicant, the Department, and any person who has filed a timely and sufficient petition for a hearing). The agreement must contain all the information required by rule 28-106.404. The agreement must be received by the clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, within ten days after the deadline for filing a petition, as set forth above. Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement.

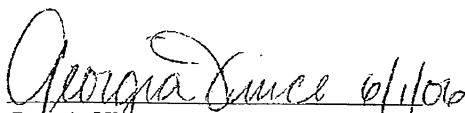
As provided in section 120.573 of the Florida Statutes, the timely agreement of all parties to mediate will toll the time limitations imposed by sections 120.569 and 120.57 for holding an administrative hearing and issuing a final order. Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. Persons seeking to protect their substantial interests that would be affected by such a modified final decision must file their petitions within 21 days of receipt of this notice, or they shall be deemed to have waived their right to a proceeding under sections 120.569 and 120.57. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under sections 120.569 and 120.57 remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

This action is final and effective on the date filed with the Clerk of the Department unless a petition (or request for mediation) is filed in accordance with the above. Upon the timely filing of a petition (or request for mediation) this order will not be effective until further order of the Department.

Any party to the order has the right to seek judicial review of the order under section 120.68 of the Florida Statutes, by the filing of a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the final order is filed with the Clerk of the Department.

Executed in West Palm Beach, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


Georgia Vance Date 6/1/06
Program Administrator
Environmental Resources Program

Permittee: Florida Power & Light Company
Project: ISFSI Project

Permit Numbers: SI 56-0041384-003

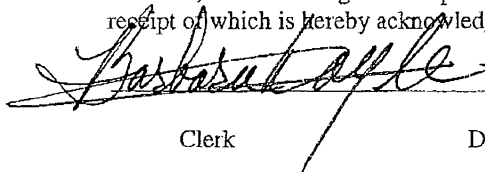
cc: Philip P Virgadamo, P E GZA GeoEnvironmental Inc , pvirgadamo@gza.com
USACOE, PBG
Buck Oven -- DEP/TLH, buck.oven@dep.state.fl.us
South Florida Water Management District - smcnabb@sfwmd.gov
Allen Hubbard -- DEP/TLH allen.hubbard@DEP.STATE.FL.US
St Lucie County Growth Management
St Lucie County Administrator

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this permit and all copies were mailed to the above listed persons before the close of business on JUN 01 2006

FILING AND ACKNOWLEDGMENT

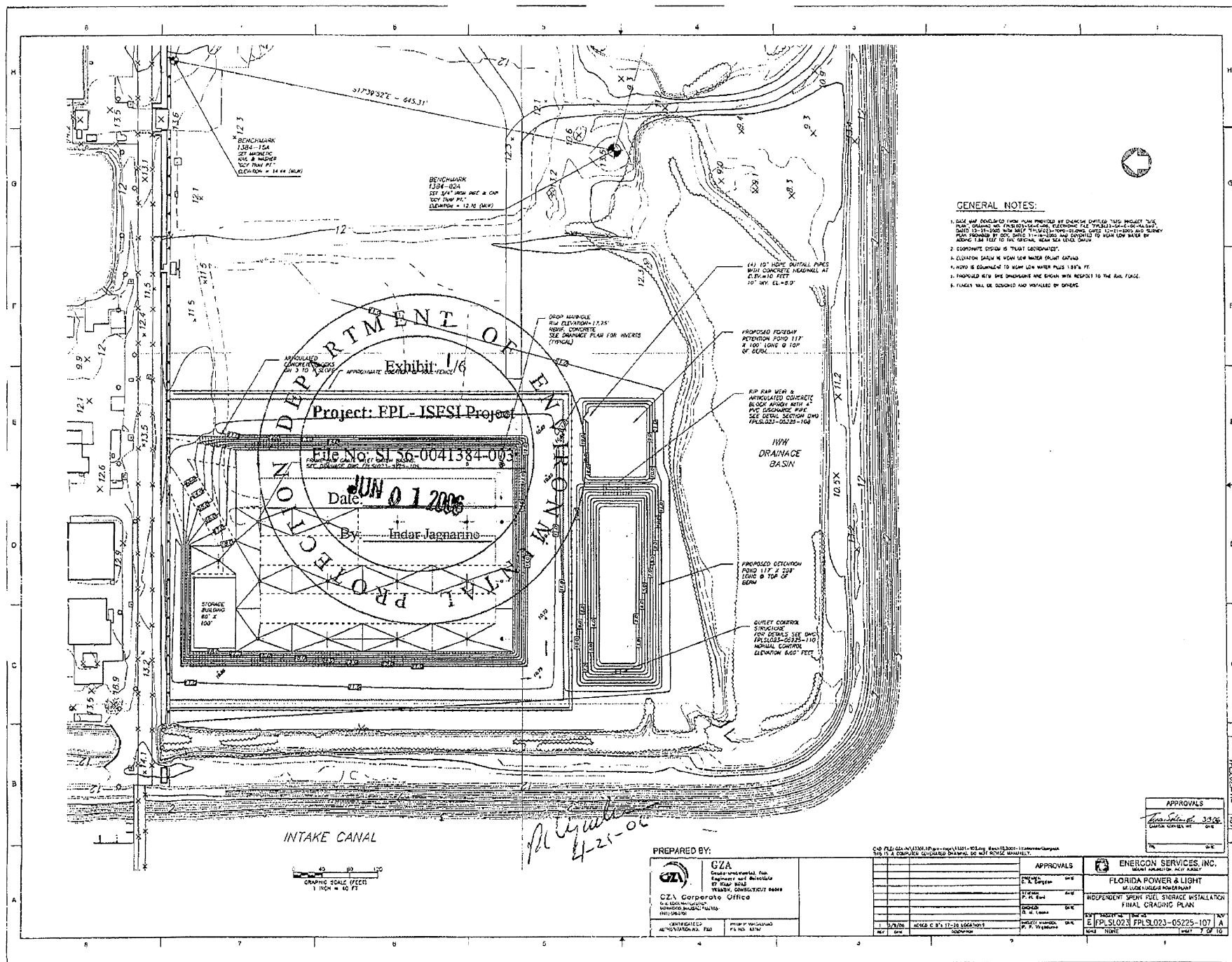
FILED, on this date, pursuant to 120 52(11),
Florida Statutes, with the designated Department Clerk,
receipt of which is hereby acknowledged

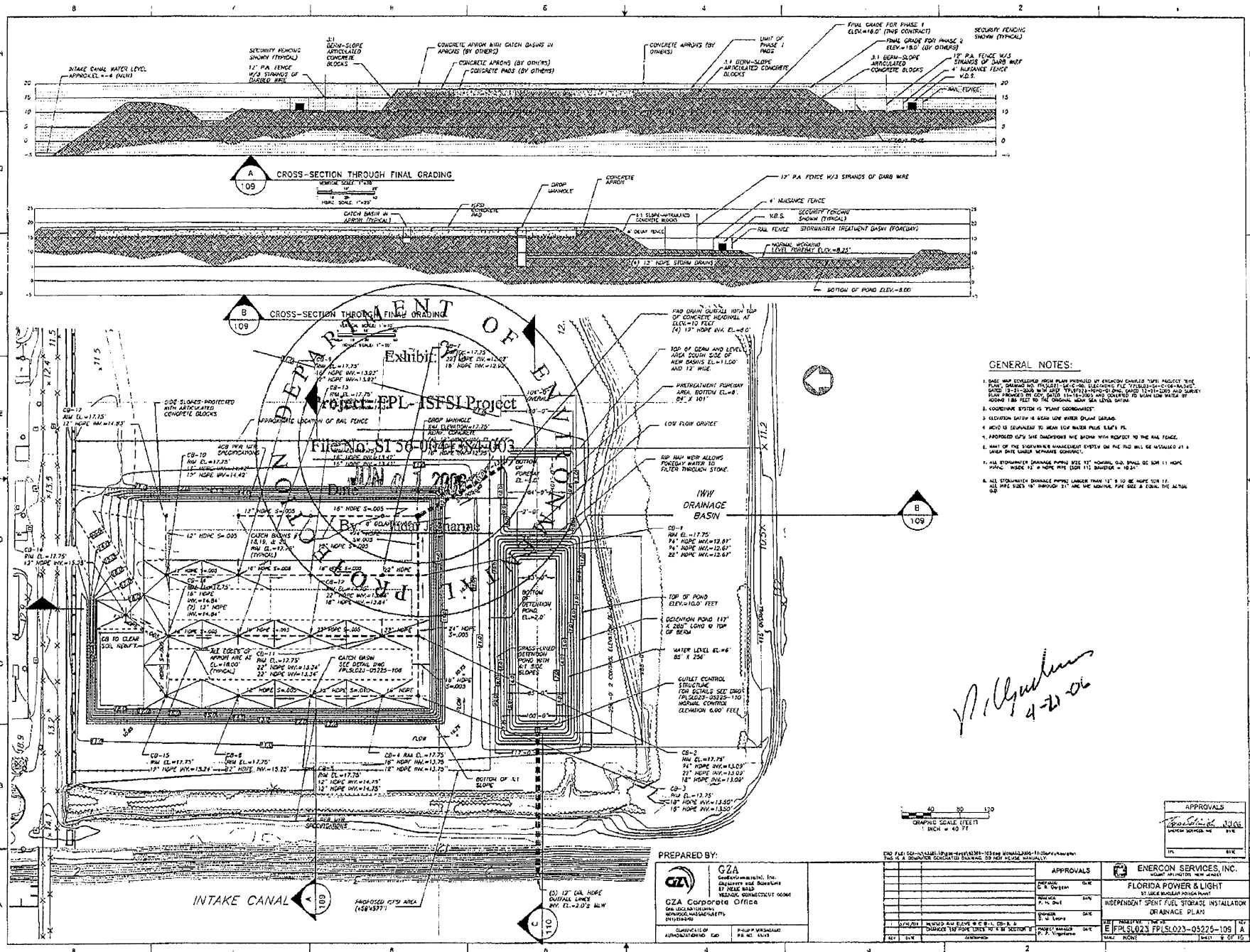
 JUN 01 2006

Clerk

Date

Prepared by: Indar Jagnarine, P E III

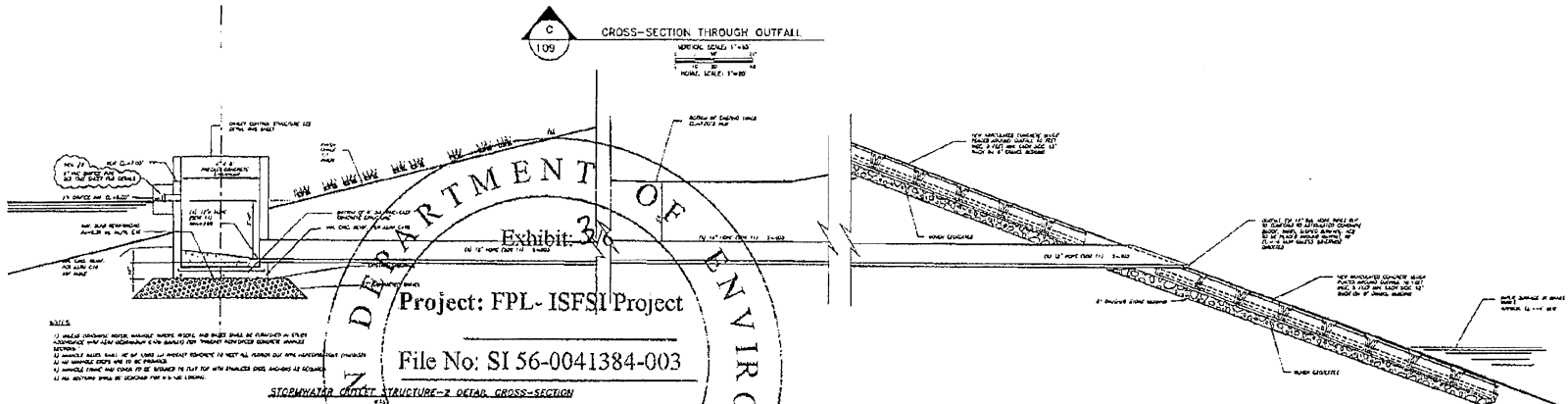
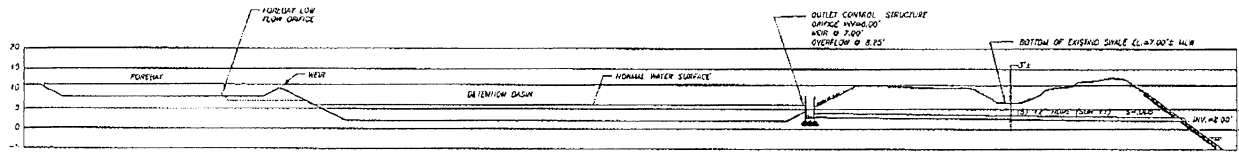




GENERAL NOTES:

1. BASE MAP DEVELOPED FROM PLANS PROVIDED BY ENCLAVE TUNNEL PROJECT. THIS PLAN, DRAINAGE AND ELEVATION DATA, IS SUBJECT TO THE FOLLOWING: (1) THE DRAINAGE DATA IS BASED ON THE DATA PROVIDED BY THE ENCLAVE TUNNEL PROJECT. (2) THE DRAINAGE DATA IS BASED ON THE DATA PROVIDED BY THE ENCLAVE TUNNEL PROJECT. (3) THE DRAINAGE DATA IS BASED ON THE DATA PROVIDED BY THE ENCLAVE TUNNEL PROJECT.
2. ELEVATION DATA IS BASED ON THE DATA PROVIDED BY THE ENCLAVE TUNNEL PROJECT.
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7. ELEVATION DATA IS BASED ON THE DATA PROVIDED BY THE ENCLAVE TUNNEL PROJECT.
8. ELEVATION DATA IS BASED ON THE DATA PROVIDED BY THE ENCLAVE TUNNEL PROJECT.

PREPARED BY:		GZA	
GZA Corporate Office		GZA	
PROJECT NO. 150-0377		PROJECT NO. 150-0377	
DATE: 4/20/06		DATE: 4/20/06	
DRAWN BY: J. Gorman		DRAWN BY: J. Gorman	
CHECKED BY: J. Gorman		CHECKED BY: J. Gorman	
APPROVED BY: J. Gorman		APPROVED BY: J. Gorman	
ENCLAVE TUNNEL PROJECT		ENCLAVE TUNNEL PROJECT	
FLORIDA POWER & LIGHT		FLORIDA POWER & LIGHT	
INDEPENDENT SPENT FUEL STORAGE INSTALLATION		INDEPENDENT SPENT FUEL STORAGE INSTALLATION	
DRAINAGE PLAN		DRAINAGE PLAN	
EPLIS023 FPLS023-05225-109		EPLIS023 FPLS023-05225-109	
SHEET 1 OF 10		SHEET 1 OF 10	



GENERAL NOTES:

1. BASE MAP DERIVED FROM PLANS PROVIDED BY DESIGN CONTROLLED BY PROJECT TEAM. THIS MAP, SHOWING THE EXISTING AND PROPOSED PLANS, IS FOR INFORMATION ONLY. THE DESIGNER IS NOT RESPONSIBLE FOR THE ACCURACY OF THE BASE MAP. THE DESIGNER IS NOT RESPONSIBLE FOR THE ACCURACY OF THE BASE MAP.
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Phil R. Jaramine
4-21-06

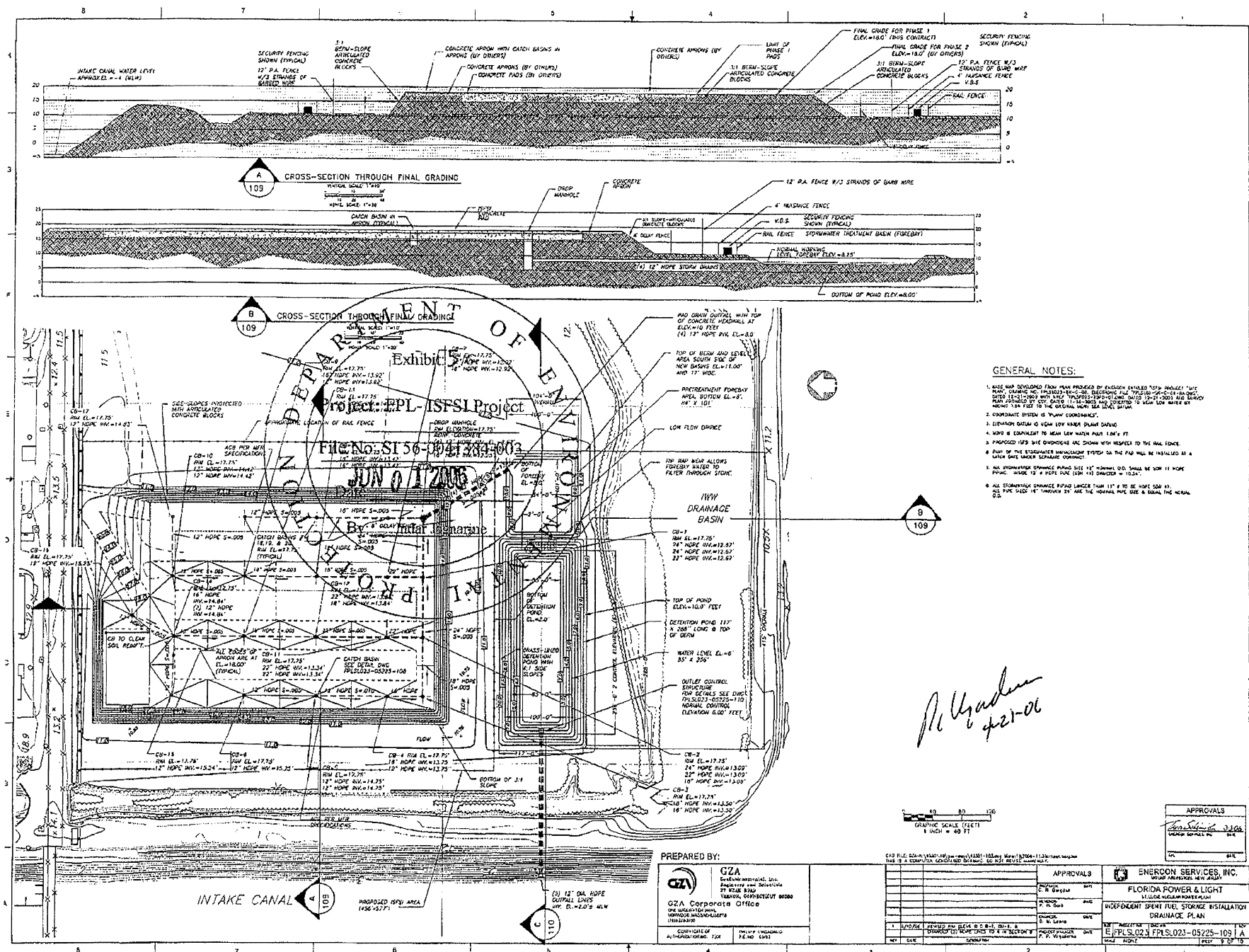
PREPARED BY:

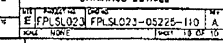
GZA	GZA
ENGINEERING, INC.	ENGINEERING, INC.
1717 PARK ROAD	1717 PARK ROAD
TELEPHONE: 303.440.0000	TELEPHONE: 303.440.0000
FAX: 303.440.0000	FAX: 303.440.0000
WWW.GZA.COM	WWW.GZA.COM

DATE: 04/21/06
BY: J. J. Jaramine

APPROVALS	APPROVALS
DESIGNED BY: J. J. Jaramine	DESIGNED BY: J. J. Jaramine
CHECKED BY: J. J. Jaramine	CHECKED BY: J. J. Jaramine
DATE: 04/21/06	DATE: 04/21/06

ENERCON SERVICES, INC.	ENERCON SERVICES, INC.
FLORIDA POWER & LIGHT	FLORIDA POWER & LIGHT
INDEPENDENT SPENT FUEL STORAGE INSTALLATION	INDEPENDENT SPENT FUEL STORAGE INSTALLATION
DRAINAGE DETAILS	DRAINAGE DETAILS
PROJECT NUMBER: 05225-110	PROJECT NUMBER: 05225-110
DATE: 04/21/06	DATE: 04/21/06







Permit Review Checklist

(a summary of the required monitoring and reporting activities for your project)

Pre-Construction Requirements

Activity	Date Due	Date Completed
☐ Contact DEP to schedule pre-construction meeting	Prior to construction	_____
☐ Submit Pre-Construction Notice Form to DEP	48 Hrs Before Construction	_____
☐ Temporary Erosion Control structures in place	Prior to construction	_____

Construction Requirements

Activity	Date Due	Date Completed
☐ Permit with all attachments kept at the work site	Permit shall be available on-site for DEP inspector at all times	_____
☐ Permanent Erosion Control Structures in place	Structures should be inspected daily	_____
☐ Annual Status Report submitted	Following June of each year until complete	_____
☐ Report changes to permitted drawings / plans / activities	Contact DEP before any changes	_____

Post-Construction Requirements

Activity	Date Due	Date Completed
☐ Completion and Certification (As-Built) Form signed & sealed by P E and sent to DEP	30 Days after Construction	_____
☐ Permit Transfer Form submitted to DEP	Within 30 Days Sale of property (if property sold)	_____

For the above criteria that require you to contact DEP - you should contact the **WPB** Southeast District Office, Environmental Resources Permitting Section, Compliance and Enforcement, 400 N Congress Avenue, Suite 200, West Palm Beach, FL 33401, Attention: Richard Stalker Phone: 561-681-6643, Fax: 561-681-6780. For **PSL** Southeast District Branch Office, Environmental Resources Permitting Section, Compliance and Enforcement, 1801 SE Hillmoor Drive, Suite C-204, Port Saint Lucie, FL 34952, Attention: Danna Small Phone: 772-398-2806, Fax: 772-398-2815.]

PLEASE NOTE:

As the property owner/permittee, you are ultimately responsible for ensuring that the required conditions of your permit are complied with and timely reported to the Department. Please ensure that any designated contractors or agents acting on your behalf are familiar with these requirements.

Form #62-343.900(3), F.A.C.
Form Title: Construction
Commencement
Notice
Date: October 3, 1995

ENVIRONMENTAL RESOURCE PERMIT
Construction Commencement Notice

PROJECT: _____ PHASE: _____

I hereby notify the Department of Environmental Protection that the construction of the surface water management system authorized by Environmental Resource Permit No _____ has commenced / is expected to commence on _____ 200____, and will require a duration of approximately _____ months _____ weeks _____ days to complete. It is understood that should the construction term extend beyond one year, I am obligated to submit the Annual Status Report for Surface Water Management System Construction.

PLEASE NOTE: If the actual construction commencement date is not known, Department staff should be so notified in writing in order to satisfy permit conditions.

_____ Permittee or Authorized Agent	_____ Title and Company	_____ Date
_____ Phone	_____ Address	

Send to:

Richard Stalker
Florida DEP
400 N. Congress Ave., Suite 200
West Palm Beach, FL 33401
Fax: 561/681-6780

Form # 62-343.900(4), F.A.C.
Form Title: Annual Status Report
Date: October 3, 1995

**ENVIRONMENTAL RESOURCE PERMIT
ANNUAL STATUS REPORT FORM**

Florida Department of Environmental Protection

Send to:

Richard Stalker
Florida DEP
400 N. Congress Ave., Suite 200
West Palm Beach, FL 33401
Fax: 561/681-6780

Permit No. _____

County: _____

Project Name: _____

Phase: _____

The following activity has occurred at the above referenced project during the past year, between
June 1, 200____ and May 30, 200____

Permit Condition / Activity	% of Completion	Date of anticipated Completion	Date of Completion
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Use Additional Sheets As Necessary)

Benchmark Description (one per major control structure): _____

Print Name _____

Phone _____

Permittee's or Authorized
Agent's Signature _____

Title and Company _____

Date _____

This form shall be submitted to the above referenced Department Office during June of each year for
activities whose duration of construction exceeds one year.

Form #62-343.900(5), F.A.C.
Form Title: As-Built Certification
by a Registered Professional
Date: October 3, 1995

ENVIRONMENTAL RESOURCE PERMIT
AS-BUILT CERTIFICATION BY A REGISTERED PROFESSIONAL

Permit Number: _____

Project Name: _____

I hereby certify that all components of this surface water management system have been built substantially in accordance with the approved plans and specifications and are ready for inspection. Any substantial deviations (noted below) from the approved plans and specifications will not prevent the system from functioning as designed when properly maintained and operated. These determinations are based upon on-site observation of the system conducted by me or by my designee under my direct supervision and/or my review of as-built plans certified by a registered professional or other appropriate individual as authorized by law.

Name (please print)

Signature of Professional

Company Name

Florida Registration Number

Company Address

Date

City, State, Zip Code

Telephone Number

(Affix Seal)

Substantial deviations from the approved plans and specifications:

(Note: attach two copies of as-built plans when there are substantial deviations)

Within 30 days of completion of the system, submit two copies of the form to:

Send to:

Richard Stalker
Florida DEP
400 N. Congress Ave., Suite 200
West Palm Beach, FL 33401

ENVIRONMENTAL RESOURCE PERMIT
INSPECTION CERTIFICATION

Permit Number: _____
Project Name: _____

Inspection Date(s): _____
Inspection Results: (check one)

____ I hereby certify that I or my designee under my direct supervision have inspected the system at the above referenced project and that the system appears to be functioning in accordance with the requirements of the permit and Chapter 373 F S (as applicable)

____ The following necessary maintenance was conducted:

____ I hereby certify that I or my designee under my direct supervision has inspected the system at the above referenced project and that the system does not appear to be functioning in accordance with the requirements of the permit and Chapter 373 F S (as applicable) I have informed the operation and maintenance entity of the following: (a) that the system does not appear to be functioning properly, (b) that maintenance is required to bring the system into compliance, and (c) if maintenance measures are not adequate to bring the system into compliance, the system may have to be replaced or an alternative design constructed subsequent to Department approval

Name (please print)

Signature of Professional Engineer

Company Name

Florida Registration Number

Company Address

Date

City, State, Zip Code

Telephone Number

(Affix Seal)

Within 30 days of completion of the inspection, submit two copies of this form to the following Department Office:

Department of Environmental Protection

REQUEST FOR TRANSFER OF ENVIRONMENTAL RESOURCE PERMIT CONSTRUCTION PHASE TO OPERATION PHASE

(To be completed and submitted by the operating entity)

Florida Department of Environmental Protection

Send to:

Richard Stalker

Florida DEP

400 N. Congress Ave., Suite 200

West Palm Beach, FL 33401

Fax: 561/681-6780

It is requested that Department Permit No _____ authorizing the construction and operation of a surface water management system for the below mentioned project be transferred from the construction phase permittee to the operation phase operating entity

PROJECT:

FROM: Name:

Address:

City: _____ State:

Zipcode:

TO: Name:

Address:

City: _____ State:

Zipcode:

The surface water management facilities are hereby accepted for operation and maintenance in accordance with the engineers certification and as outlined in the restrictive covenants and articles of incorporation for the operating entity. Enclosed is a copy of the document transferring title of the operating entity for the common areas on which the surface water management system is located. Note that if the operating entity has not been previously approved, the applicant should contact the Department staff prior to filing for a permit transfer.

The undersigned hereby agrees that all terms and conditions of the permit and subsequent modifications, if any, have been reviewed, are understood and are hereby accepted. Any proposed modifications shall be applied for and obtained prior to such modification.

Operating Entity

Name _____ Title

Telephone

Enclosure:

- () Copy of recorded transfer of title surface water management system
- () Copy of plat(s)
- () Copy of recorded restrictive covenants, articles of incorporation, and certificate of incorporation

APPLICATION FOR TRANSFER OF ENVIRONMENTAL RESOURCE PERMIT AND NOTIFICATION
OF SALE OF A FACILITY OR SURFACE WATER MANAGEMENT SYSTEM

Permit No _____ Date Issued _____ Date Expires _____

FROM (Name of Current Permit Holder) _____

Mailing Address _____

City _____ State _____ Zip Code _____

Telephone: (____) _____

Identification or Name of Facility/Surface Water Management System: _____

Phase of Facility/Surface Water Management System (if applicable): _____

The undersigned hereby notifies the Department of the sale or legal transfer of this facility, or surface water management system, and further agrees to assign all rights and obligations as permittee to the applicant in the event the Department agrees to the transfer of permit

Signature of the current permittee: _____

Title (if any): _____ Date: _____

TO (Name of Proposed Permit Transferee): _____

Mailing Address _____

City _____ State _____ Zip Code _____

Telephone: (____) _____

The undersigned hereby notifies the Department of having acquired the title to this facility, or surface water management system. The undersigned also states he or she has examined the application and documents submitted by the current permittee, the basis of which the permit was issued by the Department, and states they accurately and completely describe the permitted activity or project. The undersigned further attests to being familiar with the permit, agrees to comply with its terms and with its conditions, and agrees to assume the rights and liabilities contained in the permit. The undersigned also agrees to promptly notify the Department of any future changes in ownership of, or responsibility for, the permitted activity or project.

Signature of the applicant (Transferee): _____

Title (if any): _____ Date: _____

Project Engineer Name (if applicable) _____

Mailing Address _____

City _____ State _____ Zip Code _____

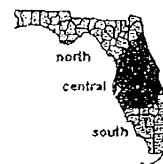
Telephone: (____) _____

Florida Exotic Pest Plant Council's 2003 List of Invasive Species

Definitions: Exotic—a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida Native—a species whose natural range included Florida at the time of European contact (1500 AD) Naturalized exotic—an exotic that sustains itself outside cultivation (it is still exotic; it has not "become" native) Invasive exotic—an exotic that not only has naturalized but is expanding on its own in Florida plant communities

Abbreviations used:

for "Gov. list": P = Prohibited by Fla Dept of Environmental Protection, N = Noxious weed listed by Fla Dept of Agriculture & Consumer Services, U = Noxious weed listed by US Department of Agriculture for "Reg. Dis.": N = north, C = central, S = south, referring to each species' current distribution in general regions of Florida (not its potential range in the state) See map



Category I - Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused

Scientific Name	Common Name	EPPC Cat.	Gov List	Reg. Dist.
<i>Abrus precatorius</i>	rosary pea	I		C, S
<i>Acacia auriculiformis</i>	earleaf acacia	I		S
<i>Albizia julibrissin</i>	mimosa, silk tree	I		N, C
<i>Albizia lebeck</i>	woman's tongue	I		C, S
<i>Ardisia crenata</i> (= <i>A. crenulata</i>)	coral ardisia	I		N, C
<i>Ardisia elliptica</i> (= <i>A. humilis</i>)	shoebutton ardisia	I		S
<i>Asparagus densiflorus</i>	asparagus-fern	I		C, S
<i>Bauhinia variegata</i>	orchid tree	I		C, S
<i>Bischofia javanica</i>	bischofia	I		C, S
<i>Calophyllum antillarum</i> (= <i>C. calaba</i> , <i>C. inophyllum</i> misapplied)	santa maria (names "mast wood," "Alexandrian laurel" used in cultivation)	I		S
<i>Casuarina equisetifolia</i>	Australian pine	I	P	N, C, S
<i>Casuarina glauca</i>	suckering Australian pine	I	P	C, S
<i>Cinnamomum camphora</i>	camphor-tree	I		N, C, S
<i>Colocasia esculenta</i>	wild taro	I		N, C, S
<i>Colubrina asiatica</i>	lather leaf	I		S
<i>Cupaniopsis anacardioides</i>	carrotwood	I	N	C, S
<i>Dioscorea alata</i>	winged yam	I	N	N, C, S
<i>Dioscorea bulbifera</i>	air-potato	I	N	N, C, S
<i>Eichhornia crassipes</i>	water-hyacinth	I	P	N, C, S
<i>Eugenia uniflora</i>	Surinam cherry	I		C, S

Scientific Name	Common Name	EPPC Cat.	Gov List	Reg. Dist.
<i>Ficus microcarpa</i> (<i>F. nitida</i> and <i>F. retusa</i> var <i>nitida</i> misapplied)	laurel fig	I		C, S
<i>Hydrilla verticillata</i>	hydrilla	I	P, U	N, C, S
<i>Hygrophila polysperma</i>	green hygro	I	P, U	N, C, S
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass	I		C, S
<i>Imperata cylindrica</i> (<i>I. brasiliensis</i> misapplied)	cogon grass	I	N, U	N, C, S
<i>Ipomoea aquatica</i>	waterspinach	I	P, U	C
<i>Jasminum dichotomum</i>	Gold Coast jasmine	I		C, S
<i>Jasminum fluminense</i>	Brazilian jasmine	I		C, S
<i>Lantana camara</i>	lantana, shrub verberna	I		N, C, S
<i>Ligustrum lucidum</i>	glossy privet	I		N, C
<i>Ligustrum sinense</i>	Chinese privet, hedge privet	I		N, C, S
<i>Lonicera japonica</i>	Japanese honeysuckle	I		N, C, S
<i>Lygodium japonicum</i>	Japanese climbing fern	I	N	N, C, S
<i>Lygodium microphyllum</i>	Old World climbing fern	I	N	C, S
<i>Macfadyena unguis-cati</i>	cat's claw vine	I		N, C, S
<i>Manilkara zapota</i>	sapodilla	I		S
<i>Melaleuca quinquenervia</i>	melaleuca, paper bark	I	P, N, U	C, S
<i>Melia azedarach</i>	Chinaberry	I		N, C, S
<i>Mimosa pigra</i>	catclaw mimosa	I	P, N, U	C, S
<i>Nandina domestica</i>	nandina, heavenly bamboo	I		N

Scientific Name	Common Name	EPPC Cat.	Gov List	Reg. Dist.
<i>Nephrolepis cordifolia</i>	sword fern	I		N, C, S
<i>Nephrolepis multiflora</i>	Asian sword fern	I		C, S
<i>Neyraudia reynaudiana</i>	Burma reed; cane grass	I	N	S
<i>Paederia cruddasiana</i>	sewer vine, onion vine	I	N	S
<i>Paederia foetida</i>	skunk vine	I	N	N, C, S
<i>Panicum repens</i>	torpedo grass	I		N, C, S
<i>Pennisetum purpureum</i>	Napier grass	I		C, S
<i>Pistia stratiotes</i>	waterlettuce	I	P	N, C, S
<i>Psidium cattleianum</i> (= <i>P. littorale</i>)	strawberry guava	I		C, S
<i>Psidium guajava</i>	guava	I		C, S
<i>Pueraria montana</i> (= <i>P. lobata</i>)	kudzu	I	N, U	N, C, S
<i>Rhodomirtus tomentosa</i>	downy rose-myrtle	I	N	C, S
<i>Rhoeo spathacea</i> (see <i>Tradescantia spathacea</i>)	-			
<i>Ruellia brittoniana</i> (may also be referred to <i>R. tweediana</i>)	Mexican petunia	I		N, C, S
<i>Sapium sebiferum</i>	popcorn tree, Chinese tallow tree	I	N	N, C, S
<i>Scaevola sericea</i> (= <i>Scaevola taccada</i> var <i>sericea</i> , <i>S. frutescens</i>)	scaevola, half-flower, beach naupaka	I		C, S
<i>Schefflera actinophylla</i> (= <i>Brassaia actinophylla</i>)	schefflera, Queensland umbrella tree	I		C, S

Scientific Name	Common Name	EPPC Cat.	Gov List	Reg. Dist.
<i>Schinus terebinthifolius</i>	Brazilian pepper	I	P, N	N, C, S
<i>Senna pendula</i> (= <i>Cassia coluteoides</i>)	climbing cassia, Christmas cassia, Christmas senna	I		C, S
<i>Solanum tampicense</i> (= <i>S. houstonii</i>)	wetland night shade, aquatic soda apple	I	N, U	C, S
<i>Solanum viarum</i>	tropical soda apple	I	N, U	N, C, S
<i>Syngonium podophyllum</i>	arrowhead vine	I		C, S
<i>Syzygium cumini</i>	jambolan, Java plum	I		C, S
<i>Tectaria incisa</i>	incised halberd fern	I		S
<i>Thespesia populnea</i>	seaside mahoe	I		C, S
<i>Tradescantia fluminensis</i>	white-flowered wandering jew	I		N, C
<i>Tradescantia spathacea</i> (= <i>Rhoeo spathacea</i> , <i>Rhoeo discolor</i>)	oyster plant	I		S
<i>Urochloa mutica</i> (= <i>Brachiaria mutica</i>)	Pará grass	I		C, S

APPENDIX 10.4.2.3

STANDARD ERP #56-0041384-005



Florida Department of Environmental Protection

Southeast District Office
400 North Congress Avenue Suite 200
West Palm Beach Florida 33401 2913

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

MAY 15 2007

Certified Mail 7006 2760 0005 5727 1504
Return Receipt Requested

Florida Power & Light Company
c/o Alan N. Katz, NCAR Construction Manager
PO Box 1400
Juno Beach, FL 33408
alan_katz@fpl.com

RECEIVED

MAY 29 2007

ENVIRONMENTAL SERVICES

Project: FPL Port St Lucie Nuclear Power Plant East Parking Lot
ERP File No: SI 56-0041384-005

Dear Mr. Katz:

Enclosed is the Standard General Environmental Resource Permit SI 56-0041384-004 for FPL- Port St Lucie Nuclear Power Plant East Parking Lot Project issued pursuant to Part IV of Chapter 373, Florida Statutes (F S), and Title 62, Florida Administrative Code (F A C).

Appeal rights for you as the permittee and for any affected third party are described in the text of the permit along with conditions, which must be met when permitted activities are undertaken. Please review this document carefully to ensure compliance with both the general and specific conditions contained herein. As the permittee, you are responsible for compliance with these conditions. **Please ensure all construction personnel associated with your activity review and understand the approved drawings and conditions.** Failure to comply with this permit may result in liability for damages and restoration, and the imposition of civil penalties up to \$10,000.00 per violation per day pursuant to Sections 403.141 and 403.161, F S.

In addition please ensure the construction commencement notice and all other reporting conditions are forwarded to the appropriate office as indicated in the specific conditions.

If you have any questions about this document, please contact me at 561/681-6651.

Sincerely,

Huy Tran
Engineering Specialist II
Submerged Lands & Environmental
Resources Program

O:\Stormwater\FPL\FPL ISFS & PSL East Pkg Lot\FPL East Parking Lot SL Plant\cover.doc

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Florida Department of Environmental Protection

Southeast District Office
400 North Congress Avenue Suite 200
West Palm Beach Florida 33401-2913

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

ENVIRONMENTAL RESOURCE PERMIT

PERMITTEE:

Florida Power & Light Company (FPL)
c/o Alan Katz, NCAR Construction Manager
PO Box 1400
Juno Beach, FL 33408
E-mail: alan_katz@fpl.com

Permit Numbers: SI 56 0041384-005

Date of Issue: MAY 15 2007

Expiration Date of Construction

Phase: MAY 14 2012

County: St. Lucie County

Project: FPL Port St. Lucie East Parking Lot

This permit is issued under the authority of Part IV of Chapter 373, F.S., and Title 62, Florida Administrative Code (F.A.C.). The activity is not exempt from the requirement to obtain an Environmental Resource Permit. Pursuant to operating agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity.

ACTIVITY DESCRIPTION:

The project involves the construction of a parking lot on approximately 2.70 acres of upland at Florida Power & Light (FPL) St. Lucie Nuclear Power Plant. In addition, the project involves the construction of a surface water management system to manage stormwater run-off and includes the installation of swale, and dry detention pond. The proposed construction shall be designed and constructed to meet State's water quality and quantity criteria.

ACTIVITY LOCATION:

The project is located on 6501 South Hwy A1A, in Jensen Beach, St. Lucie County, Section 16, Township 36 South, Range 41 East, latitude 27 3458° N, longitude 80 2464° W.

This permit also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Management Act.

This permit also constitutes certification of compliance with water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341. This authorization does not relieve you from the requirements to obtain all other required permits and authorizations.

The above named permittee is hereby authorized to construct the work shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof. This permit is subject to the limits, conditions, and locations of work shown in

Permittee: Florida Power & Light
Project: FPL PSL East Parking Lot

Permit No : SI 56-0041384-005

the attached drawings (exhibits 1- 3), and is also subject to the attached General Conditions (1-19) and Specific Conditions (1-9), which are a binding part of this permit. You are advised to read and understand these drawings and conditions prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these drawings and conditions prior to commencing the authorized activities. Failure to comply with all drawings and conditions shall constitute grounds for revocation of the permit and appropriate enforcement action.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and with the general and specific conditions of this permit, and as specifically described below

SURFACE WATER SYSTEM DESIGN:

Project Area: 2.70 acres

Drainage Area: 2.70 acres

Receiving Body: FPL intake canal via wetland, swale and detention-retention area.

Background: On December 8, 2006, the applicant, Florida Power & Light, applied for an Environmental Resource Permit (ERP) for the further development of an existing surface water management system to serve the proposed FPL St. Lucie East Parking Lot.

Proposed Facilities: The proposed activities include the reconstruction of an existing parking lot on approximately 2.70 acres within the existing 1,190-acre site of the Florida Power and Light's Port St. Lucie Power Plant (FPL PSLPP). The proposed surface water management system improvements designed to handle the runoff from the parking lot. The area is located in an open basin, which drains from the adjacent mangroves to the canal system. The surface water management system is designed to handle the 25-year, 72-hour storm event. The parking area is graded into a swale extension of the detention-retention area (DRA) to the west side of parking lot. This collector channels the water to the DRA where stormwater will be treated and retained onsite.

Basin Information:

Basin	Area (AC)	WSWT Elev. (ft NGVD)	Dry/Normal Water Table Elev. (ft NGVD)	Method of Determination
Project site	2.70	2.7'	1.7'	Geotechnical Soil Borings

Permittee: Florida Power & Light
Project: FPL PSL East Parking Lot

Permit No : SI 56-0041384-005

Discharge Structure Information:

Control Structure:

Basin	Structure	Design Criteria
Site	101 f Standard Weir	Weir crest will be set at/above 5.50 ft NGVD elevation

Design Storm Freq.: 25-yr, 3-day

Design Rainfall: 17.5 inches

Basin	Allow Disch (cfs)	Method of Determination	Design Disch (cfs)	Design Stage (ft, NGVD)
Site	20.79	Pre/Post	19.17	6.27' (Max)

Water Quality: Water quality treatment of 2.5" (at 50% required volume for retention) over the proposed 2.01 acres of impervious parking lot area is provided in a detention-retention pond system with a total surface area approximately of 0.35 acre.

Basin	Treatment Method	Volume Req'd (ac-ft)	Volume Prov'd (ac-ft)
Site	Dry Detention	0.28	0.53

Minimum Design Elevations: Minimum parking elevation is at 7.5 feet

Environmental Review: The project site is located within the 46-acre Power Plant site. A permit is being sought for 1.79 acres of impervious surface. The total area served by the surface water management system is 2.70 acres. A site visit by DEP staff was conducted on March 5, 2007. An area of wetland exists on site. The project proposed no impact to wetlands. The applicant shall maintain a 25 ft buffer zone from adjacent wetlands.

System Operation: The Florida Power & Light Company (FP&L)

Water Use Permit Status: A water use permit has not been applied to this project at this time. A water use permit may be required if any dewatering is proposed.

Permittee: Florida Power & Light
Project: FPL PSL East Parking Lot

Permit No : SI 56-0041384-005

Water and Wastewater Supplier: None existing on-site

Save Our Rivers: This project is not within or adjacent to lands under consideration by the Save Our Rivers Program

Swim Basin: This project is within the Indian River Lagoon designated as SWIM Basin

Right-of-way Permit Status: A right-of-way permit is not required from the South Florida Water Management District

Well Field Zone Of Influence: This project may be located within the zone of influence of a well-field

GENERAL CONDITIONS:

- (1) All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.
- (2) This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by the Department staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
- (3) Activities approved by this permit shall be conducted in a manner, which does not cause violations of state water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of state water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving water body exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.
- (4) The permittee shall notify the Department of the anticipated construction start date within 30 days of the date that this permit is issued. **At least 48 hours prior to commencement** of activity authorized by this permit, the permittee shall submit to the Department an "Environmental

Permittee: Florida Power & Light
Project: FPL PSL East Parking Lot

Permit No : SI 56-0041384-005

Resource Permit Construction Commencement" notice (Form No 62-343 900(3), F A C) indicating the actual start date and the expected completion date

- (5) When the duration of construction will exceed one year, the permittee shall submit construction status reports to the Department on an annual basis utilizing an "Annual Status Report Form" (Form No 62-343 900(4), F A C) Status Report Forms shall be submitted the following June of each year:
- (6) **Within 30 days after completion of construction** of the permitted activity, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the supplied "Environmental Resource Permit As-Built Certification by a Registered Professional" (Form No 62-343 900(5), F A C). The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the Department that the system is ready for inspection. Additionally, if deviation from the approved drawings were discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor.
- (7) The operation phase of this permit shall not become effective until the permittee has complied with the requirements of condition (6) above, has submitted a **"Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase"** (Form No. 62-343.900(7), F.A.C.); the Department determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the Department in accordance with Sections 90 and 100 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the Department, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 62-343 110(1)(d), F A C , the permittee shall be liable for compliance with the terms of the permit.
- (8) Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.

Permittee: Florida Power & Light
Project: FPL PSL East Parking Lot

Permit No : SI 56-0041384-005

- (9) For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the Department along with any other final operation and maintenance documents required by sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, prior to lot or unit sales or prior to the completion of the system, whichever occurs first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State where appropriate. For those systems, which are proposed to be maintained by the county or municipal entities, final operation and maintenance documents must be received by the Department when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.
- (10) Should any other regulatory agency require changes to the permitted system, the permittee shall notify the Department in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.
- (11) This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C.
- (12) The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.
- (13) The permittee is advised that the rules of the South Florida Water Management District require the permittee to obtain a water use permit from the South Florida Water Management District prior to construction dewatering, unless the work qualifies for a general permit pursuant to subsection 40E-20.302(4), F.A.C., also known as the "No Notice" rule.
- (14) The permittee shall hold and save the Department harmless from any and all damages, claims, or liabilities, which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.
- (15) Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding.

Permittee: Florida Power & Light
Project: FPL PSL East Parking Lot

Permit No : SI 56-0041384-005

unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.

- (16) The permittee shall notify the Department in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of section 62.343(130), F.A.C. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.
- (17) Upon reasonable notice to the permittee, Department authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.
- (18) If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate Department office.
- (19) The permittee shall immediately notify the Department in writing of any previously submitted information that is later discovered to be inaccurate.

SPECIFIC CONDITIONS:

- 1. **Surface Water Management System.** The surface water management system shall be constructed as shown in the attached exhibits. The permittee shall ensure that the permit conditions are explained to all construction personnel working on the project and for providing each contractor and subcontractor with a copy of this permit before the authorized work begins. All work on the surface water management system shall be in accordance to the Drainage Report & Drawings prepared and sealed by Mr. Wayne Walker, P.E. of Crystal Engineering Construction submitted to DEP on April 19, 2007.
- 2. **Discharge Facilities.** One (1) 10 foot weir with crest elevation @ 5.5 ft NGVD.
- 3. **Perimeter Grade.** Perimeter grades around the proposed site shall be set at or above 6.5 ft NGVD.
- 4. **Sedimentation Controls.** Silt screens, or other such sediment control measures shall be utilized during construction. The selected sediment control measures shall be installed around the perimeter of the area to be developed. All areas shall be stabilized and vegetated immediately after construction to prevent erosion.
- 5. **Maintenance of Storm Drainage System.** A maintenance schedule shall be implemented to keep pollutants out of the surface water system and to ensure that the stormwater management system is functioning as designed. Discharge structures shall have a baffle system, and structures from areas with greater than 50% impervious area or from systems with inlets in paved areas.

Permittee: Florida Power & Light
Project: FPL PSL East Parking Lot

Permit No : SI 56-0041384-005

shall include a baffle, skimmer, or other mechanism to prevent grease and oil from discharging to or from retention/detention areas

6. **Wetland Area & Setback Distances.** The Department reserves the right to require mitigation measures or water quality monitoring if wetlands are impacted by the proposed project. The permittee shall maintain the shoreline including a 25-ft upland buffer—within the construction site, free from the establishment or invasion of any of the plants listed on The Florida Exotic Pest Plant Council Category I Invasive Exotic Species list, a copy of which is attached. This maintenance clause refers to the planting or natural recruitment of the referenced plants.
7. **Additional Requirements.** The Department reserves the right to require that water quality treatment methods being incorporated into the drainage system if such measures are shown to be necessary.
8. All lighting fixture shall be conducted in accordance with FWCC specification conveyed in the memo from Dean Gallagher of FWCC dated October 31, 2006.
9. **Compliance with General Conditions & Attachments.** The exhibits, the Exotic Pest Plant List, Permit Review Checklist, and DEP forms 62-343 900 (3), (4), (5), (6), and (7) are attached to and become part of this permit. The permittee shall be aware of and operate under the attached general limiting conditions. General conditions are binding upon the permittee and enforceable pursuant to Chapters 403 and 373 of the Florida Statutes.

RIGHTS OF AFFECTED PARTIES

This permit is hereby granted. This action is final and effective on the date filed with the Clerk of the Department unless a sufficient petition for an administrative hearing is timely filed under sections 120.569 and 120.57 of the Florida Statutes as provided below. If a sufficient petition for an administrative hearing is timely filed, this action automatically becomes only proposed agency action on the application, subject to the result of the administrative review process. Therefore, on the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because an administrative hearing may result in the reversal or substantial modification of this action, the applicant is advised not to commence construction or other activities until the deadlines noted below for filing a petition for an administrative hearing or request for an extension of time have expired.

Mediation is not available

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received by the clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

Permittee: Florida Power & Light
Project: FPL PSL East Parking Lot

Permit No : SI 56-0041384-005

Under rule 62-110.106(4) of the Florida Administrative Code, a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon. If a request is filed late, the Department may still grant it upon a motion by the requesting party showing that the failure to file a request for an extension of time before the deadline was the result of excusable neglect.

If a timely and sufficient petition for an administrative hearing is filed, other persons whose substantial interests will be affected by the outcome of the administrative process have the right to petition to intervene in the proceeding. Intervention will be permitted only at the discretion of the presiding officer upon the filing of a motion in compliance with rule 28-106.205 of the Florida Administrative Code.

In accordance with rules 28-106.111(2) and 62-110.106(3)(a)(4), petitions for an administrative hearing by the applicant must be filed within 21 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first. Under section 120.60(3) of the Florida Statutes, however, any person who has asked the Department for notice of agency action may file a petition within 21 days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition for an administrative hearing within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 of the Florida Statutes.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action; and

Permittee: Florida Power & Light
Project: FPL PSL East Parking Lot

Permit No : SI 56-0041384-005

- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action

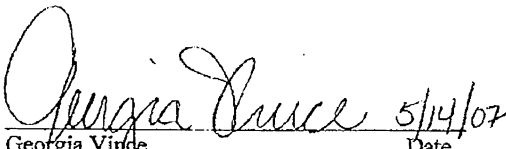
A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by rule 28-106.301.

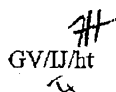
Under sections 120.569(2)(c) and (d) of the Florida Statutes, a petition for administrative hearing must be dismissed by the agency if the petition does not substantially comply with the above requirements or is untimely filed

This permit constitutes an order of the Department. Subject to the provisions of paragraph 120.68(7)(a) of the Florida Statutes, which may require a remand for an administrative hearing, the applicant has the right to seek judicial review of the order under section 120.68 of the Florida Statutes, by the filing of a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the order is filed with the Clerk of the Department.

Executed in West Palm Beach, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


Georgia Vinje 5/14/07
Date
Program Administrator
Environmental Resources Program


GV/IJ/ht
Enclosures

cc: Joseph Rogers, FP& L Company - joseph_h_rogers@fpl.com
Gary Williams, P.E. - Crytal Engineering Construction - garywill@tampabay.rr.com
FDEP/PSL - Eric.Shea@dep.state.fl.us
Department of Community Affairs - Terry.Stoutamire@dca.state.fl.us
St. Lucie County Growth Management
South Florida Water Management District - smcnabb@sfwmd.gov

Permittee: Florida Power & Light
Project: FPL PSL East Parking Lot

Permit No : SI 56-0041384-005

CERTIFICATE OF SERVICE

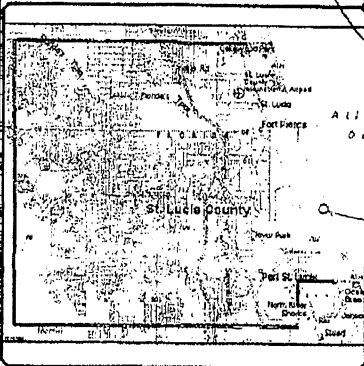
The undersigned duly designated deputy clerk hereby certifies that this permit and all copies were mailed to
the above listed persons before the close of business on MAY 15 2007

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to 120 52(11),
Florida Statutes, with the designated Department Clerk,
receipt of which is hereby acknowledged

Rachel Osborne 5/15/07
Clerk Date

NOI 10 SCALE



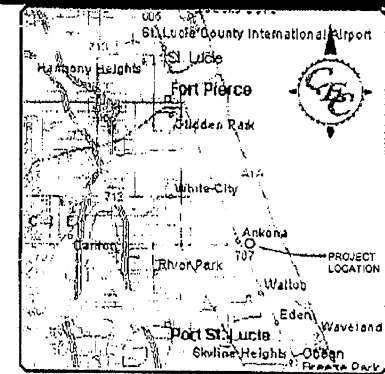
NOT TO SCALE

FOR

By: Huy Tran

FLORIDA POWER & LIGHT Co.
Project: FPL - East Parking Lot
PSI, Power Plant
P.O. BOX 14000
File No: ST 56-0041387-005
JUNO BEACH, FLORIDA 33408-0420

SHEET INDEX	
COVER	
2	SYNOPSIS
3	SITE AND DIMENSION PLAN



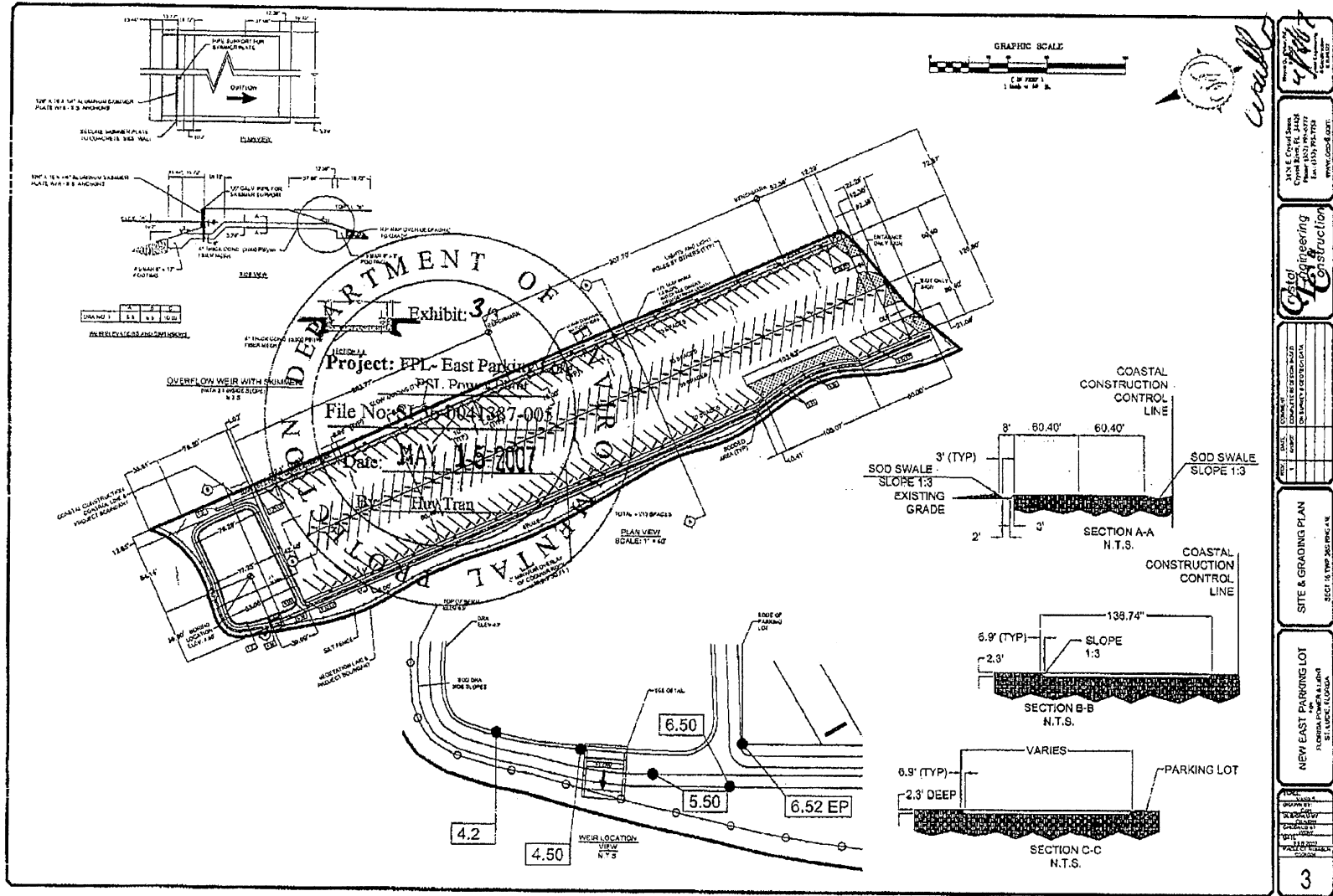
NOT TO SCALE

SECT 16, TWP 35S, RNG 41E
STATE: FLORIDA
COUNTY: ST. LUCIE
CITY: JENSEN BEACH
LEGAL DESCRIPTION:
ALTERNATE KEY #:
SITE ADDRESS: 9501 OCEAN DRIVE

WATER - NA
SEWER - NA
ELECTRIC - NA
PHONE - NA
UTILITY LOCATING SERVICE 1-800-432-4770
(SUNSHINE STATE, ONE CALL of FLORIDA, Inc.)

MAILING ADDRESS: FLORIDA POWER & LIGHT
ST. LUCIE POWER PLANT
6501 S. OCEAN DR.
JENSEN BEACH, FLORIDA 34957

Crystal Engineering & Construction
34 N.W. Crystal Street
Crystal River, Florida 34486
Phone: 352.783.8777
Fax: 352.786.7768





Permit Review Checklist

(a summary of the required monitoring and reporting activities for your project)

Pre-Construction Requirements

Activity	Date Due	Date Completed
☐ Contact DEP to schedule pre-construction meeting	Prior to construction	_____
☐ Submit Pre-Construction Notice Form to DEP	48 Hrs. Before Construction	_____
☐ Temporary Erosion Control structures in place	Prior to construction	_____

Construction Requirements

Activity	Date Due	Date Completed
☐ Permit with all attachments kept at the work site	Permit shall be available on-site for DEP inspector at all times	_____
☐ Permanent Erosion Control Structures in place	Structures should be inspected daily	_____
☐ Annual Status Report submitted	Following June of each year until complete	_____
☐ Report changes to permitted drawings / plans / activities	Contact DEP before any changes	_____
☐ Turbidity Monitoring Reports drawings / plans / activities	Submitted Weekly once construction begins	_____

Post-Construction Requirements

Activity	Date Due	Date Completed
☐ Completion and Certification (As Built) Form signed & sealed by P.E. and sent to DEP	30 Days after Construction	_____
☐ Permit Transfer Form submitted to DEP	Within 30 Days Sale of property (if property sold)	_____

For the above criteria that require you to contact DEP -- you should contact the Southeast District Office, Environmental Resources Permitting Section, Compliance and Enforcement, 400 N Congress Avenue, Suite 200, West Palm Beach, FL 33401, Attention: Richard Stalker Phone: 561-681-6643, Fax: 561-681-6780.

PLEASE NOTE:

As the property owner/permittee, you are ultimately responsible for ensuring that the required conditions of your permit are complied with and timely reported to the Department. Please ensure that any designated contractors or agents acting on your behalf are familiar with these requirements.

Form #62-343.900(3), F.A.C.
Form Title: Construction
Commencement
Notice
Date: October 3, 1995

ENVIRONMENTAL RESOURCE PERMIT
Construction Commencement Notice

PROJECT: _____ PHASE: _____

I hereby notify the Department of Environmental Protection that the construction of the surface water management system authorized by Environmental Resource Permit No. _____ has commenced / is expected to commence on _____ 200__, and will require a duration of approximately _____ months _____ weeks _____ days to complete. It is understood that should the construction term extend beyond one year, I am obligated to submit the Annual Status Report for Surface Water Management System Construction.

PLEASE NOTE: If the actual construction commencement date is not known, Department staff should be so notified in writing in order to satisfy permit conditions.

Permittee or
Authorized Agent

Title and Company

Date

Phone

Address

Send to:

Richard Stalker
Florida DEP
400 N. Congress Ave., Suite 200
West Palm Beach, FL 33401
Fax: 561/681-6780

Form # 62-343.900(4), F.A.C.
Form Title: Annual Status Report
Date: October 3, 1995

ENVIRONMENTAL RESOURCE PERMIT ANNUAL STATUS REPORT FORM

Florida Department of Environmental Protection

Send to:

Richard Stalker
Florida DEP
400 N. Congress Ave., Suite 200
West Palm Beach, FL 33401
Fax: 561/681-6780

Permit No. _____

County: _____

Project Name: _____

Phase: _____

The following activity has occurred at the above referenced project during the past year, between
June 1, 200____ and May 30, 200____.

Permit Condition / Activity	% of Completion	Date of anticipated Completion	Date of Completion
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Use Additional Sheets As Necessary)

Benchmark Description (one per major control structure): _____

Print Name _____

Phone _____

Permittee's or Authorized
Agent's Signature _____

Title and Company _____

Date _____

This form shall be submitted to the above referenced Department Office during June of each year for
activities whose duration of construction exceeds one year.

Form #62-343-900(5), F.A.C.
Form Title: As-Built Certification
by a Registered Professional
Date: October 3, 1995

ENVIRONMENTAL RESOURCE PERMIT
AS-BUILT CERTIFICATION BY A REGISTERED PROFESSIONAL

Permit Number: _____

Project Name: _____

I hereby certify that all components of this surface water management system have been built substantially in accordance with the approved plans and specifications and are ready for inspection. Any substantial deviations (noted below) from the approved plans and specifications will not prevent the system from functioning as designed when properly maintained and operated. These determinations are based upon on-site observation of the system conducted by me or by my designee under my direct supervision and/or my review of as-built plans certified by a registered professional or other appropriate individual as authorized by law.

Name (please print)

Signature of Professional

Company Name

Florida Registration Number

Company Address

Date

City, State, Zip Code

Telephone Number

(Affix Seal)

Substantial deviations from the approved plans and specifications:

(Note: attach two copies of as-built plans when there are substantial deviations)

Within 30 days of completion of the system, submit two copies of the form to:

Send to:

Richard Stalker
Florida DEP
400 N Congress Ave., Suite 200
West Palm Beach, FL 33401

Form # 62-343.900(6), F.A.C. Form
Title: Inspection Certification
Date: October 3, 1995

ENVIRONMENTAL RESOURCE PERMIT INSPECTION CERTIFICATION

Permit Number: _____
Project Name: _____

Inspection Date(s): _____
Inspection Results: (check one)

____ I hereby certify that I or my designee under my direct supervision have inspected the system at the above referenced project and that the system appears to be functioning in accordance with the requirements of the permit and Chapter 373 F.S. (as applicable)

____ The following necessary maintenance was conducted:

____ I hereby certify that I or my designee under my direct supervision has inspected the system at the above referenced project and that the system does not appear to be functioning in accordance with the requirements of the permit and Chapter 373 F.S. (as applicable). I have informed the operation and maintenance entity of the following: (a) that the system does not appear to be functioning properly, (b) that maintenance is required to bring the system into compliance, and (c) if maintenance measures are not adequate to bring the system into compliance, the system may have to be replaced or an alternative design constructed subsequent to Department approval

____ Name (please print)

____ Signature of Professional Engineer

____ Company Name

____ Florida Registration Number

____ Company Address

____ Date

____ City, State, Zip Code

____ Telephone Number

(Affix Seal)

Within 30 days of completion of the inspection, submit two copies of this form to the following Department Office:

Department of Environmental Protection

REQUEST FOR TRANSFER OF ENVIRONMENTAL RESOURCE PERMIT CONSTRUCTION PHASE TO OPERATION PHASE

(To be completed and submitted by the operating entity)

Florida Department of Environmental Protection

Send to:
Richard Stalker
Florida DEP
400 N. Congress Ave., Suite 200
West Palm Beach, FL 33401
Fax: 561/681-6780

It is requested that Department Permit No. _____ authorizing the construction and operation of a surface water management system for the below mentioned project be transferred from the construction phase permittee to the operation phase operating entity

PROJECT:

FROM: Name:
Address:
City: _____ State:
Zipcode:

TO: Name:
Address:
City: _____ State:
Zipcode:

The surface water management facilities are hereby accepted for operation and maintenance in accordance with the engineers certification and as outlined in the restrictive covenants and articles of incorporation for the operating entity. Enclosed is a copy of the document transferring title of the operating entity for the common areas on which the surface water management system is located. Note that if the operating entity has not been previously approved, the applicant should contact the Department staff prior to filing for a permit transfer.

The undersigned hereby agrees that all terms and conditions of the permit and subsequent modifications, if any, have been reviewed, are understood and are hereby accepted. Any proposed modifications shall be applied for and obtained prior to such modification.

Operating Entity

Name _____ Title _____

Telephone _____

Enclosure:

- () Copy of recorded transfer of title surface water management system
- () Copy of plat(s)
- () Copy of recorded restrictive covenants, articles of incorporation, and certificate of incorporation

APPLICATION FOR TRANSFER OF ENVIRONMENTAL RESOURCE PERMIT AND NOTIFICATION
OF SALE OF A FACILITY OR SURFACE WATER MANAGEMENT SYSTEM

Permit No _____ Date Issued _____ Date Expires _____

FROM (Name of Current Permit Holder) _____

Mailing Address _____

City _____ State _____ Zip Code _____

Telephone: (____) _____

Identification or Name of Facility/Surface Water Management System: _____

Phase of Facility/Surface Water Management System (if applicable): _____

The undersigned hereby notifies the Department of the sale or legal transfer of this facility, or surface-water management system, and further agrees to assign all rights and obligations as permittee to the applicant in the event the Department agrees to the transfer of permit

Signature of the current permittee: _____

Title (if any): _____ Date: _____

TO (Name of Proposed Permit Transferee): _____

Mailing Address _____

City _____ State _____ Zip Code _____

Telephone: (____) _____

The undersigned hereby notifies the Department of having acquired the title to this facility, or surface-water management system. The undersigned also states he or she has examined the application and documents submitted by the current permittee, the basis of which the permit was issued by the Department, and states they accurately and completely describe the permitted activity or project. The undersigned further attests to being familiar with the permit, agrees to comply with its terms and with its conditions, and agrees to assume the rights and liabilities contained in the permit. The undersigned also agrees to promptly notify the Department of any future changes in ownership of, or responsibility for, the permitted activity or project

Signature of the applicant (Transferee): _____

Title (if any): _____ Date: _____

Project Engineer Name (if applicable) _____

Mailing Address _____

City _____ State _____ Zip Code _____

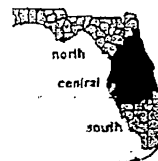
Telephone: (____) _____

Florida Exotic Pest Plant Council's 2003 List of Invasive Species

Definitions: Exotic--a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida. Native--a species whose natural range included Florida at the time of European contact (1500 AD). Naturalized exotic--an exotic that sustains itself outside cultivation (it is still exotic; it has not "become" native). Invasive exotic--an exotic that not only has naturalized but is expanding on its own in Florida plant communities.

Abbreviations used:

for "Gov. list": P = Prohibited by Fla. Dept. of Environmental Protection, N = Noxious weed listed by Fla. Dept. of Agriculture & Consumer Services, U = Noxious weed listed by U.S. Department of Agriculture for "Reg. Dis."; N = north, C = central, S = south, referring to each species' current distribution in general regions of Florida (not its potential range in the state). See map.



Category I - Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.

Scientific Name	Common Name	EPPC Cat.	Gov. List	Reg. Dist.
<i>Abrus precatorius</i>	rosary pea	I		C, S
<i>Acacia auriculiformis</i>	earleaf acacia	I		S
<i>Albizia julibrissin</i>	mimosa, silk tree	I		N, C
<i>Albizia lebbbeck</i>	woman's tongue	I		C, S
<i>Ardisia crenata</i> (= <i>A. crenulata</i>)	coral ardisia	I		N, C
<i>Ardisia elliptica</i> (= <i>A. humilis</i>)	shoebutton ardisia	I		S
<i>Asparagus densiflorus</i>	asparagus-fern	I		C, S
<i>Bauhinia variegata</i>	orchid tree	I		C, S
<i>Bischofia javanica</i>	bischofia	I		C, S
<i>Calophyllum antillanum</i> (= <i>C. calaba</i> ; <i>C. inophyllum</i> misapplied)	santa maria (names "mast wood," "Alexandrian laurel" used in cultivation)	I		S
<i>Casuarina equisetifolia</i>	Australian pine	I	P	N, C, S
<i>Casuarina glauca</i>	suckering Australian pine	I	P	C, S
<i>Cinnamomum camphora</i>	camphor-tree	I		N, C, S
<i>Colocasia esculenta</i>	wild taro	I		N, C, S
<i>Colubrina asiatica</i>	lather leaf	I		S
<i>Cupaniopsis anacardioides</i>	carrotwood	I	N	C, S
<i>Dioscorea alata</i>	winged yam	I	N	N, C, S
<i>Dioscorea bulbifera</i>	air-potato	I	N	N, C, S
<i>Sichhornia crassipes</i>	water-hyacinth	I	P	N, C, S
<i>Eugenia uniflora</i>	Surinam cherry	I		C, S

Scientific Name	Common Name	EPPC Cat.	Gov. List	Reg. Dist.
<i>Ficus microcarpa</i> (<i>F. nitida</i> and <i>F. retusa</i> var. <i>nitida</i> misapplied)	laurel fig	I		C, S
<i>Hydrilla verticillata</i>	hydrilla	I	P, U	N, C, S
<i>Hygrophila polysperma</i>	green hygro	I	P, U	N, C, S
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass	I		C, S
<i>Imperata cylindrica</i> (<i>I. brasiliensis</i> misapplied)	cogon grass	I	N, U	N, C, S
<i>Ipomoea aquatica</i>	waterspinach	I	P, U	C
<i>Jasminum dichotomum</i>	Gold Coast jasmine	I		C, S
<i>Jasminum fluminense</i>	Brazilian jasmine	I		C, S
<i>Lantana camara</i>	lantana, shrub verbena	I		N, C, S
<i>Ligustrum lucidum</i>	glossy privet	I		N, C
<i>Ligustrum sinense</i>	Chinese privet, hedge privet	I		N, C, S
<i>Lonicera japonica</i>	Japanese honeysuckle	I		N, C, S
<i>Lygodium japonicum</i>	Japanese climbing fern	I	N	N, C, S
<i>Lygodium microphyllum</i>	Old World climbing fern	I	N	C, S
<i>Macfadyena unguis-cati</i>	cat's claw vine	I		N, C, S
<i>Manilkara zapota</i>	sapodilla	I		S
<i>Melaleuca quinquenervia</i>	melaleuca, paper bark	I	P, N, U	C, S
<i>Melia azedarach</i>	Chinaberry	I		N, C, S
<i>Mimosa pigra</i>	catclaw mimosa	I	P, N, U	C, S
<i>Nandina domestica</i>	nandina, heavenly bamboo	I		N

Scientific Name	Common Name	EPPC Cat.	Gov List	Reg Dist.
<i>Nephrolepis cordifolia</i>	sword fern	I		N, C, S
<i>Nephrolepis multiflora</i>	Asian sword fern	I		C, S
<i>Neyraudia reynaudiana</i>	Burma reed; cane grass	I	N	S
<i>Paederia cruddasiana</i>	sewer vine, onion vine	I	N	S
<i>Paederia foetida</i>	skunk vine	I	N	N, C, S
<i>Panicum repens</i>	torpedo grass	I		N, C, S
<i>Pennisetum purpureum</i>	Napier grass	I		C, S
<i>Pistia stratiotes</i>	waterlettuce	I	P	N, C, S
<i>Psidium cattleianum</i> (=P. littorale)	strawberry guava	I		C, S
<i>Psidium guajava</i>	guava	I		C, S
<i>Pueraria montana</i> (=P. lobata)	kudzu	I	N, U	N, C, S
<i>Rhodomyrtus tomentosa</i>	downy rose-myrtle	I	N	C, S
<i>Rhoeo spathacea</i> (see <i>Tradescantia spathacea</i>)				
<i>Ruellia brittoniana</i> (may also be referred to <i>R. tweediana</i>)	Mexican petunia	I		N, C, S
<i>Sapium sebiferum</i>	popcorn tree, Chinese tallow tree	I	N	N, C, S
<i>Scaevola sericea</i> (=Scaevola taccada var. sericea, S. frutescens)	scaevola, half-flower, beach naupaka	I		C, S
<i>Schefflera actinophylla</i> (=Brassata actinophylla)	schefflera, Queensland umbrella tree	I		C, S

Scientific Name	Common Name	EPPC Cat.	Gov List	Reg Dist.
<i>Schinus terebinthifolius</i>	Brazilian pepper	I	P, N	N, C, S
<i>Senna pendula</i> (=Cassia coluteoides)	climbing cassia, Christmas cassia, Christmas senna	I		C, S
<i>Solanum tampicense</i> (=S. houstonii)	wetland night shade, aquatic soda apple	I	N, U	C, S
<i>Solanum viarum</i>	tropical soda apple	I	N, U	N, C, S
<i>Syngonium podophyllum</i>	arrowhead vine	I		C, S
<i>Syzygium cumini</i>	jambolan, Java plum	I		C, S
<i>Tectaria incisa</i>	incised halberd fern	I		S
<i>Thespesia populnea</i>	seaside mahoe	I		C, S
<i>Tradescantia fluminensis</i>	white flowered wandering jew	I		N, C
<i>Tradescantia spathacea</i> (=Rhoeo spathacea, Rhoeo discolor)	oyster plant	I		S
<i>Urochloa mutica</i> (=Brachiaria mutica)	Pará grass	I		C, S

APPENDIX 10.4.2.4

ERP #56-0041384-006



Florida Department of Environmental Protection

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

Port St. Lucie Branch Office
1801 SE Hillmoor Drive
Suite C-204
Port St. Lucie, FL 34952
(772)398-2806 Fax (772)398-2815

SEP 25 2007

VIA DHL: 73515220542

Florida Power and Light
c/o Gordon L. Johnston
6501 South A1A
Jensen Beach, FL 34957

Dear Mr. Gordon:

Enclosed is Environmental Resource Permit No 56-0041384-006 issued pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.).

Appeal rights for you as the permittee and for any affected third party are described in the text of the permit along with conditions which must be met when permitted activities are undertaken. Please review this document carefully to ensure compliance with both the general and specific conditions contained herein. As the permittee, you are responsible for compliance with these conditions. **Please ensure all construction personnel associated with your activity review and understand the approved drawings and conditions.** Failure to comply with this permit may result in liability for damages and restoration, and the imposition of civil penalties up to \$10,000.00 per violation per day pursuant to Sections 403.141 and 403.161, F.S.

In addition, please ensure the construction commencement notice and all other reporting conditions are forwarded to the appropriate office as indicated in the specific conditions.

If you have any questions about this document, please contact me at 772/398-2806 or at eric.shea@dep.state.fl.us.

Sincerely,

Eric M. Shea
Environmental Supervisor
Submerged Lands & Environmental Resources Program



Permit Review Checklist

(a summary of the required monitoring and reporting activities for your project)

Pre-Construction Requirements

Activity	Date Due	Date Completed
☐ Contact DEP to schedule pre-construction meeting	Prior to construction	_____
☐ Submit Pre-Construction Notice Form to DEP.	48 Hrs. Before Construction	_____
☐ Temporary Erosion Control structures in place	Prior to construction	_____

Construction Requirements

Activity	Date Due	Date Completed
☐ Permit with all attachments kept at the work site	Permit shall be available on-site for DEP inspector at all times	_____
☐ Permanent Erosion Control Structures in place	Structures should be inspected daily	_____
☐ Annual Status Report submitted	Following June of each year until complete	_____
☐ Weekly Turbidity Monitoring Reports	Submitted weekly	_____
☐ Report changes to permitted drawings / plans / activities	Contact DEP before any changes	_____

Post-Construction Requirements

Activity	Date Due	Date Completed
☐ Completion and Certification (As-Built) Form signed & sealed by P.E. and sent to DEP	30 Days after Construction	_____
☐ Permit Transfer Form submitted to DEP	Within 30 Days Sale of property (if property sold)	_____

For the above criteria that require you to contact DEP – you should contact the Southeast District Branch Office, Environmental Resources Permitting Section, Compliance and Enforcement, 1801 SE Hillmoor Drive, Suite C-204, Port Saint Lucie, FL 34952, Attention: Eric Shea. Phone: 772-398-2806, Fax: 772-398-2815.

PLEASE NOTE:

As the property owner/permittee, you are ultimately responsible for ensuring that the required conditions of your permit are complied with and timely reported to the Department. Please ensure that any designated contractors or agents acting on your behalf are familiar with these requirements.



Florida Department of Environmental Protection

Port St. Lucie Branch Office
1801 SE Hillmoor Drive
Suite C-204

Port St. Lucie, FL 34952
(772)398-2806 Fax (772)398-2815

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Governor

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Lt. Governor

Michael W. Sole
Secretary

CONSOLIDATED ENVIRONMENTAL RESOURCE PERMIT AND SOVEREIGN SUBMERGED LANDS AUTHORIZATION

PERMITTEE/AUTHORIZED ENTITY:

Florida Power and Light
c/o Gordon L. Johnston
6501 South A1A
Jensen Beach, FL 34957

Permit/Authorization No.: 56-0041384-006

Date of Issue: September 25, 2007

Expiration Date: September 25, 2012

County: St. Lucie

Project: Intake Pipe Maintenance

This permit is issued under the authority of Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.). The activity is not exempt from the requirement to obtain an Environmental Resource Permit. Pursuant to Operating Agreements executed between the Department and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity.

ACTIVITY DESCRIPTION:

The purpose of the project is to remove approximately 1,150 cubic yards (total) of material from three individual offshore intake pipes that supply cooling water to the St. Lucie power plant facility. Debris and organic material has accumulated within the pipes limiting intake flow to the facility. Spoil material removed from the intake pipes will be deposited in scour areas adjacent to the velocity caps. The 12 linear scour areas adjacent to the velocity caps are approximately 65-feet long by 15-feet wide and between 20-feet to 28-feet deep. By removing debris and organic material from the intake pipes, flow should be increased to the facility and sea turtle mortality may decrease.

Prior to commencement of work, all necessary precautions and best management practices will be employed to ensure that any turbidity resulting from the project does not exceed 29 NTUs above ambient levels. A minimal flow will be maintained through the pipes to the canal to keep suspended material from exiting the velocity caps into surface waters. No impact to benthic resources on the exterior of the velocity caps is authorized under this permit.

ACTIVITY LOCATION:

The project is located in the Atlantic Ocean, Class III Waters of the State, adjacent to the shoreline east of the Hutchinson Island Nuclear Power Plant, (Section 16, Township 36 South, Range 41 East), in St. Lucie County (Latitude 27° 20' 52" N, Longitude 80° 14' 00" W)

This permit also constitutes a finding of consistency with Florida's Coastal Management Program, as required by Section 307 of the Coastal Zone Management Act.

This permit also constitutes certification of compliance with water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341.

As staff to the Board of Trustees, the Department has reviewed the activity as described above, and has determined that there is no objection to the project being constructed on sovereign submerged lands as long as the work performed is located within the boundaries of BOT Easement # 26211(3177-56) as described herein, and is

Permittee: FPL - St. Lucie Power Plant
File No.: 56-0041384-006
Page 2

consistent with the terms and conditions herein. Therefore, consider this to also constitute the authority sought under section 253.77, F.S., to perform the activity on the specified sovereign submerged lands

Federal authorization for the proposed project is reviewed by DEP pursuant to an agreement between the Department and the U.S. Army Corps of Engineers (Corps). The agreement is outlined in a document titled *Coordination Agreement Between the U.S. Army Corps of Engineers and the Florida Department of Environmental Protection State Programmatic General Permit, Section 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act*.

Your project has been reviewed for compliance with a State Programmatic General Permit (SPGP). As shown on the attached drawings, the proposed project is **not** consistent with the SPGP program. A copy of your application has been sent to the Corps who may require a separate permit. Failure to obtain their authorization prior to construction could subject you to enforcement action. For further information, contact the Corps directly at 561/472-3505.

You are hereby advised that authorizations also may be required by other federal, state, and local entities. This authorization does not relieve you from the requirements to obtain all other required permits and authorizations.

The above named permittee is hereby authorized to construct the work shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof. This permit and authorization to use sovereign submerged lands is subject to the limits, conditions, and locations of work shown in the attached drawings, and is also subject to the attached 19 General Conditions, 9 General Consent Conditions, and 8 Specific Conditions, which are a binding part of this permit and authorization. You are advised to read and understand these drawings and conditions prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these drawings and conditions prior to commencing the authorized activities. Failure to comply with all drawings and conditions shall constitute grounds for revocation of the permit and appropriate enforcement action.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and with the general and specific conditions of this permit/certification/authorization, as specifically described below.

GENERAL CONDITIONS:

- (1) All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.
- (2) This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by the Department staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
- (3) Activities approved by this permit shall be conducted in a manner which does not cause violations of state water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of state water quality standards. Temporary erosion control shall be implemented prior to and during construction and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the

Permittee: FPL - St. Lucie Power Plant
File No : 56-0041384-006
Page 3

permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

(4) The permittee shall notify the Department of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the Department an "Environmental Resource Permit Construction Commencement" notice (Form No. 62-343.900(3), F.A.C.) indicating the actual start date and the expected completion date.

(5) When the duration of construction will exceed one year, the permittee shall submit construction status reports to the Department on an annual basis utilizing an "Annual Status Report Form" (Form No. 62-343.900(4), F.A.C.). Status Report Forms shall be submitted the following June of each year.

(6) Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the supplied "Environmental Resource Permit As-Built Certification by a Registered Professional" (Form No. 62-343.900(5), F.A.C.). The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the Department that the system is ready for inspection. Additionally, if deviation from the approved drawings is discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor.

(7) The operation phase of this permit shall not become effective until the permittee has complied with the requirements of condition (6) above, has submitted a "Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase" (Form No. 62-343.900(7), F.A.C.); the Department determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the Department in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the Department, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 62-343.110(1)(d), F.A.C., the permittee shall be liable for compliance with the terms of the permit.

(8) Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.

(9) For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the Department along with any other final operation and maintenance documents required by sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, prior to lot or unit sales or prior to the completion of the system, whichever occurs first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State where appropriate. For those systems which are proposed to be maintained by the county or municipal entities, final operation and maintenance documents must be received by the Department when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.

Permittee: FPL - St. Lucie Power Plant

File No : 56-0041384-006

Page 4

(10) Should any other regulatory agency require changes to the permitted system, the permittee shall notify the Department in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

(11) This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C.

(12) The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

(13) The permittee is advised that the rules of the South Florida Water Management District require the permittee to obtain a water use permit from the South Florida Water Management District prior to construction dewatering, unless the work qualifies for a general permit pursuant to subsection 40E-20.302(4), F.A.C., also known as the "No Notice" rule.

(14) The permittee shall hold and save the Department harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.

(15) Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.

(16) The permittee shall notify the Department in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of section 62-343.130, F.A.C. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

(17) Upon reasonable notice to the permittee, Department authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

(18) If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate Department office.

(19) The permittee shall immediately notify the Department in writing of any previously submitted information that is later discovered to be inaccurate.

GENERAL CONSENT CONDITIONS:

(1) Authorizations are valid only for the specified activity or use. Any unauthorized deviation from the specified activity or use and the conditions for undertaking that activity or use shall constitute a violation. Violation of the authorization shall result in suspension or revocation of the grantee's use of the sovereignty submerged land unless cured to the satisfaction of the Board.

(2) Authorizations convey no title to sovereignty submerged land or water column, nor do they constitute recognition or acknowledgment of any other person's title to such land or water.

(3) Authorizations may be modified, suspended or revoked in accordance with their terms or the remedies provided in Sections 253.04 and 258.46, F.S., or Chapter 18-14, F.A.C.

(4) Structures or activities shall be constructed and used to avoid or minimize adverse impacts to sovereignty submerged lands and resources.

Permittee: FPL - St. Lucie Power Plant

File No.: 56-0041384-006

Page 5

- (5) Construction, use, or operation of the structure or activity shall not adversely affect any species which is endangered, threatened or of special concern, as listed in Rules 68A-27.003, 68A-27.004, and 68A-27.005, F.A.C.
- (6) Structures or activities shall not unreasonably interfere with riparian rights. When a court of competent jurisdiction determines that riparian rights have been unlawfully affected, the structure or activity shall be modified in accordance with the court's decision.
- (7) Structures or activities shall not create a navigational hazard.
- (8) Structures shall be maintained in a functional condition and shall be repaired or removed if they become dilapidated to such an extent that they are no longer functional. This shall not be construed to prohibit the repair or replacement subject to the provisions of Rule 18-21.005, F.A.C., within one year, of a structure damaged in a discrete event such as a storm, flood, accident, or fire.
- (9) Structures or activities shall be constructed, operated, and maintained solely for water dependent purposes, or for non-water dependent activities authorized under paragraph 18-21.004(1)(f), F.A.C., or any other applicable law.

SPECIFIC CONDITIONS:

- (1) The project drawings, sheets 1 through 7; permit checklist, the 3-page Manatee Exhibit; and DEP forms 62.343.900 (3), (4), (5), and (7) are attached to and become part of this permit. A copy of this permit will be kept on site at all times until construction is complete.
- (2) If the approved permit drawings conflict with the specific conditions, then the specific conditions shall prevail.
- (3) The work authorized by this permit shall not be conducted on any property, other than that owned by the permittee, without the prior written approval of that property owner.
- (4) After selection of the contractor to perform the authorized activities and prior to the initiation of any work authorized by this permit, the permittee (or authorized agent) and the contractor shall attend a pre-construction conference with a representative of the Department. The permittee shall contact the Department in writing to schedule the conference. Department of Environmental Protection, Southeast District Office, Submerged Lands & Environmental Resources Program, Compliance/Enforcement Section, Attention: Eric Shea, 1801 SE Hillmoor Drive, Suite C-204, Port St. Lucie, FL 34952.
- (5) The permittee shall be responsible for ensuring that the permit conditions are explained to all construction personnel working on the project, and for providing each contractor and subcontractor with a copy of this permit before construction begins.
- (6) Best management practices shall be used at all times during the debris removal activities to minimize turbidity and to ensure that turbidity levels do not exceed the State water quality standard for turbidity in Class III marine waters (29 nephelometric turbidity units (NTUs) above background levels) described in Rule 62-302, F.A.C.
- (7) All debris shall be placed in the scour areas adjacent to the velocity caps. If the scour areas are not sufficient to contain all debris material at or below grade, the material shall be removed from state lands and deposited in an appropriate upland site.
- (8) The permittee shall comply with the standard manatee protection construction conditions listed in the attachment, "Standard Manatee Construction Conditions, 2005"

Permittee: FPL - St. Lucie Power Plant
File No.: 56-0041384-006
Page 6

RIGHTS OF AFFECTED PARTIES

This permit and consent to use sovereign submerged lands is (are) hereby granted. This action is final and effective on the date filed with the Clerk of the Department unless a sufficient petition for an administrative hearing is timely filed under sections 120.569 and 120.57 of the Florida Statutes as provided below. If a sufficient petition for an administrative hearing is timely filed, this action automatically becomes only proposed agency action on the application, subject to the result of the administrative review process. Therefore, on the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because an administrative hearing may result in the reversal or substantial modification of this action, the applicant is advised not to commence construction or other activities until the deadlines noted below for filing a petition for an administrative hearing or request for an extension of time have expired.

Mediation is not available.

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received by the clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

Under rule 62-110.106(4) of the Florida Administrative Code, a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon. If a request is filed late, the Department may still grant it upon a motion by the requesting party showing that the failure to file a request for an extension of time before the deadline was the result of excusable neglect.

If a timely and sufficient petition for an administrative hearing is filed, other persons whose substantial interests will be affected by the outcome of the administrative process have the right to petition to intervene in the proceeding. Intervention will be permitted only at the discretion of the presiding officer upon the filing of a motion in compliance with rule 28-106.205 of the Florida Administrative Code.

In accordance with rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. Under section 120.60(3) of the Florida Statutes, however, any person who has asked the Department for notice of agency action may file a petition within 14 days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition for an administrative hearing within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 of the Florida Statutes.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the

Permittee: FPL - St. Lucie Power Plant
File No.: 56-0041384-006
Page 7

- proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
 - (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
 - (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
 - (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action; and
 - (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

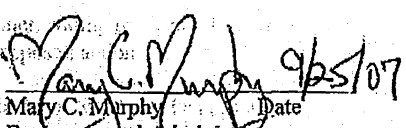
A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by rule 28-106.301.

Under sections 120.569(2)(c) and (d) of the Florida Statutes, a petition for administrative hearing must be dismissed by the agency if the petition does not substantially comply with the above requirements or is untimely filed.

This permit constitutes an order of the Department. Subject to the provisions of paragraph 120.68(7)(a) of the Florida Statutes, which may require a remand for an administrative hearing, the applicant has the right to seek judicial review of the order under section 120.68 of the Florida Statutes, by the filing of a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the order is filed with the Clerk of the Department.

Executed in Port St. Lucie, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


Mary C. Murphy Date
Environmental Administrator
Florida Department of Environmental Protection
Southeast District Branch Office

MCM/es

Copies furnished to:

USACOE -- Palm Beach Gardens, Tonina Mauge@usace.army.mil
FFWCC, Bureau of Imperiled Species Management, fcmppmail@myfwc.com [sea turtle impacts]
Vince Munne, FPL, 635 South Ocean Beach Drive, Jensen Beach, FL 34957 (agent) [without enclosures]

Permittee: FPL - St. Lucie Power Plant
File No.: 56-0041384-006
Page 8

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this permit and authorization to use sovereign submerged lands, including all copies, were mailed before the close of business on September 25, 2007 to the above listed persons.

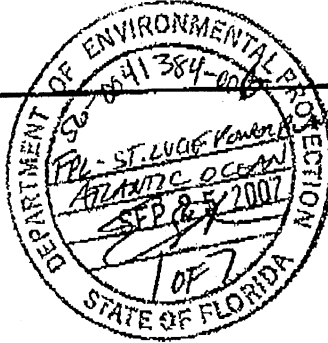
FILING AND ACKNOWLEDGMENT

FILED, on this date, under 120.52(7) of the Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

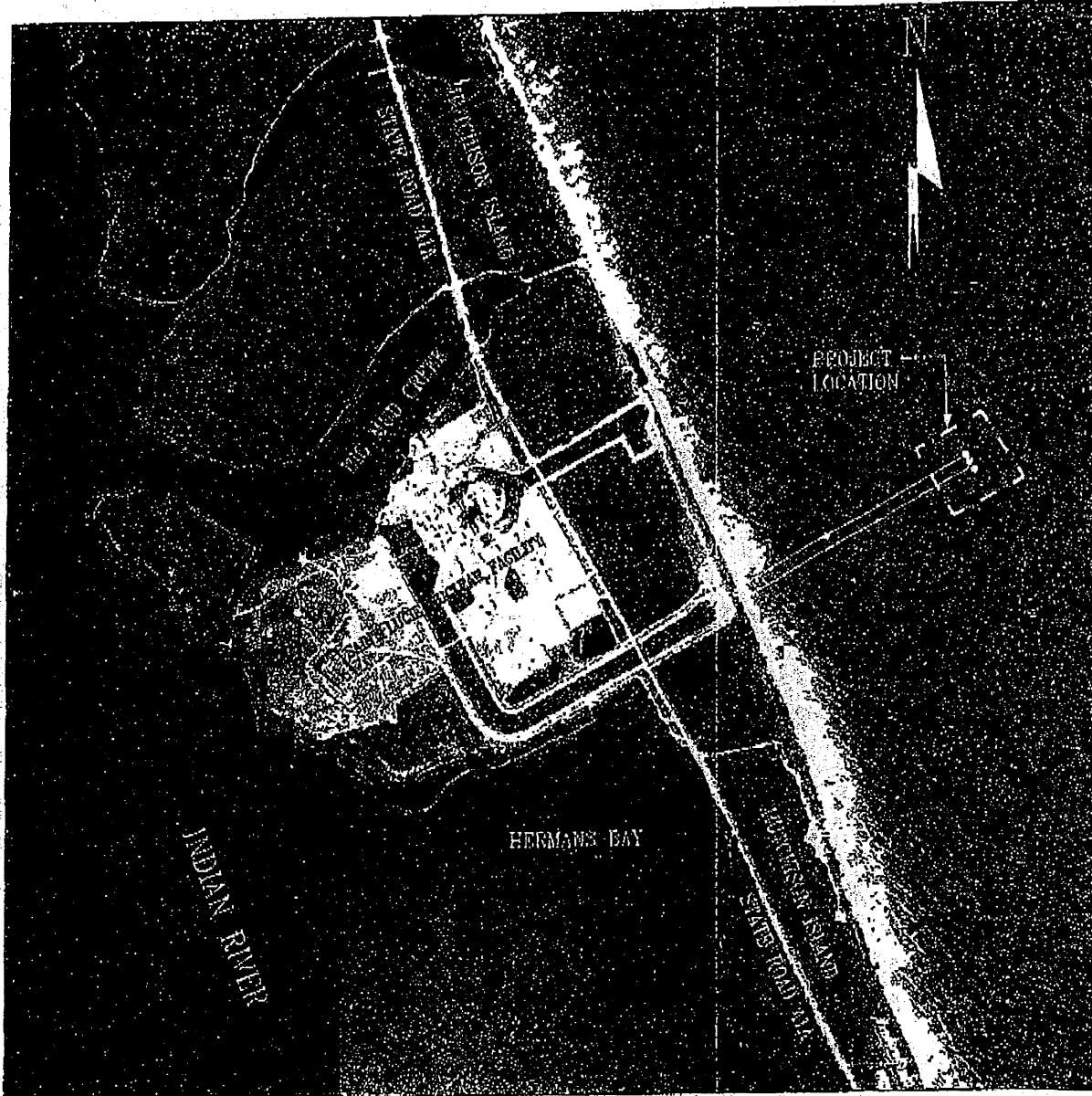
Carol A. Hunsicker 9/25/07
Clerk Date

Prepared by Eric Shea

15 pages attached

**FPL****RECEIVED**

SEP 19 2007

Dept. of Environ. Protection
Port St Lucie

ENGINEER		FLORIDA POWER & LIGHT COMPANY SAINT LUCIE NUCLEAR UNIT 1 & 2		SHEET 1 0
DW: ENG	DR: DWG	APPROVAL		
CH: EN				
DATE: 9-19-07				

RECEIVED

2007 AUG 14 P 10 23

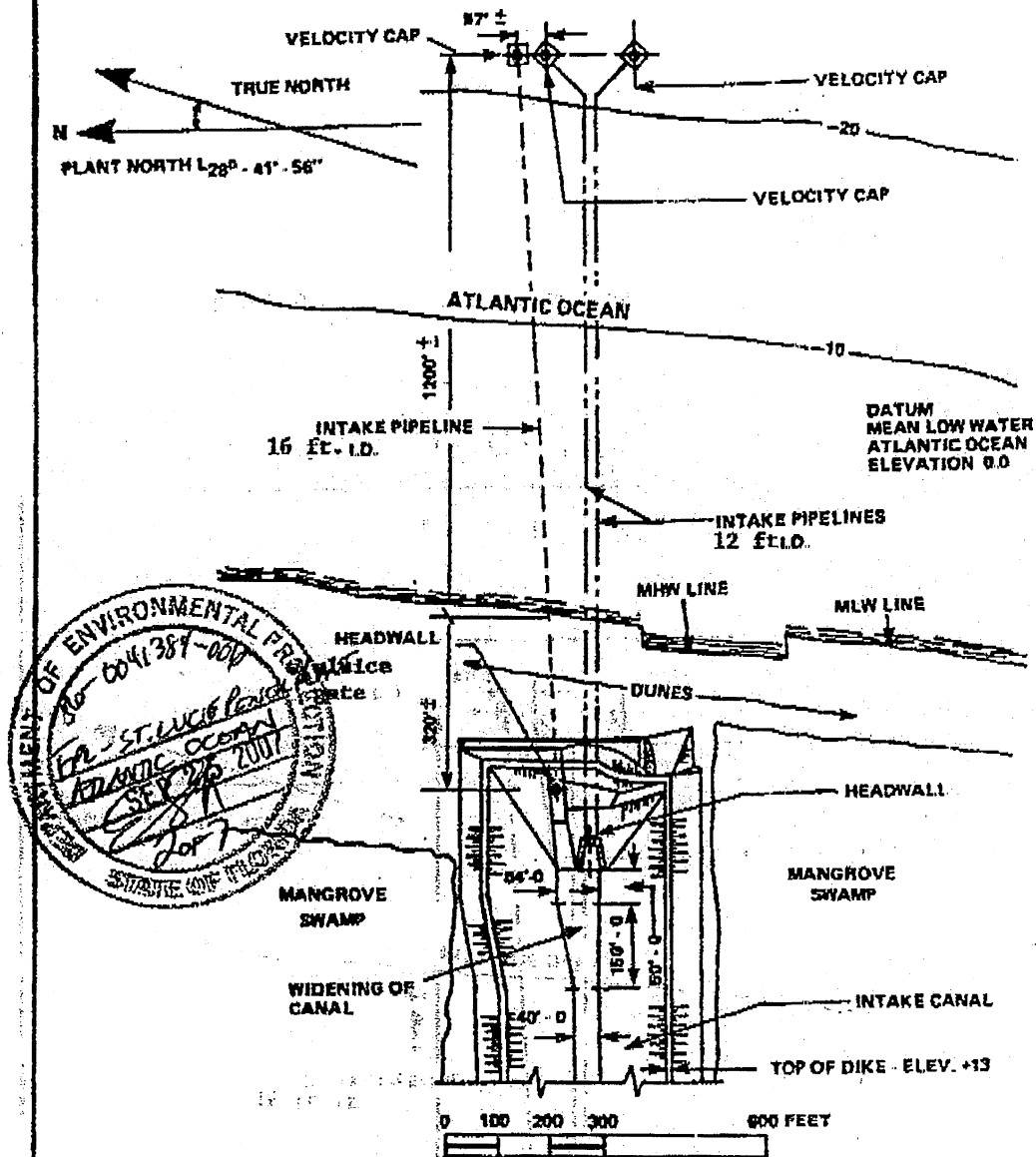
U.S. FISH AND WILDLIFE SERVICE
FEDERAL BUREAU OF INVESTIGATION

Fig. 2 PLAN OCEAN INTAKE PIPELINE

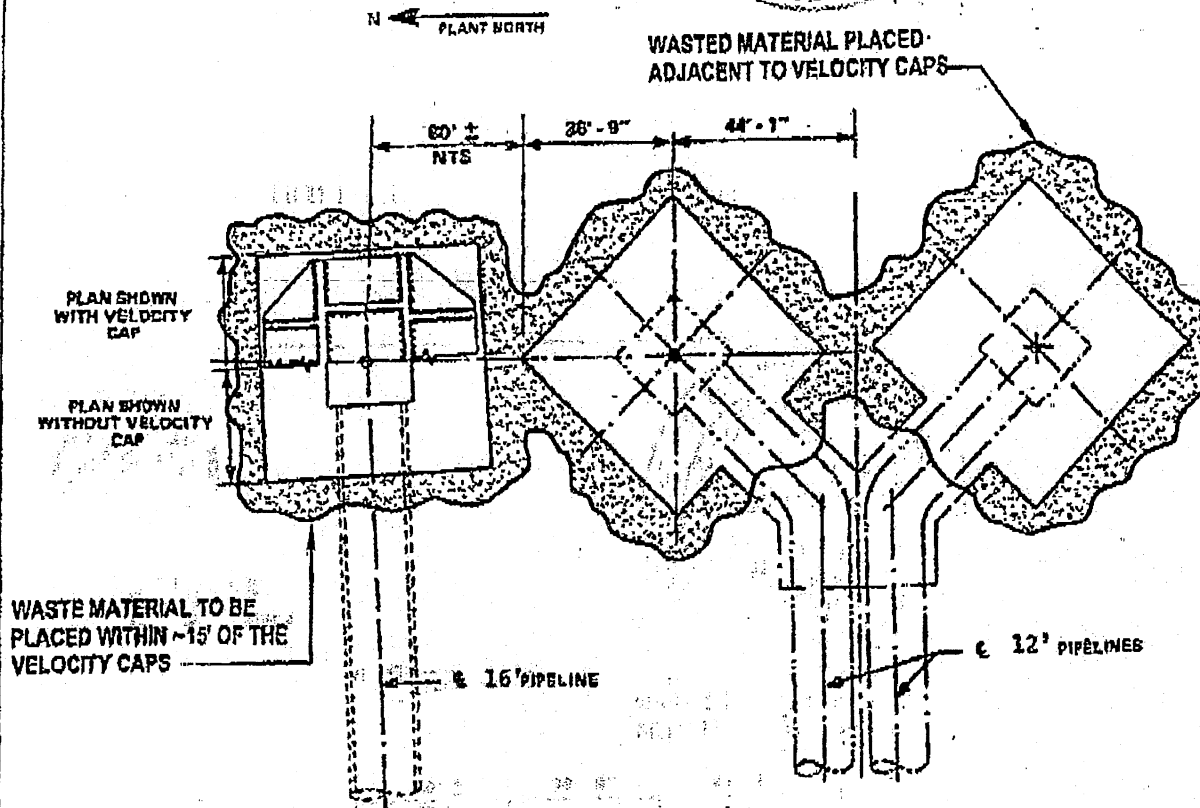
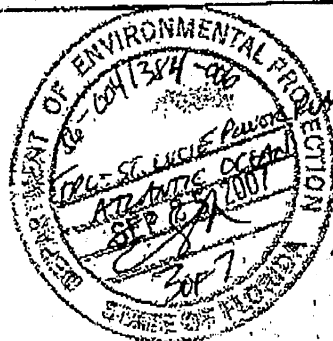


Fig. 3

PLAN - OFFSHORE VELOCITY CAPS

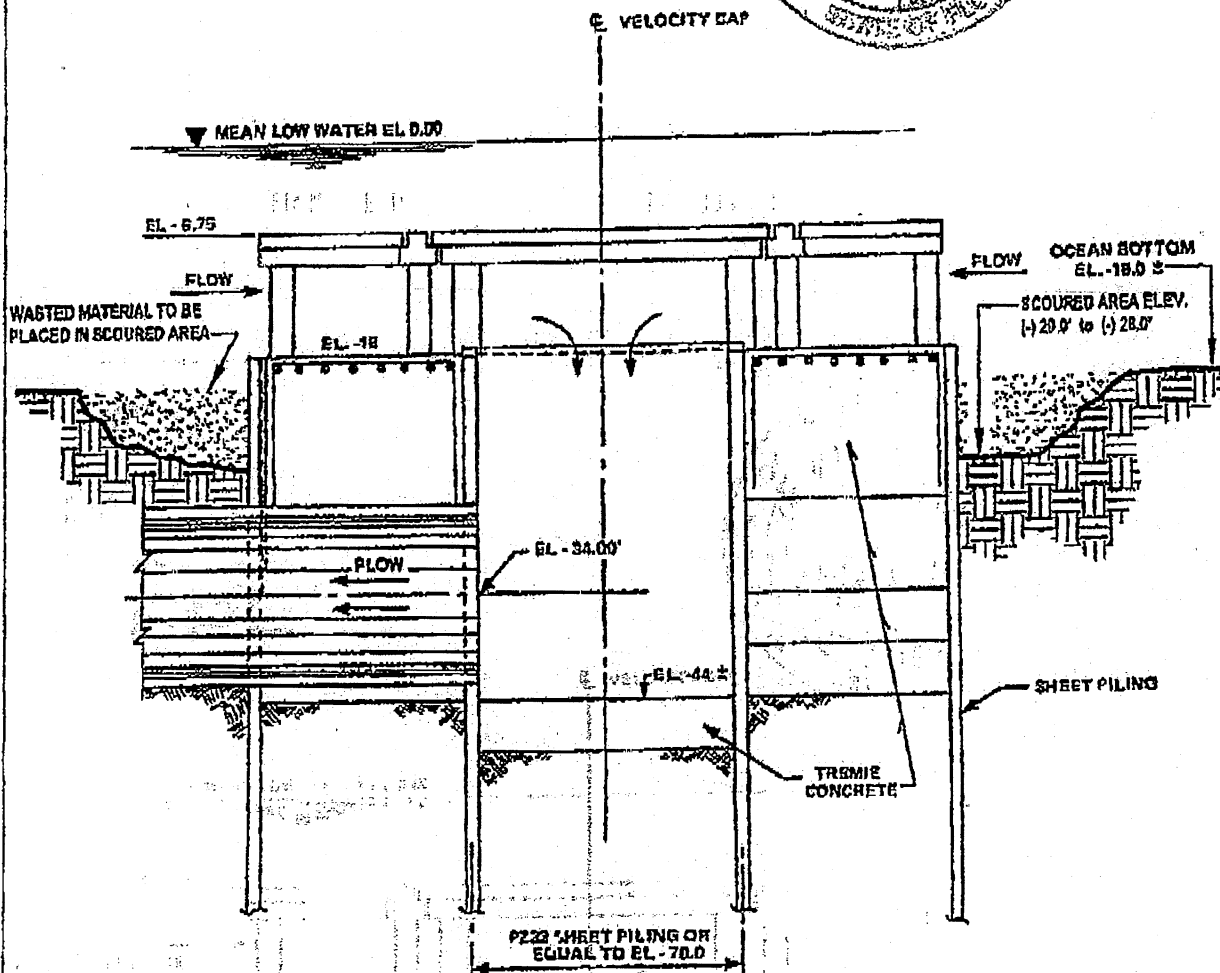
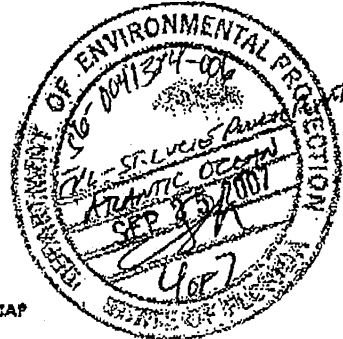
10 0 10 20 30 40 50 60 70 80 FEET

RECEIVED

SEP 13 2007

Dept. of Environ. Protection
Port St. Lucie

ENGINEER		FLORIDA POWER & LIGHT COMPANY SAINT LUCIE NUCLEAR UNIT 1 & 2		SHEET 2 0
DW: ENG	DR: DWC	APPROVAL		
CH: EH				
DATE: 9-19-07		PSL OCEAN INTAKE PIPING INSPECTION AND MAINTENANCE		

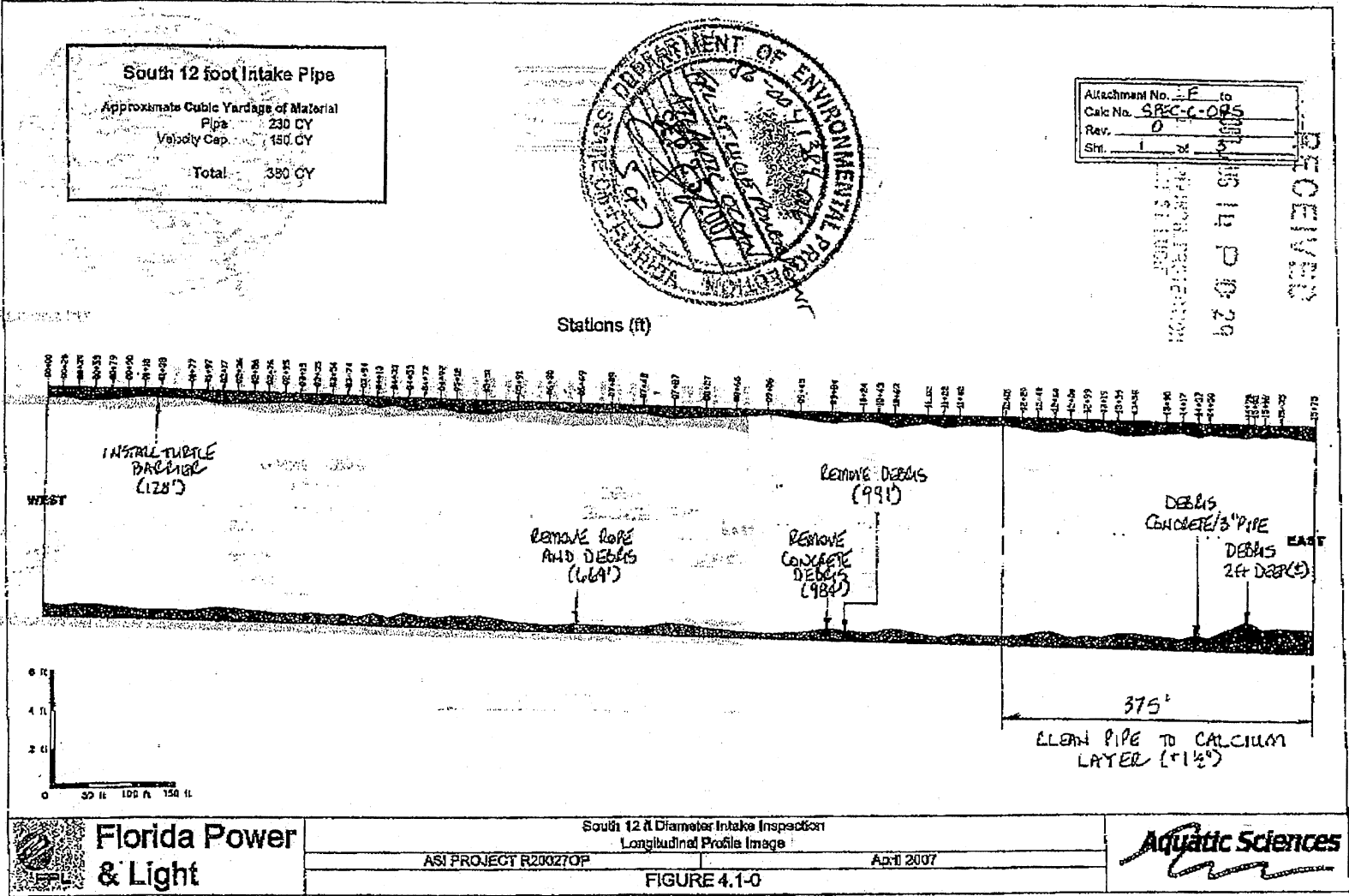

FPL

RECEIVED

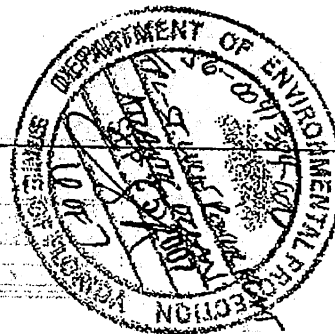
SEP 13 2007

 Dept. of Environ. Protection
 Port St. Lucie

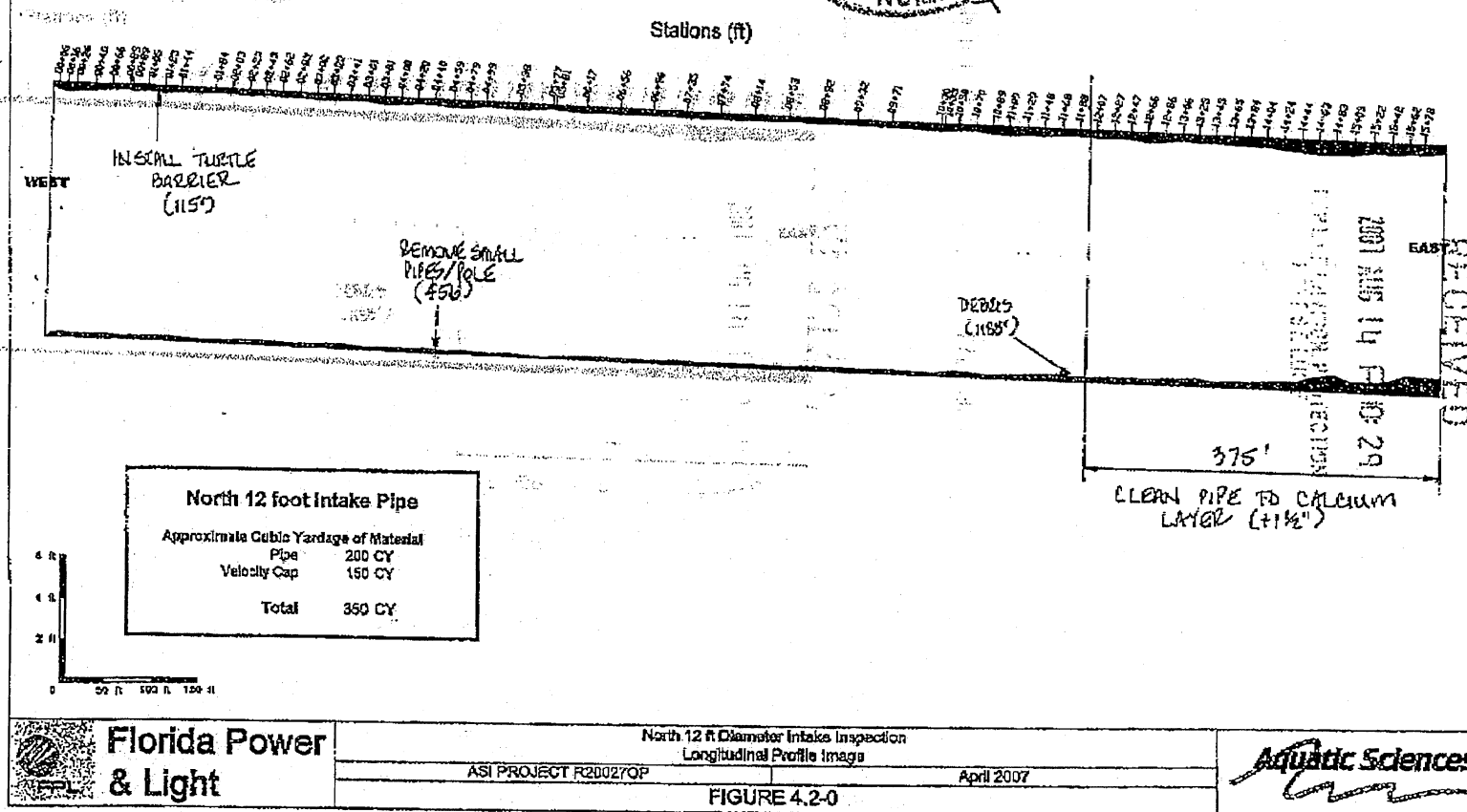
SHEET 3

ENGINEER		FLORIDA POWER & LIGHT COMPANY		Dept. of Environ. Protection Port St. Lucie SHEET 3 0
DIV: ENG	DR: DYC	SAINT LUCIE NUCLEAR		
CH: EH	DATE: 9-19-07	UNIT 1 & 2		
APPROVAL		PSL OCEAN INTAKE PIPING		
		INSPECTION AND MAINTENANCE		





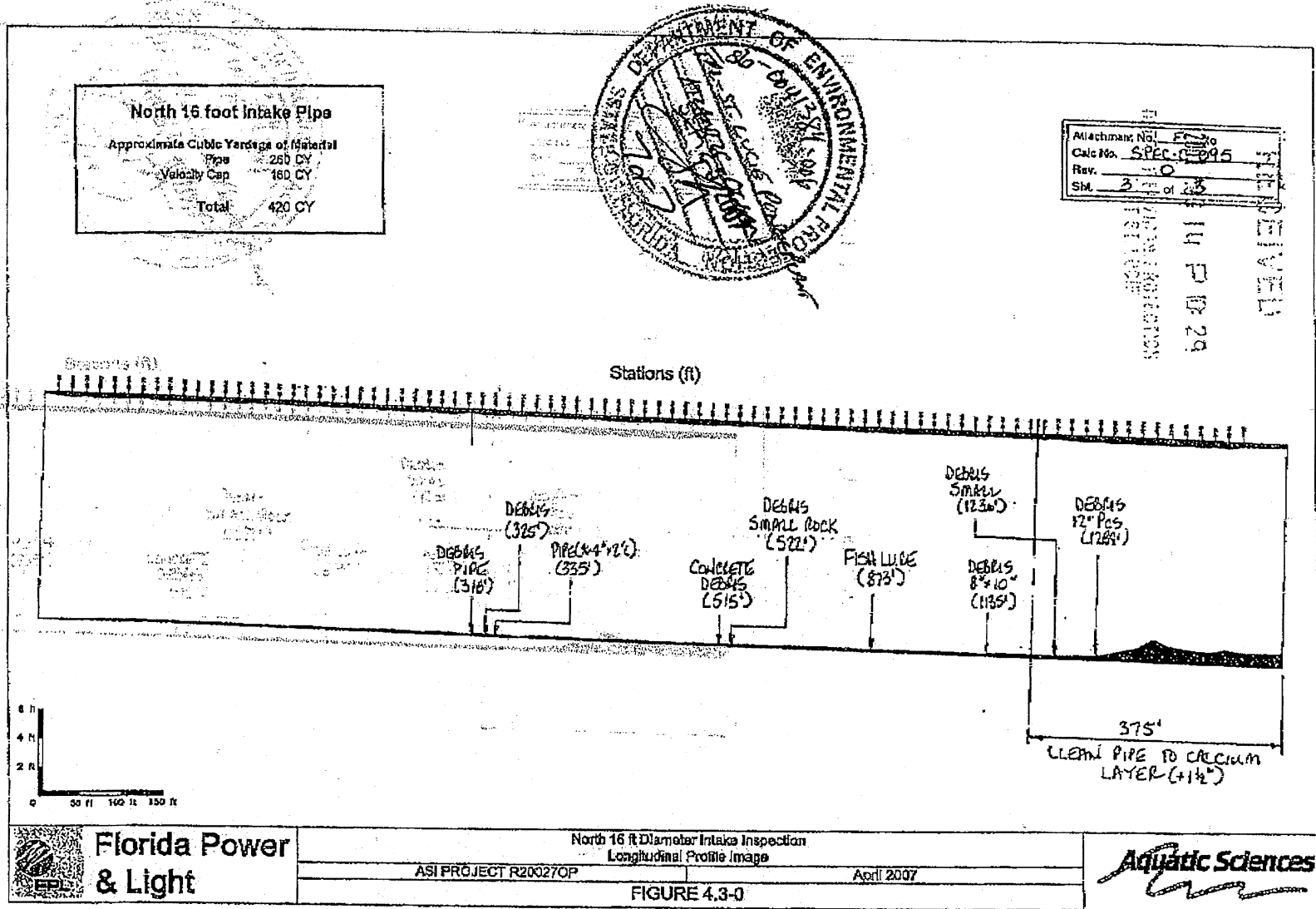
Attachment No.	F	to
Call No.	SRG-C-095	
Rev.	0	
SM.	2	3



09-25-'07 06:23 FROM D.E.P.

772-398-2815

T-135 P017/025 F-373



STANDARD MANATEE CONDITIONS FOR IN-WATER WORK 2005

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-561-562-3909) for south Florida.
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Awareness signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used. One sign measuring at least 3 ft. by 4 ft. which reads *Caution: Manatee Area* must be posted. A second sign measuring at least 8 1/2" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities.

FWC Approved Manatee Educational Sign Suppliers**ASAP Signs & Designs**

624-B Pinellas Street
Clearwater, FL 33756
Phone: (727) 443-4878
Fax: (727) 442-7573

Wilderness Graphics, Inc.

P. O. Box 1635
Tallahassee, FL 32302
Phone: (850) 224-6414
Fax: (850) 561-3943
www.wildernessgraphics.com

Cape Coral Signs & Designs

1311 Del Prado Boulevard
Cape Coral, FL 33990
Phone: (239) 772-9992
Fax: (239) 772-3848

Municipal Supply & Sign Co.

1095 Fifth Avenue, North
P. O. Box 1765
Naples, FL 33939-1765
Phone: (800) 329-5366 or
(239) 262-4639
Fax: (239) 262-4645
www.municipalsigns.com

Tallahassee, FL 32302

Phone: (850) 224-6414

Fax: (850) 561-3943

www.wildernessgraphics.com

Cape Coral, FL 33990

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Municipal Supply & Sign Co.

1095 Fifth Avenue, North
P. O. Box 1765
Naples, FL 33939-1765
Phone: (800) 329-5366 or
(239) 262-4639
Fax: (239) 262-4645

Vital Signs

104615 Overseas Highway
Key Largo, FL 33037
Phone: (305) 451-5133
Fax: (305) 451-5163

Universal Signs & Accessories

2912 Orange Avenue
Ft. Pierce, FL 34947
Phone: (800) 432-0331 or
(772) 461-0665
Fax: (772) 461-0669

New City Signs

1829 28th Street North
St. Petersburg, FL 33713
Phone: (727) 323-7897
Fax: (727) 323-1897

United Rentals Highway Technologies

309 Angle Road
Ft. Pierce, FL 34947
Phone: (772) 489-8772
or (800) 489-8758 (FL only)
Fax: (772) 489-8757

Universal Signs & Accessories

2912 Orange Avenue

Ft. Pierce, FL 34947

Phone: (800) 432-0331 or

(772) 461-0665

Fax: (772) 461-0669

Universal Signs & Accessories

2912 Orange Avenue

Ft. Pierce, FL 34947

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United Rentals Highway Technologies

309 Angle Road
Ft. Pierce, FL 34947
Phone: (772) 489-8772
or (800) 489-8758 (FL only)
Fax: (772) 489-8757

CAUTION: MANATEE HABITAT

All project vessels

IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must

SHUT DOWN

Report any collision or injury to:

1-888-404-FWCC (1-888-404-3922)

Florida Fish and Wildlife Conservation Commission

Form #62-343.900(3), F.A.C.
 Form Title: Construction
Commencement
 Notice
 Date: October 3, 1995

ENVIRONMENTAL RESOURCE PERMIT Construction Commencement Notice

PROJECT: _____ PHASE: _____

I hereby notify the Department of Environmental Protection that the construction of the surface water management system authorized by Environmental Resource Permit No. _____ has commenced / is expected to commence on _____ 200__, and will require a duration of approximately _____ months _____ weeks _____ days to complete. It is understood that should the construction term extend beyond one year, I am obligated to submit the Annual Status Report for Surface Water Management System Construction.

PLEASE NOTE: If the actual construction commencement date is not known, Department staff should be so notified in writing in order to satisfy permit conditions.

Permittee or Authorized Agent	Title and Company	Date
_____	_____	_____

Phone _____ Address _____

Send to:

For projects in Okcechobee, St. Lucie, Martin

Counties:

Eric Shea

Florida DEP

1801 SE Hillmoor Drive, Suite C204

Port St. Lucie, FL 34952

Fax: 772/398-2815

Form # 62-343.900(4), F.A.C.
 Form Title: Annual Status Report
 Date: October 3, 1995

ENVIRONMENTAL RESOURCE PERMIT ANNUAL STATUS REPORT FORM

Send to:

Florida DEP
 Attn: Eric Shea
 1801 SE Hillmoor Drive, Suite C204
 Port St. Lucie, FL 34952
 Fax: 772/398-2815

Permit No. _____ County: _____

Project Name: _____ Phase: _____

The following activity has occurred at the above referenced project during the past year, between June 1, 200__ and May 30, 200__.

Permit Condition / Activity	% of Completion	Date of anticipated Completion	Date of Completion

(Use Additional Sheets As Necessary)

Benchmark Description (one per major control structure): _____

Port St. Lucie, FL 34952

772-398-2815

Print Name: _____

Phone: _____

Phone: _____

Permittee's or Authorized
 Agent's Signature

Title and Company

Date

This form shall be submitted to the above referenced Department Office during June of each year for activities whose duration of construction exceeds one year.

Form #62-343.900(3), F.A.C.
Form Title: As-Built Certification
by a Registered Professional
Date: October 3, 1995

**ENVIRONMENTAL RESOURCE PERMIT
AS-BUILT CERTIFICATION BY A REGISTERED PROFESSIONAL**

Permit Number: _____

Project Name: _____

I hereby certify that all components of this surface water management system have been built substantially in accordance with the approved plans and specifications and are ready for inspection. Any substantial deviations (noted below) from the approved plans and specifications will not prevent the system from functioning as designed when properly maintained and operated. These determinations are based upon on-site observation of the system conducted by me or by my designee under my direct supervision and/or my review of as-built plans certified by a registered professional or other appropriate individual as authorized by law.

Name (please print) _____ Signature of Professional _____

Company Name _____ Florida Registration Number _____

Company Address _____ Date _____

City, State, Zip Code 06-883178 001 1 904 794 7731 4 3855335 234 4 263 6067 2 5744 001 1 201111 : 12

Telephone Number (Affix Seal)

Substantial deviations from the approved plans and specifications were observed during the inspection of the design, plans and specifications and readiness for inspection. The project was found to be in violation of the approved plans and specifications and the project was found to be in violation of the approved plans and specifications.

100-443888-100

(Note: attach two copies of as-built plans when there are substantial deviations)

Within 30 days of completion of the system, submit two copies of the form to:

Florida DEP
Attn: Eric Shea
1801 SE Hillmoor Drive, Suite C204
Port St. Lucie, FL 34952
Fax: 772/398-2815

Form #62-343.900(7), F.A.C.
 Form Title: Request for Transfer
to Operation Phase
 Date: October 3, 1995

REQUEST FOR TRANSFER OF ENVIRONMENTAL RESOURCE PERMIT CONSTRUCTION PHASE TO OPERATION PHASE

Send to:

For projects in Okeechobee, St. Lucie, Martin
 Counties:
Florida DEP
Attn: Eric Shea
1801 SE Hillmoor Drive, Suite C204
Port St. Lucie, FL 34952
Fax: 772/398-2815

It is requested that Department Permit No. _____ authorizing the construction and operation of a surface water management system for the below mentioned project be transferred from the construction phase permittee to the operation phase operating entity.

PROJECT: _____

FROM: Name: _____
 Address: _____
 City: _____ State: _____
 Zipcode: _____

TO: Name: _____
 Address: _____
 City: _____ State: _____
 Zipcode: _____

The surface water management facilities are hereby accepted for operation and maintenance in accordance with the engineers certification and as outlined in the restrictive covenants and articles of incorporation for the operating entity. Enclosed is a copy of the document transferring title of the operating entity for the common areas on which the surface water management system is located. Note that if the operating entity has not been previously approved, the applicant should contact the Department staff prior to filing for a permit transfer.

The undersigned hereby agrees that all terms and conditions of the permit and subsequent modifications, if any, have been reviewed, are understood and are hereby accepted. Any proposed modifications shall be applied for and obtained prior to such modification.

Operating Entity _____

Name _____ Title _____

Telephone _____

Enclosure:

- () Copy of recorded transfer of title surface water management system
- () Copy of plat(s)
- () Copy of recorded restrictive covenants, articles of incorporation, and certificate of incorporation

APPENDIX 10.4.3.01

SCIENTIFIC COLLECTING / INSTITUTIONAL PERMIT # WS04246

PERMIT

Issued Under Authority of the Wildlife Code of the State of Florida
(Title 68A, Florida Administrative Code) by the

STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Division of Wildlife, Bureau of Wildlife Diversity Conservation, 620 South Meridian Street, Tallahassee FL 32399-1600, (850) 921-5990 ext. 17310

Permit No. WS04246 Issuance Date 29 June 2004 Expiration Date 31 December 2007
Permit Type Scientific Collecting/Institutional Specific Rule Authority 68A-9.002; 68A-25.002; 68A-27.003-.005
Permittee James R. Lindsay Permitted Facility Florida Power & Light Company
Phone no. (561) 691-7032 Environmental Services Department
P.O. Box 14000
Juno Beach, FL 33408

Signature



Date

7-16-04

Not valid until signed

Certification: I hereby state and confirm by signature that I have received, read, understand, and agree to abide by all regulations, guidelines, and provisions regarding the issuance of this permit, and I further certify that the information submitted in this application and supporting documents is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to criminal penalties. I further state that I will abide by all applicable State, Federal, and local laws. Please return a signed copy to this office.

Provisions/Conditions:

1. Carcasses of non-listed wildlife may be salvaged upon encounter and possessed (i.e. - mounted and displayed) at Florida Power & Light Company - Environmental Services Department for scientific/educational purposes. The salvage/possession of species protected by the Migratory Bird Treaty Act (16 U.S.C. 703-712), the Endangered Species Act of 1973 (16 U.S.C. 1531), the Marine Mammal Protection Act (16 U.S.C. 1361-1407) or the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) must also be federally permitted pursuant to any of those laws, as appropriate. A copy of any such federal permit must be provided this office before collecting/possessing any species so protected. Collections of species designated by the Fish and Wildlife Conservation Commission in Rule 68A-27.003-.005, F.A.C., as endangered, threatened or species of special concern must be reported to this office within 48 hours. Final disposition of those specimens is subject to individual approval by the Commission, via an amendment to this permit.
2. Salvaged specimens may be temporarily transferred to a taxidermist or tanner for mounting or tanning provided a copy of this permit is kept with the carcass or hide at all times.
3. The Permittee may temporarily loan the mounted specimens to other entities, provided they are in possession of a letter of authorization from the Permittee and a copy of this permit. The Permittee must maintain an inventory (i.e., who has possession and at what physical location) of parts possessed independently of these individuals.
4. This permit shall expire and the animal carcasses and other parts shall be returned to the Commission should they no longer be needed for exhibitional and/or educational purposes at Florida Power & Light Company - Environmental Services Department, or upon severance of the affiliation of the Permittee with Florida Power & Light Company - Environmental Services Department.

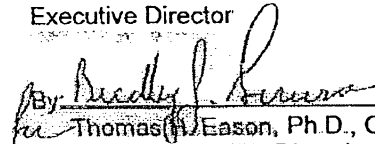
PERMIT

Permit No: WS04246

Provisions/Conditions Continued:

5. This permit is in effect a renewal of WS01374, which expires on June 25 2004. it does not authorize access to any public or private properties. Any required permission accordingly must be secured from the appropriate landholders prior to undertaking any work on such properties.
- 6 This permit is subject to revocation at any time pursuant to Chapter 120, Florida Statutes.
- 7 This permit and a copy of any required federal authorization/permits must be readily available for inspection while engaged in collecting and at the repository facility. An annual report detailing the number of specimens collected per species, dates and locations of collections, and final disposition of specimens must be submitted to this office by 1 February of each year. Copies of any other reports or publications, which result from the work, must also be provided upon their availability

Kenneth D. Haddad
Executive Director

By: 
Thomas H. Eason, Ph.D., Chief
Bureau of Wildlife Diversity Conservation

W1067/THE/cy
LIC 6-1
WS04246.per

cc: South Region

APPENDIX 10.4.3.02

SPECIAL ACTIVITY LICENSE # 05SR – 018A

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION



RODNEY BARRETO
Miami

SANDRA T. KAUPÉ
Palm Beach

H.A. "HERKY" HUFFMAN
Enterprise

DAVID K. MEEHAN
St. Petersburg

KATHY BARCO
Jacksonville

RICHARD A. CORBETT
Tampa

BRIAN S. YABLONSKI
Tallahassee

KENNETH D. HADDAD, Executive Director
VICTOR J. HEILER, Assistant Executive Director

DIVISION OF MARINE FISHERIES MANAGEMENT
Mark S. Robson, Director

SPECIAL ACTIVITY LICENSE (SAL)

Issued to: Stacy M. Foster
Florida Power & Light Co.
700 Universe Blvd.
Juno Beach, FL 33408

License #: 05SR-018A – Supersedes license # 04SR-018 issued on January 6, 2005

Valid License Period: May 25, 2005 – January 5, 2008

Purpose: Collection of marine organisms for scientific research purposes pursuant to 68B-8, F.A.C.

Project Title: Tag, Release and Recapture of Fish in the St. Lucie Power Plant

Law Enforcement Notification: The holder of a SAL must notify the nearest Commission Law Enforcement Dispatch Center not later than 24 hours prior to conducting activities under a SAL. Notification may consist of a float plan detailing locations, dates, and times of activities. Deviations from the float plan are permitted only after 24-hour advance notification to the nearest Commission Law Enforcement Dispatch Center. Float plans are valid for the duration of the SAL unless rescinded by the SAL holder.

Authorized Locations: Collections must occur within the intake canals of the Florida Power & Light Plant in St. Lucie County and organisms are to be released outside of intake canals within the waters of St. Lucie County, with the following exceptions:

- 1) This license does not authorize any activity outside of state waters.
- 2) This license does not authorize any activity within any state or federal park.
- 3) This license does not authorize any activity within any Manatee Limited Entry Area (No Entry or Motorboat Prohibited Zones – list attached to this license)

Authorized Personnel: David F. Bateman, Michael J. Bresette, Stacy M. Foster, Richard M. Herren, David C. Niebch, David A. Singlewald.

Authorized Activities: Authorized to temporarily possess marine organisms, including prohibited species, captured within the intake canal of the Florida Power & Light Plant, St. Lucie County with waiver of seasonal, fishery and area closures, size and bag limits. Organisms must be released alive and unharmed outside of intake canals within the waters of St. Lucie County once they have been identified, measured, catalogued, photographed and tagged.

This license does not authorize the possession of federally endangered species unless a NMFS Section 10 Permit has been obtained.

620 South Meridian Street • Mailbox 4B3 • Tallahassee, FL 32399-1600
(850) 922-4340 ext. 210 • FAX (850) 922-0463 • <http://myfwc.com/marine>

SPECIAL ACTIVITY LICENSE

Florida Power & Light Co.

License # 05SR-018A

Page Two

Authorized Gear (for use within intake canals only):

- 1) Up to four (4) lobster traps, 32" x 23" x 16".
- 2) Up to four (4) fish traps, 48" x 36" x 24" with openings measuring 6" x 12". See attached document regarding requirements for the construction, use, tending and marking of fish traps when used pursuant to an SAL in state waters
- 3) Up to twenty (20) Witham collectors, measuring 12" x 1" x 12" to collect post-larval (pueruli) lobsters.
- 4) Hand held nets.
- 5) Cast nets, up to 14' stretched length.
- 6) Hook and line.
- 7) Hand collection

Prohibited Activities:

- 1) The following are considered Prohibited Species and may not be harvested or possessed unless authorized by a Special Activity License issued specifically for activities involving prohibited species: Goliath Grouper (*Epinephelus itajara*), Nassau Grouper (*Epinephelus striatus*), Sawfish (*Pristis, spp.*), Basking shark (*Cetorhinus maximus*), Whale shark (*Rhincodon typus*), White shark (*Carcharodon carcharias*), Sand Tiger shark (*Odontaspis taurus*), Bigeye Sand Tiger shark (*Odontaspis noronhai*), Spiny Dogfish (*Squalus acanthias*), Spotted Eagle Ray (*Aetobatis narinari*), Manta Ray (*Genus Manta and Mobula*), Sturgeon (*Family Acipenseridae*), Longspine Urchin (*Diadema antillarum*), Bahama Starfish (*Oreaster reticulatus*), Common Sea Fan (*Gorgonia ventalina*), Venus Sea Fan (*Gorgonia flabellum*), Queen Conch (*Strombus gigas*), Fire Corals (*Genus Milliporina*), Hard and Stony Corals (*Order Scleractinia*), and non-aquacultured Live Rock
- 2) Special Activity Licenses do not authorize the collection of marine mammals, marine turtles, or any species listed as endangered or threatened by the "Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida", maintained and published by the FWC.
- 3) Marine organisms harvested pursuant to a SAL may not be sold or consumed unless specified otherwise on this license

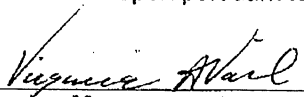
General License Conditions:

- 1) Authorized personnel conducting activities pursuant to a Special Activity License (SAL) must have the original license or a copy authenticated by the Florida Fish and Wildlife Conservation Commission (FWC) with all attachments specified on the license, in his/her possession while conducting any activities requiring the SAL.
- 2) Special Activity Licenses may be suspended or revoked if authorized personnel listed on the permit have violated FWC rules or policies, terms or conditions of the license, or have submitted false or inaccurate information on their application
- 3) Special Activity Licenses are non-transferable.

SPECIAL ACTIVITY LICENSE
Florida Power & Light Co.
License # 05SR-018A
Page Three

Reporting Requirements: Future SALs and SAL renewals are contingent upon successful fulfillment of reporting requirements. In order to complete the licensing process and fulfill reporting requirements, the following documentation must be submitted to the Commission:

- 1) An activity report detailing all SAL-related harvest or sampling activities that resulted in the permanent retention of marine organisms. The activity report is a report other than any publications or technical, monitoring, or final reports. The activity report must include common and scientific name of the marine organisms harvested, numbers and sizes harvested, locations of harvest by county, and any mortalities that may have occurred. The activity report for a Scientific Research SAL involving prohibited species must also include the specific harvesting gear used and the current disposition of the organism. If mortality of a prohibited species occurred during harvest or subsequent possession, the report must indicate the cause of death if known and the disposition of the prohibited species. If SAL-related activities did not result in the permanent retention or mortality of any marine organism, the SAL holder must submit a statement to that effect. The activity report or statement must be submitted within 30 days of expiration of the license.
- 2) A copy of any publications, technical, monitoring, or final reports that were generated as a result of work conducted pursuant to the SAL. These reports must include the notation that research was conducted pursuant to the specific Commission Special Activity License, and must be submitted upon completion or publication.
- 3) A SAL holder who is conducting biomedical research activities involving the collection of horseshoe crabs to remove blood and return the animal to the area of collection alive, must file his or her annual report pursuant to 68B-46.002(3)(b)3 e, F.A.C.

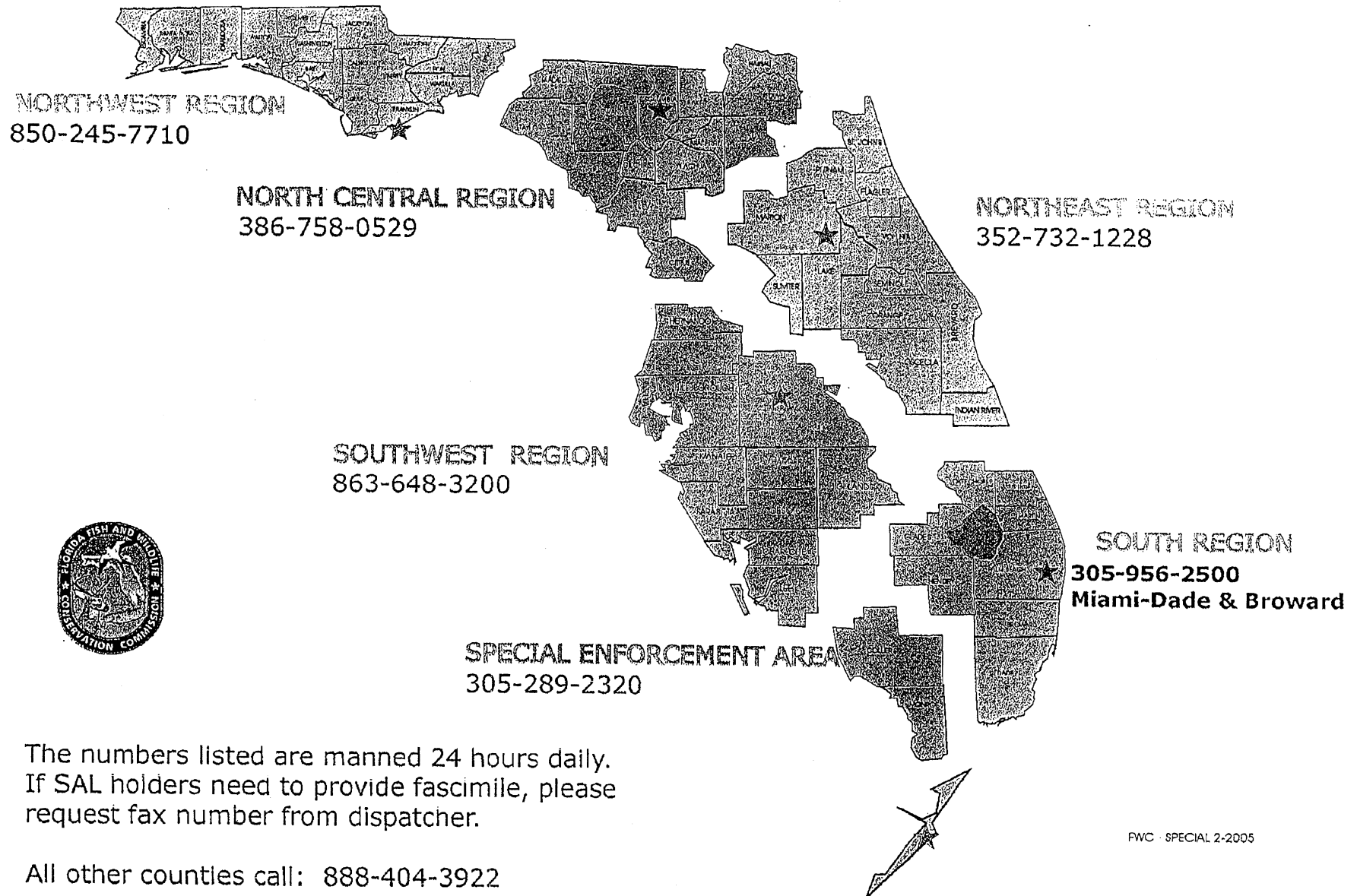

Division of Marine Fisheries Management

5-26-05
Date

Attachments to Follow:

FWC, Division of Law Enforcement, Special Activity License, Notification Locations & Numbers Requirements for the Use of Fish Traps Pursuant to a State of Florida SAL

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
DIVISION OF LAW ENFORCEMENT
SPECIAL ACTIVITY LICENSE - NOTIFICATION LOCATIONS & NUMBERS



The numbers listed are manned 24 hours daily.
If SAL holders need to provide facsimile, please
request fax number from dispatcher.

All other counties call: 888-404-3922

REQUIREMENTS FOR THE USE OF FISH TRAPS PURSUANT TO A STATE OF FLORIDA SPECIAL ACTIVITY LICENSE (SAL)

CONSTRUCTION REQUIREMENTS

Fish traps may not exceed 33 cubic feet, and must be constructed in a manner so that the panel opposite the funnel or entrance of the trap is at least 1" larger than each of the dimensions of the funnel or entrance. The panel opposite the funnel or entrance must also be fastened with one of the following degradable materials:

- Untreated jute twine with a diameter not exceeding 3/16" The jute twine may not be wrapped or overlapped. The panel must be secured in a manner so that when the jute degrades, the panel will no longer be securely fastened.
- Magnesium alloy fasteners The panel must be secured in a manner so that when the magnesium alloy degrades, the panel will no longer be securely fastened

MARKING REQUIREMENTS

Fish traps and buoys must both be marked with "SAL" and the last three digits of the SAL number (Example – SAL 999) unless otherwise stated on the SAL.

TENDING REQUIREMENTS

Fish traps must be tended at least every 12 hours unless otherwise stated on the SAL.

USE REQUIREMENTS

- Fish traps may not be set on coral habitat or hard substrate. Fish traps may only be set on sandy or muddy bottom, or in sea grass areas
- Reminder: SALs do not authorize any activity outside of state waters; within any state or federal park; or within the following areas of the Florida Keys National Marine Sanctuary (FKNMS): Western Sambo and Tortugas North Ecological Reserves; Cheeca Rocks, Eastern Dry Rocks, Hens and Chickens, Newfound Harbor Key, Rock Key, and Sand Key Sanctuary Preservation Areas (SPAs); or Eastern Sambo Research Only Area.

NOTIFICATION REQUIREMENTS

The use of fish traps within the boundaries of the Florida Keys National Marine Sanctuary (all of Monroe County) requires additional notification of the Florida Keys National Marine Sanctuary office. You must fill out the form attached to this license and fax it to the Sanctuary office whenever fish traps will be used within Monroe County

CONSTRUCTION SUGGESTIONS

- Funnels or entrances should be no larger than needed to admit the target species to reduce bycatch and bycatch mortality
- Wire mesh should be small enough to retain the target species, but large enough to allow for the escapement of non-target species

USE SUGGESTIONS

- Fish traps should be fished in 10 m of water or less to reduce the chances of decompression mortality of both target and bycatch species.
- Traps should not be deployed or left out during bad weather where they may become lost and continue to fish until the degradable panel becomes detached.
- Use XXL floats to reduce the possibility that the trap may be pulled under by current.
- Attach a lead weight approximately 10' down on the buoy line to reduce the possibility of "cut offs" by other vessels. Every effort should be made to allow no more than 15' of buoy line floating at the surface.
- Do not set traps in high traffic areas due to the risk of losing the trap.

APPENDIX 10.4.3.03

MARINE TURTLE PERMIT, IP # 125

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION



RODNEY BARRETO
Miami

SANDRA I. KAUPÉ
Palm Beach

H.A. "HERKY" HUFFMAN
Enterprise

DAVID K. MEEHAN
St. Petersburg

KATHY BARCO
Jacksonville

RICHARD A. CORBETT
Tampa

BRIAN S. YABLONSKI
Tallahassee

KENNETH D. HADDAD, Executive Director
VICTOR J. HELLER, Assistant Executive Director

R. KIPP FROHLICH, Section Leader
IMPERILED SPECIES MANAGEMENT SECTION
DIVISION OF HABITAT AND SPECIES CONSERVATION
(850) 922-4336
FAX (850) 922-4338

MARINE TURTLE PERMIT

Michael J. Bresette
Inwater Research Group, Inc
4160 Northeast Hyline Drive
Jensen Beach, Florida 34957

IP # 125

Permit Expires: January 31 2007

Renewal, permitted activities unchanged

Authorized To: (1) conduct nesting surveys, (2) conduct stranding/salvage activities, (3) relocate nests for conservation purposes, (4) conduct hand capture, (5) conduct net capture, (6) tag turtles using external flipper tags, (7) tag turtles using PIT tags, (8) conduct esophageal lavage, (9) conduct necropsies, (10) collect blood samples (no more than 5ml/kg for turtles >4kg in association with Authorized Research Project #16 on Marine Turtle Permit #025), (11) conduct satellite tagging/tracking of large green turtles in association with Authorized Research Project #5, (12) collect scute scrapings

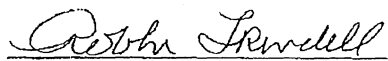
Authorized Nesting Survey Area: South Hutchinson Island from Ft. Pierce Inlet south to approximately 150 yards north of the Normandy Beach access (Index Nesting Beach Survey zones A through S)

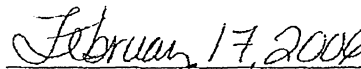
Authorized Research Projects: (1) Assessment of sea turtle population in the southern Indian River Lagoon, authorized 4/1998, (2) St. Lucie Nuclear Power Plant intake canal monitoring program, ongoing, (3) Demographic Composition and Genetic Origin of Green Turtles (*Chelonia mydas*) Within the Key West National Wildlife Refuge, authorized 7/2002, (4) Assessment of marine turtles utilizing lagoon systems on Florida's East coast, authorized 11/2004, (5) Satellite tracking large green turtles, authorized 5/2005, (6) Role of marine stressors in an emerging disease, GTFP, authorized 8/2005 (in conjunction with Marine Turtle Permit #025)

Authorized Personnel: M. Bresette, J. Gorham, R. Herren, D. Singewald, E. de Maye, D. Bagley, S. Iraxler, K. Singel, B. Witherington, D. Witherington, C. Koepfel, K. Holloway-Adkins, W. Bresette, N. Mettee (DVM), R. Scarpino, D. Niech, C. de Maye, E. Gilbert, S. Kubis, S. Hiram

General Conditions: Permitted individuals must adhere to the FWC marine turtle permit guidelines developed under a Section 6 Cooperative Agreement between FWC and the U.S. Fish and Wildlife Service and NOAA permits #1462 and 1356-01

Special Conditions: See attached Special Conditions


Robbin Trindell, Ph.D., Biological Administrator
Imperiled Species Management
Division of Habitat and Species Conservation


Date

cc: Sandy MacPherson, National Sea Turtle Recovery Coordinator, USFWS
FWC, Division of Law Enforcement, South Region
FWC, Tequesta Office

MARINE TURTLE PERMIT #125
2006 SPECIAL CONDITIONS ATTACHMENT

- 1 All live strandings (e.g., sick or injured turtles) must be transferred immediately to a state authorized sea turtle rehabilitation facility following consultation with FWC personnel in Tequesta.
- 2 While the tangle net is deployed it shall be closely and thoroughly inspected via boat at least once per hour
- 3 Netting effort shall be conducted for a minimum of 8 hours per day. Netting effort shall be increased to a minimum of 12 hours per day or during daylight hours, whichever is less, and 7 days per week if: 1) an adult turtle occurs in the canal during mating or nesting season (March through September), 2) a turtle remains in the canal for more than one week, 3) a leatherback occurs in the canal, or 4) an apparently weak or injured turtle occurs in the canal
- 4 Capture efforts shall be increased if a turtle swims west of the barrier net at the SR A1A bridge. Every effort should be made to capture turtles before they enter the power plant's intake wells. If a turtle enters an intake well, dip nets or other non-injurious methods should be used to remove the turtle.
- 5 All turtles removed from the canal must be photographed both dorsally and ventrally
- 6 All dead turtles recovered from the canal, regardless of condition, must be placed on ice and held until FWC is contacted. FWC shall be notified within 12 hours of recovery. Necropsies may not be conducted until receipt of authorization from FWC staff in Jacksonville, St. Petersburg, or Tequesta.
- 7 Each of the gratings at the unit 1 and 2 intake wells shall be visually checked at least four times each 24-hour period. (This condition will remain in effect until FWC receives written notification from the National Marine Fisheries Service that this issue has been resolved in the Biological Opinion for the St. Lucie Power Plant.)

Research Project: Assessment of Marine Turtles Utilizing Lagoon Systems on Florida's East Coast

- 8 Turtles held on the boat during hand capture and netting studies shall be kept shaded and moist.
- 9 Padded containers, free of any material that could be accidentally ingested by the animal, should be used to keep turtles off the hot deck and to separate individuals to prevent injury.
- 10 Copies of all notifications, reports, and data summaries required by NOAA Permit #1462 shall also be copied to the FWC Tequesta office.
- 11 In the event that the numbers of turtles authorized for incidental take under NOAA Permit #1462 are exceeded, all research work shall cease immediately and notification sent to the FWC Tequesta office.
- 12 If a turtle cannot be adequately immobilized for blood sampling, efforts to collect blood must be discontinued. No more than 4 attempts to extract blood (2 on each side of the neck) is permitted.
- 13 Lavaging of green turtles shall not exceed three minutes.

Research Project: Satellite Tracking of Large Green Turtles

- 14 Turtles held on the boat during hand capture and netting studies shall be kept shaded and moist
- 15 Padded containers, free of any material that could be accidentally ingested by the animal, should be used to keep turtles off the hot deck and to separate individuals to prevent injury
- 16 Copies of all notifications, reports, and data summaries required by NOAA Permit #1356-01 shall also be copied to the FWC Tequesta office
- 17 In the event that the numbers of turtles authorized for incidental take under NOAA Permit #1356-01 are exceeded, all research work shall cease immediately and notification sent to the FWC Tequesta office
- 18 If a turtle cannot be adequately immobilized for blood sampling, efforts to collect blood must be discontinued. No more than 4 attempts to extract blood (2 on each side of the neck) is permitted
- 19 Lavaging of green turtles shall not exceed three minutes

APPENDIX 10.4.3.04

MARINE TURTLE PERMIT, TP # 026

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION



RODNEY BARRETO
Miami

SANDRA I. KAUPÉ
Palm Beach

H.A. "HERKY" HUFFMAN
Enterprise

DAVID K. MEEHAN
St. Petersburg

KATHY BARCO
Jacksonville

RICHARD A. CORBETT
Tampa

BRIAN S. YABLONSKI
Tallahassee

KENNETH D. HADDAD, Executive Director
VICTOR J. HELLER, Assistant Executive Director

R. KIPP FROHLICH, Section Leader
IMPERILED SPECIES MANAGEMENT SECTION
DIVISION OF HABITAT AND SPECIES CONSERVATION
(850) 922-4330
FAX (850) 922-4338

MARINE TURTLE PERMIT

David Niebch
Florida Power & Light
6451 South Ocean Drive
Jensen Beach, Florida 34957

TP # 026

Permit Expires: January 31 2008

Renewal, permitted activities unchanged

Authorized To: (1) conduct public turtle watches, (2) maintain & display preserved specimens

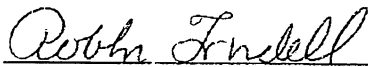
Authorized Nesting Survey Area: None.

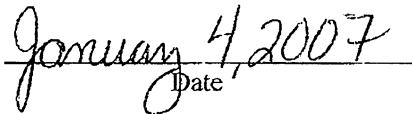
Authorized Research Projects: None.

Authorized Personnel: D. Niebch, M. Bresette, D. Singewald, E. de Maye, F. Valsaint, A. Mincey, K. Niebch, T. Cline, S. Foster, J. Toebe, B. Weinstein, R. Scarpino, V. Munne.

General Conditions: Permitted individuals must adhere to the FWC marine turtle permit guidelines developed under a Section 6 Cooperative Agreement between FWC and the U.S. Fish and Wildlife Service.

Special Conditions: None


Robbin Trindell, Ph.D., Biological Administrator
Imperiled Species Management
Division of Habitat and Species Conservation


Date

cc: Sandy MacPherson, National Sea Turtle Recovery Coordinator, USFWS
FWC, Division of Law Enforcement, South Region
FWC, Tequesta Office

APPENDIX 10.4.3.05

MIGRATORY BIRD NEST PERMIT # WN07311

PERMIT

Issued Under Authority of the Wildlife Code of the State of Florida
(Title 68A, Florida Administrative Code) by the

STATE OF FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Division of Habitat and Species Conservation, 620 South Meridian Street Tallahassee, FL 32399-1600, (850) 921-5990, ext 17310

Permit No. WN07311 Issuance Date 20 July 2007 Expiration Date 31 July 2009

Permit Type Migratory Bird Nest Specific Rule Authority 68A-9.002 & 68A-27.005

Permittee James Lindsay Affiliation Florida Power and Light Company

Phone No. (561) 691-7032/ N/A Environmental Services

700 University Boulevard

Juno Beach, FL 33408

Signature  Date 7-24-2007

Not valid until signed

Certification: I hereby state and confirm by signature that I have received, read, understand, and agree to abide by all regulations, guidelines, and provisions regarding the issuance of this permit, and I further certify that the information submitted in this application and supporting documents is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to criminal penalties. I further state that I will abide by all applicable State, Federal, and local laws. Finally, I hereby confirm by signature that representatives of the Florida Fish and Wildlife Conservation Commission (Commission) have my permission as the applicant and that of the landowner(s) to enter on and inspect the property(ies) described in the application for all reasonable purposes pertaining to applicable Commission rules. Please return a signed copy to this office.

This permit authorizes the above named Permittee to remove and replace **inactive** (i.e., containing no eggs or flightless young) nests of ospreys (*Pandion haliaetus*) and other migratory birds, pursuant to Rules 68A-9.002 and 68A-27.005 (Monroe County only), F.A.C. and the Florida Fish and Wildlife Conservation Commission Osprey Nest Removal Policies, where necessary in the process of routine facility maintenance in Florida, and subject to the following provision/conditions.

Provisions/Conditions

1. The **inactive** osprey nests situated on structures maintained by Florida Power and Light Company may be removed and replaced in association with routine facility maintenance, pursuant to the enclosed Osprey Nest Removal Policies.
2. Replacement of osprey nesting structures of comparable or better quality than the nest support structure removed or destroyed must be erected by the Permittee. The replacement nest structure shall be located in the immediate vicinity of the old nest. **Suggested** guidelines for constructing replacement osprey nest structures are enclosed, but other designs may be used if the Permittee prefers.
3. **Inactive** nests of migratory birds other than osprey may be taken without replacement.
4. This permit does not authorize removal of **active** (i.e., containing eggs or flightless young) nests of osprey or other migratory bird species. The Permittee must obtain state and federal authorization permits prior to disturbing an active nest.
5. This permit does not authorize taking of nests of state-or-federally-listed Endangered or Threatened species (i.e., species or subspecies listed as 68A-27.003, or 68A-27.004 in the Wildlife Code of the State of Florida; or at Title 50, Part 17.11, in the Code of Federal Regulations), or state-listed Species of Special Concern (species or subspecies listed at 68A-27.005 in the Wildlife Code of the State of Florida). Permits for removal of nests of these species must be secured separately. In such cases, contact the Permit Coordinator via fax at [(850) 921-1847].

PERMIT

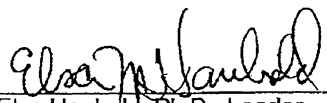
Permit No. WN07311

Provisions/Conditions Continued:

- 6 This permit does not authorize Permittee access to any public or private properties. In instances where written or verbal permission for access is required, such permission must be secured from the appropriate landowners or public agencies in advance of undertaking any work on those controlled properties.
- 7 This permit is in effect a renewal of permit WN05247, which was issued on June 20, 2005 and supercedes all previous versions. It is nontransferable and must be readily available for inspection at all times while engaging in the permitted activities. Other qualified personnel may assist in the permitted work in the absence of the Permittee's direct supervision, when those assistants are designated as subpermittees via a letter from the Permittee to each designee, with this office provided a copy of such letter (s).
- 8 Formally designated assistants/subpermittees are also to be in possession of your letter of authorization, a copy of this state permit and any required federal authorization/permit when working in your absence.
9. The Permittee by signature above confirms that representatives of the Florida Fish and Wildlife Conservation Commission (Commission) have his/her permission as the Permittee, and that of the landowner(s) to enter on and inspect the property(ies) described in the application (herein incorporated by reference) for all reasonable purposes pertaining to applicable Commission rules.
- 10 An annual report detailing the number of nests taken and dates and locations of such, must be submitted to this office by 30 June of each year. Such annual reports (referencing permit number) should be directed to the Permit Coordinator at the above address. This permit is subject to revocation prior to the expiration date pursuant to Chapter 120, Florida Statutes. Application for renewal should be made at least 45 days in advance of the date it is needed.

A person whose substantial interests are affected by FWC's action may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. A person seeking a hearing on FWC's action shall file a petition for hearing with the agency within 21 days of receipt of written notice of the decision. The petition must contain the information and otherwise comply with section 120.569, Florida Statutes, and the uniform rules of the Florida Division of Administration, chapter 28-106, Florida Administrative Code. Upon such notification, the Permittee shall cease all work authorized by this permit until the petition is resolved. The enclosed Explanation of Rights statement provides additional information as to the rights of parties whose substantial interests are or may be affected by this action.

Kenneth D. Haddad
Executive Director

By: 
Elsa Haubold, Ph.D., Leader
Species Conservation Planning Section

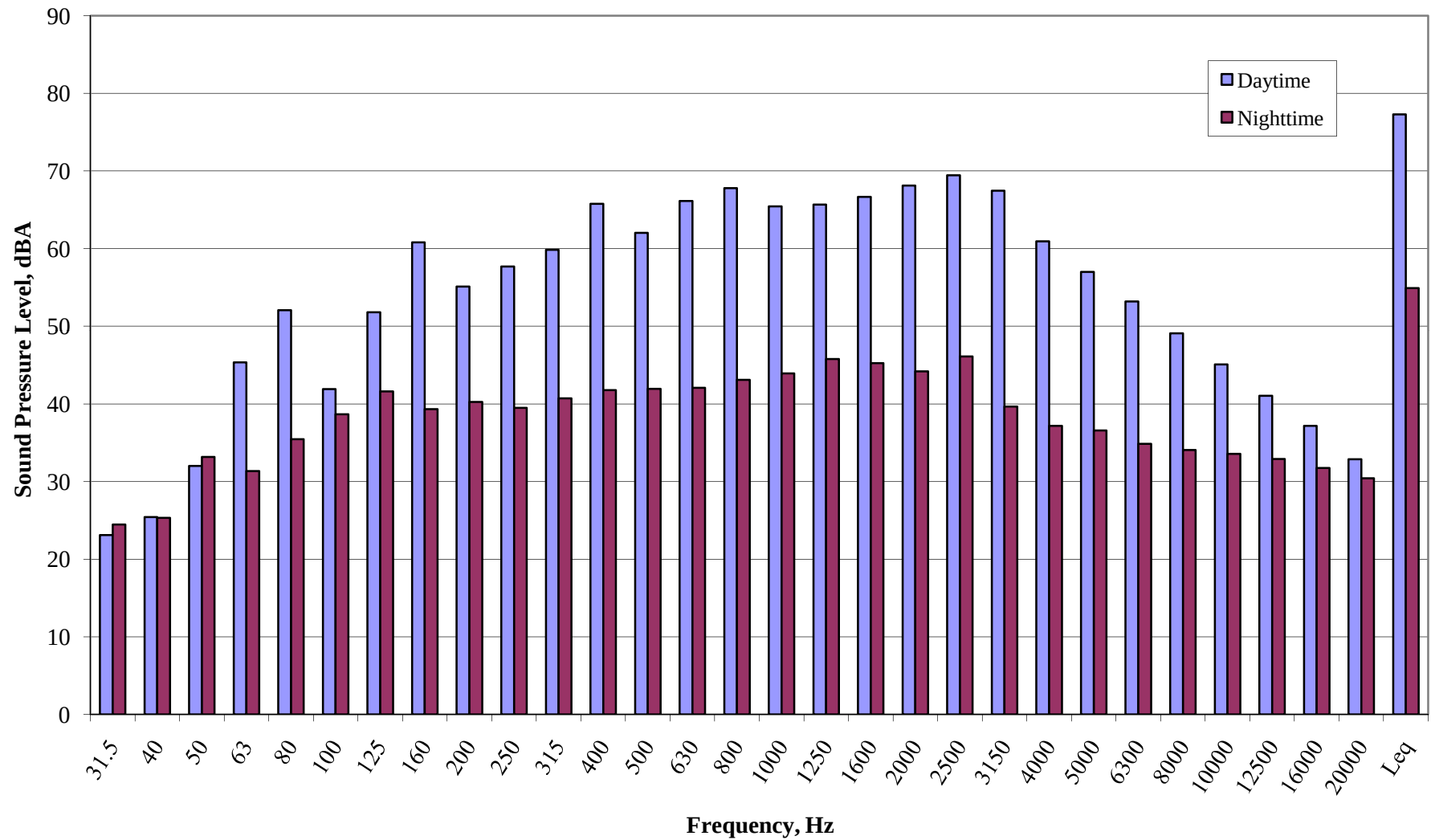
ATW/EH/kd
LIC 6-20
WN07311.per
Enclosure

cc: All Regions

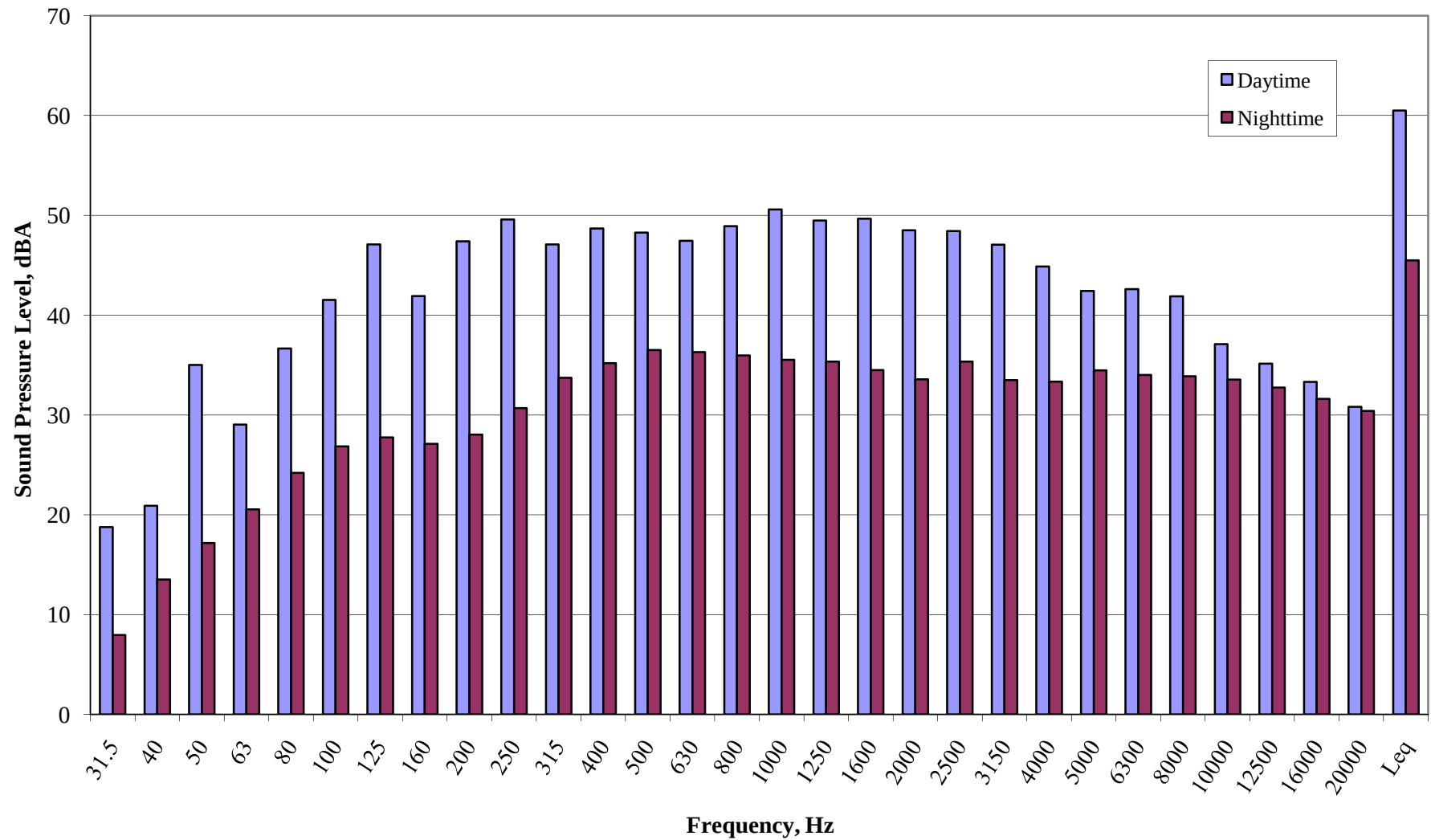
APPENDIX 10.5.1

**OCTAVE BANK MEASUREMENTS AND
NOISE LEVEL CHARTS**

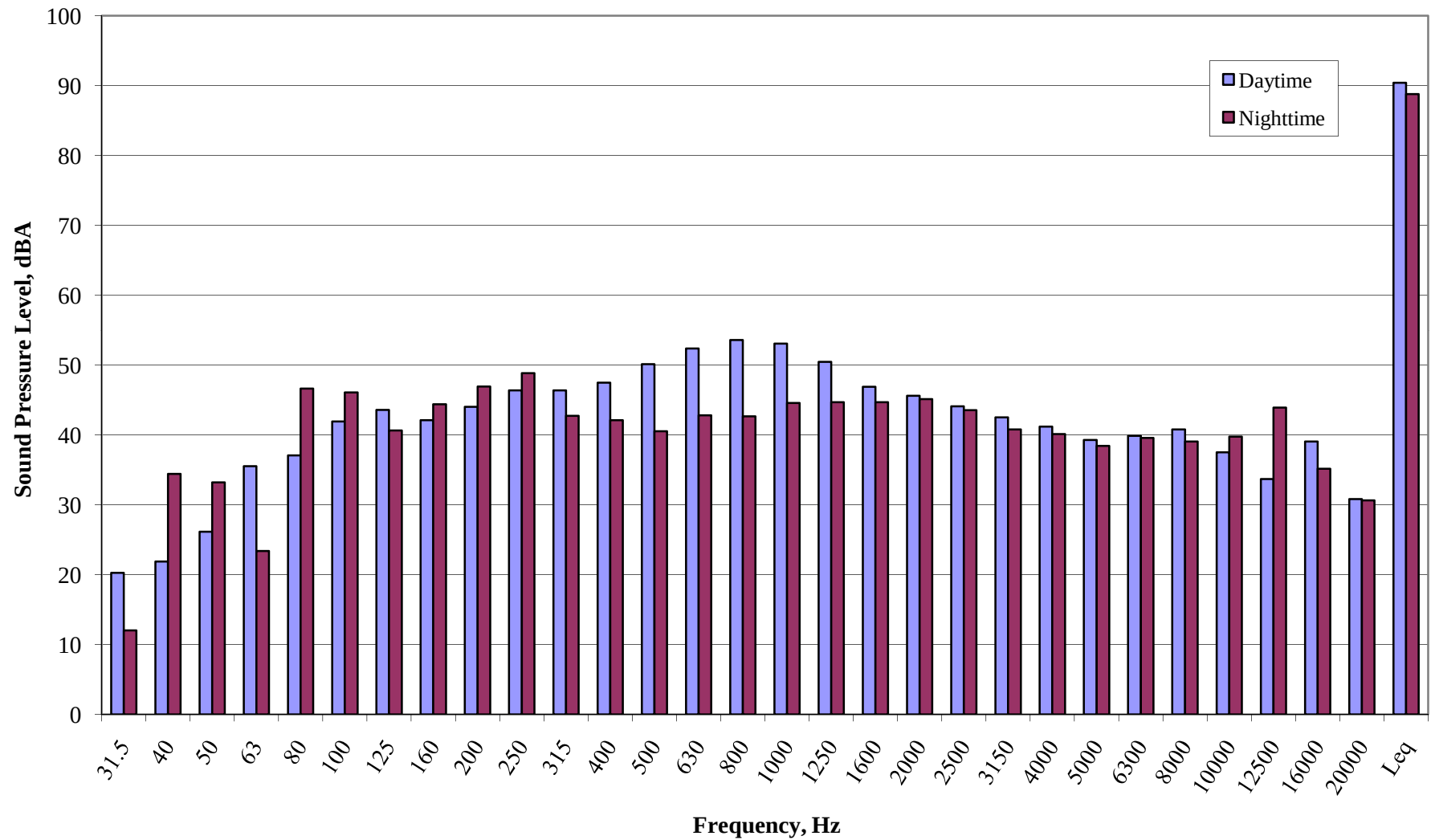
Site 1B Daytime and Nighttime Sound Pressure Levels at St. Lucie Power Plant



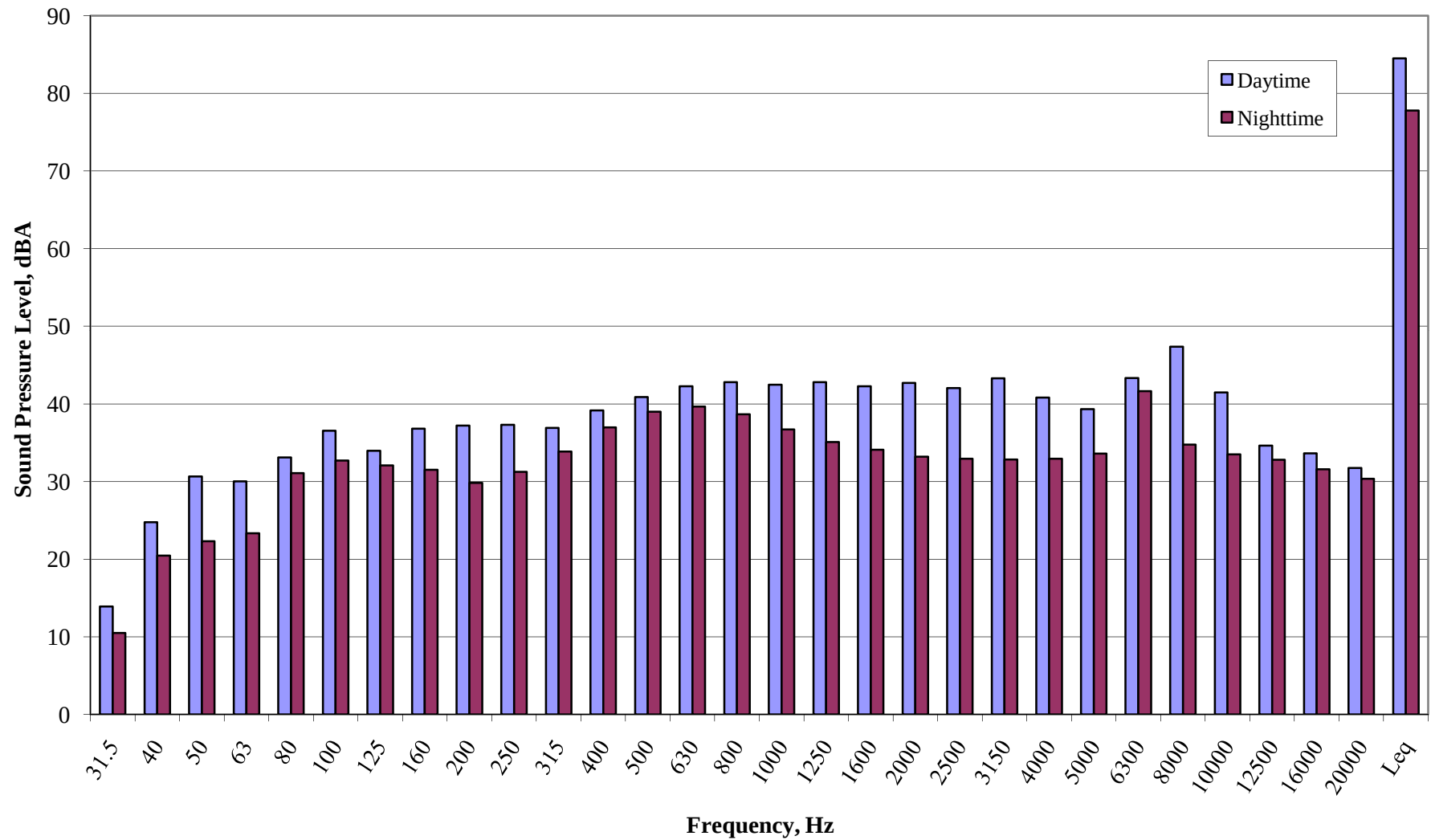
Site 1F Daytime and Nighttime Sound Pressure Levels at St. Lucie Power Plant



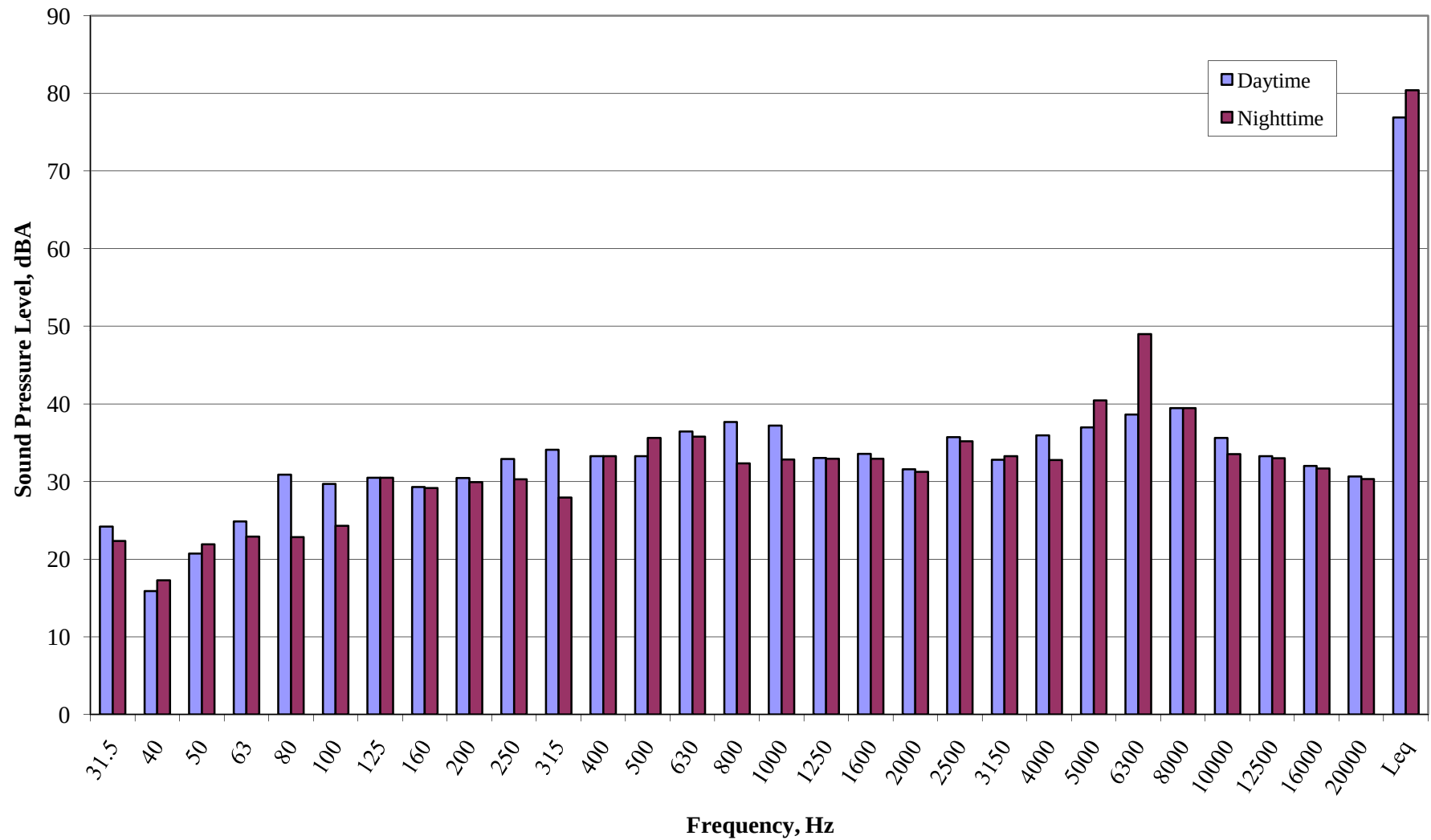
Site 2B Daytime and Nighttime Sound Pressure Levels at St. Lucie Power Plant



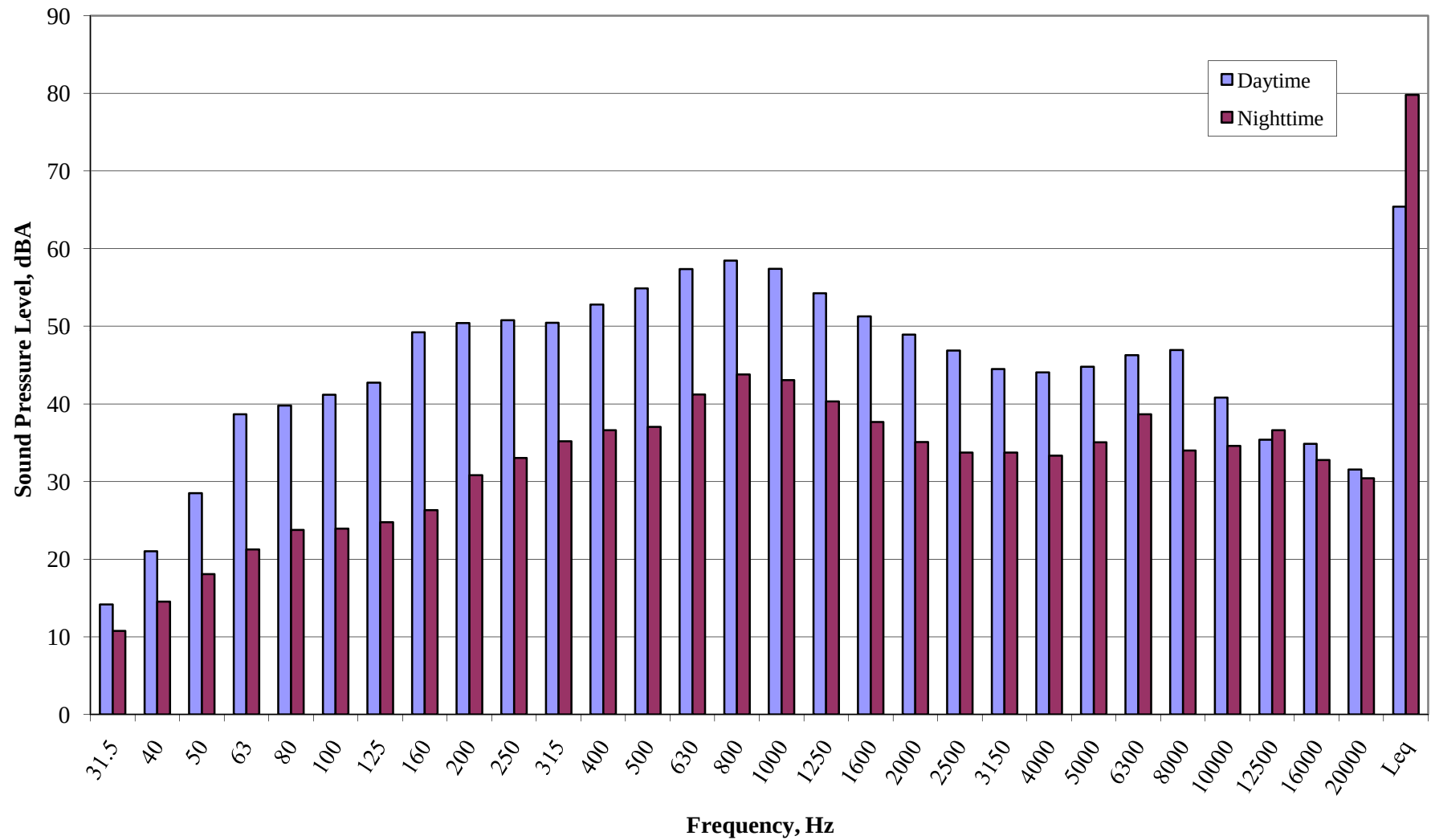
Site 2F Daytime and Nighttime Sound Pressure Levels at St. Lucie Power Plant



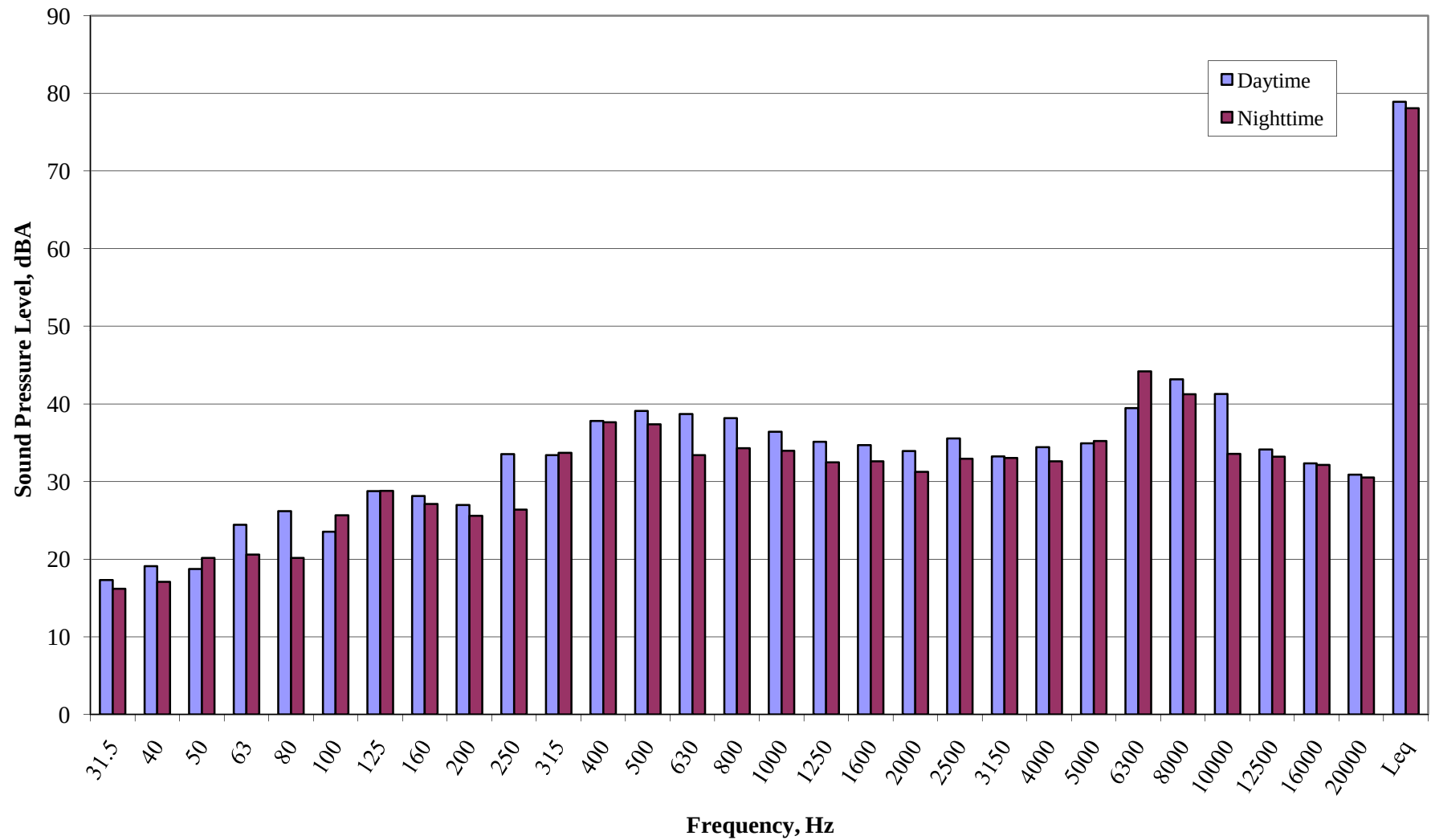
Site 3B Daytime and Nighttime Sound Pressure Levels at St. Lucie Power Plant



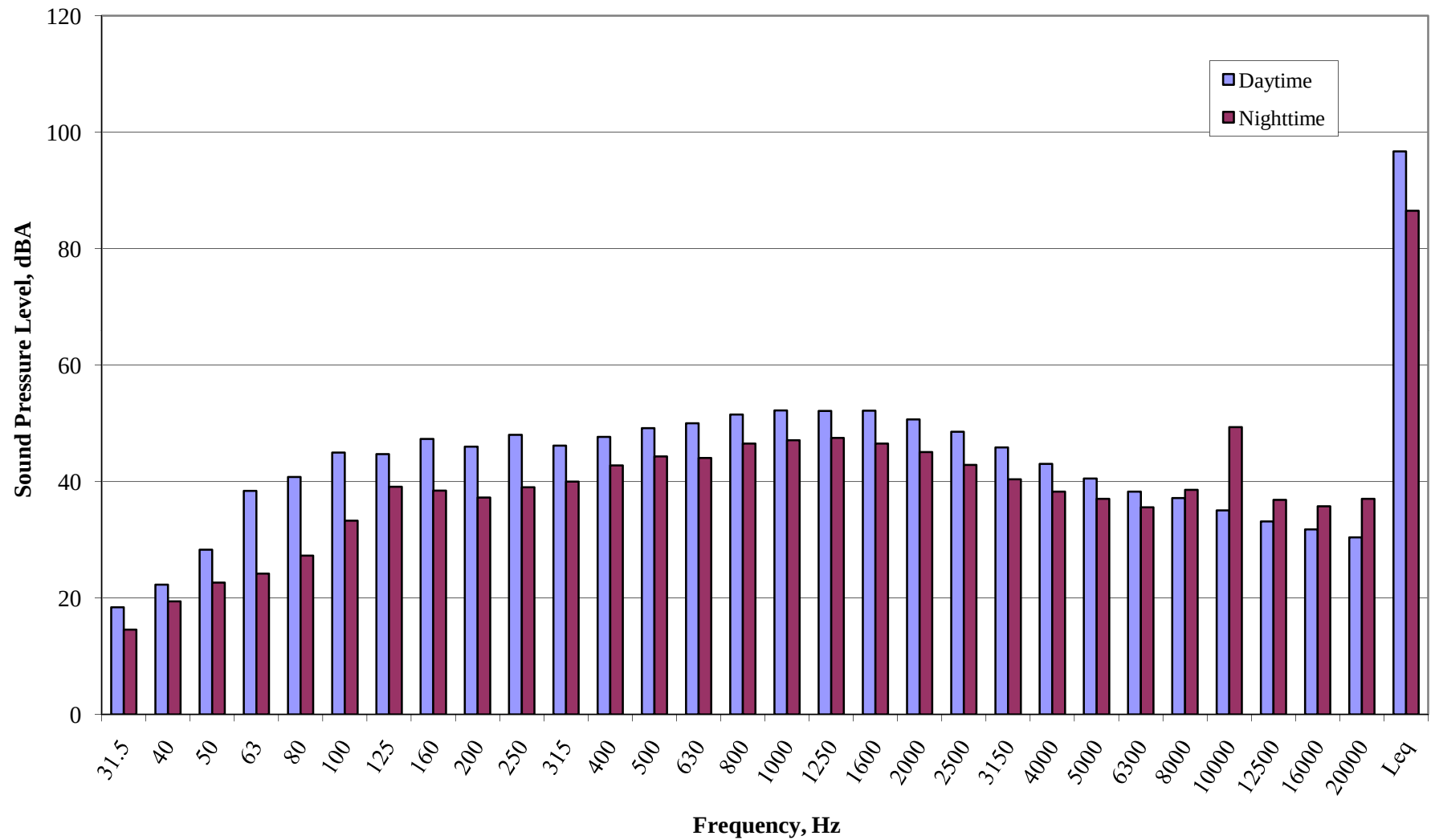
Site 3F Daytime and Nighttime Sound Pressure Levels at St. Lucie Power Plant



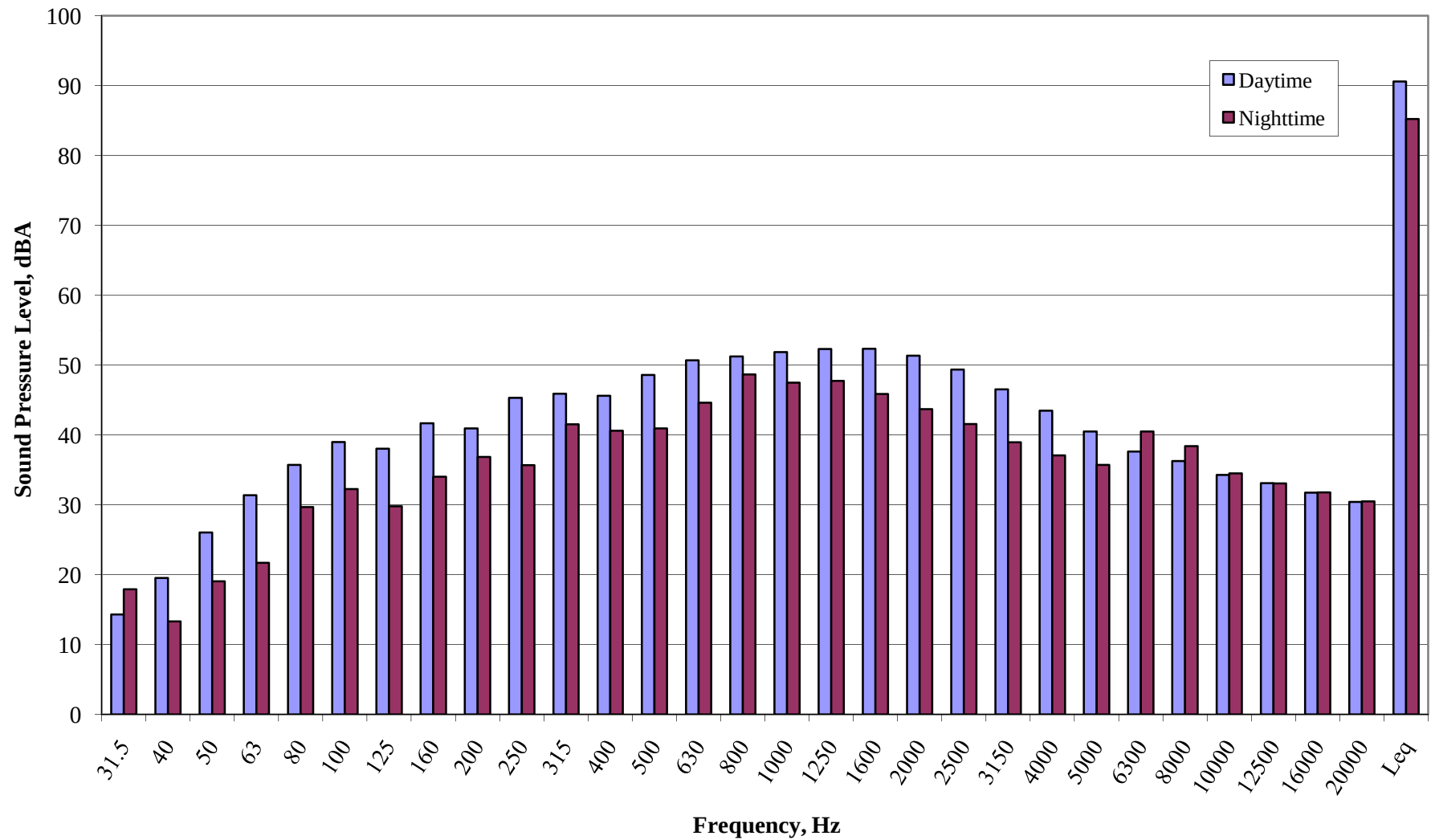
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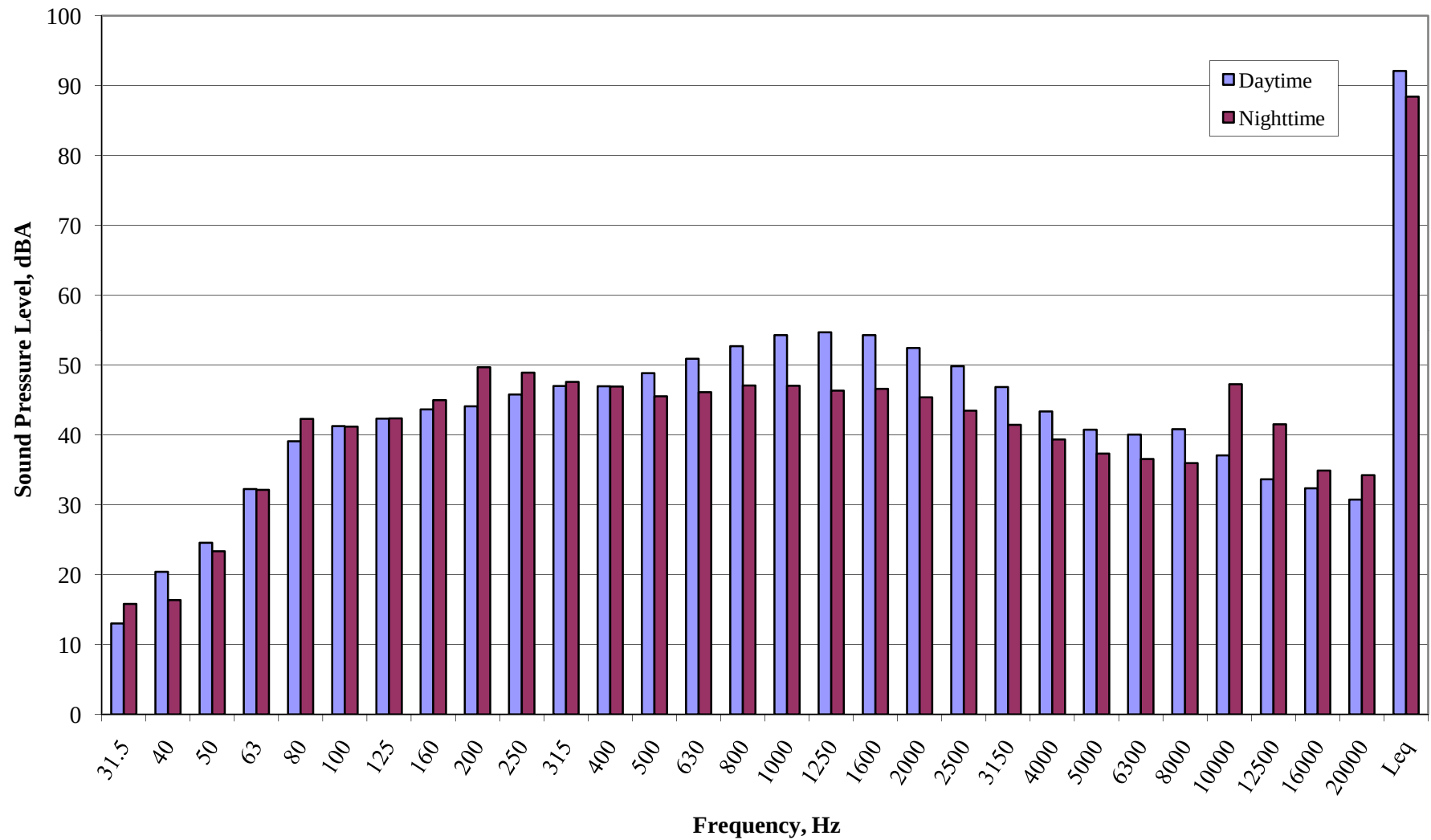
Site 4F Daytime and Nighttime Sound Pressure Levels at St. Lucie Power Plant



Site 5F Daytime and Nighttime Sound Pressure Levels at St. Lucie Power Plant



Site 6F Daytime and Nighttime Sound Pressure Levels at St. Lucie Power Plant



APPENDIX 10.5.2

EQUIPMENT CALIBRATION CERTIFICATES

Certificate of Calibration and Conformance

Certificate Number 2007-92886

Microphone Model 2560, Serial Number 3424, was calibrated on 08MAY2007. The microphone meets current factory specifications per Test Procedure D0001.8167.

Instrument found to be in calibration as received: YES

Date Calibrated: 08MAY2007

Calibration due: 08MAY2008

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2900	0575	12 Months	27JUN2007	2006-81604
Larson Davis	CAL250	42630	12 Months	03AUG2007	2006-82792
Larson Davis	2559	3034LF	12 Months	30AUG2007	2006-83723
Larson Davis	PRM902	0529	12 Months	06SEP2007	2006-83918
Larson Davis	PRM902	0528	12 Months	06SEP2007	2006-83919
Larson Davis	MTS1000 / 2201	1000 / 0100	12 Months	11SEP2007	2006-0911-1
Larson Davis	PRM915	0102	12 Months	13NOV2007	2006-86003
Larson Davis	PRM902	0206	12 Months	13NOV2007	2006-85999
Larson Davis	PRM916	0102	12 Months	13NOV2007	2006-86001
Hewlett Packard	34401A	3146A62099	12 Months	13NOV2007	294807
Larson Davis	2559	2506	12 Months	30JAN2008	14714-1

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as printed on microphone calibration chart.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"AS RECEIVED" data is the same as shipped data.

Signed: Abraham Ortega
Technician: Abraham Ortega

Certificate of Calibration and Conformance

Certificate Number 2007-92859

Instrument Model PRM902, Serial Number 3275, was calibrated on 08MAY2007. The instrument meets factory specifications per Procedure D0001.8126.

Instrument found to be in calibration as received: YES

Date Calibrated: 08MAY2007

Calibration due: 08MAY2008

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2900 / 2209	0097 / 0118	12 Months	04AUG2007	2006-82872
Hewlett Packard	34401A	MY41044529	12 Months	08JAN2008	295900

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade

Relative Humidity: 31 %

Affirmations

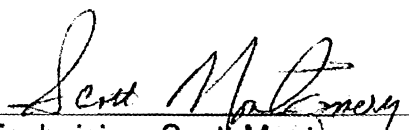
This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"As Received" data is the same as shipped data.

Signed:


Technician: Scott Montgomery

Certificate of Calibration and Conformance

Certificate Number 2007-92877

Instrument Model 824, Serial Number 3106, was calibrated on 08MAY2007. The instrument meets factory specifications per Procedure D0001.8046, IEC 61672-1:2002 Class 1; IEC 60651-2001, 60804-2000 and ANSI S1.4-1983 Type 1 1/3, 1/1 Oct. Filters; S1.11-1986 Type 1C; IEC61260-am1-2001 Class 1 .

Instrument found to be in calibration as received: YES

Date Calibrated: 08MAY2007

Calibration due: 08MAY2008

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0589 / 0103	12 Months	06DEC2007	2006-87149

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade

Relative Humidity: 31 %

Affirmations

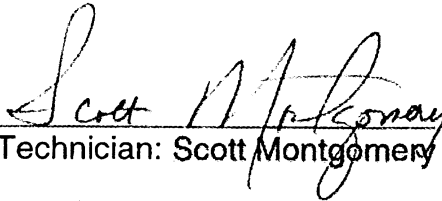
This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

"As Received" data is the same as shipped data.

Tested with PRM902 S/N 3275

Signed: 
Technician: Scott Montgomery

Certificate of Calibration and Conformance

Certificate Number 2007-92854

Instrument Model CAL200, Serial Number 4318, was calibrated on 08MAY2007. The instrument meets factory specifications per Procedure D0001.8190.

Instrument found to be in calibration as received: YES

Date Calibrated: 08MAY2007

Calibration due: 08MAY2008

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Hewlett Packard	34401A	US36033460	12 Months	02JUN2007	290347
Hewlett Packard	34401A	3146A10352	12 Months	23JUN2007	291010
Larson Davis	MTS1000/2201	0111	12 Months	11SEP2007	2006-0911-2
Larson Davis	PRM915	0112	12 Months	18SEP2007	2006-84212
Larson Davis	PRM902	0480	12 Months	18SEP2007	2006-84211
Larson Davis	2559	2504	12 Months	11OCT2007	14485-1
Schaevitz	P3061-15PSIA	17590	12 Months	16NOV2007	294809
Larson Davis	2900	0661	12 Months	04APR2008	2007-91426

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Environmental test conditions as shown on calibration report.

Affirmations

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the U.S. National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Provo Engineering & Manufacturing Center. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

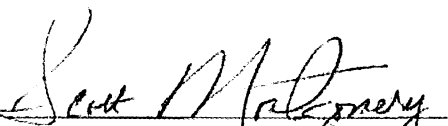
This calibration complies with the requirements of ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. A one year calibration is recommended, however calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of the issuer.

Before: 114.09 dB, 94.10 dB, 1000.3 Hz @ sea level.

After: Refer to Certificate of Measured Output.

Signed:


Technician: Scott Montgomery

APPENDIX 10.6

10.6 Thermal Discharge modeling

This appendix includes a set of calculations which were done to document the thermal discharge modeling and associated results that were performed to analyze both the existing thermal discharge plumes and the expected thermal discharge plumes that will result from the Project. The model used is called MULDIF, which is the EnviroSphere version of the near-field Koh and Fan model. A listing of the program is included as Attachment 1. The calculations are as follows:

Calculation 12 - Revised Y-Port Diffuser MULDIF Runs

Calculation 13 - Revised Multiport Diffuser MULDIF Runs

Calculation 14 - Predicted vs. Allowed Mixing Zones

Detailed studies were performed following commercial operation of St. Lucie Unit 1 in June, 1976 to verify the accuracy of the thermal discharge model which had been used during the plant licensing (EnviroSphere, 1977). That modeling consisted of a near-field model, based on the work of Koh and Fan (Koh and Fan, 1970), and a far-field model based on the work of Pritchard (Pritchard, 1970). Now that the extent of the mixing zone is defined as the 17°F isotherm above ambient, only the near-field model is necessary to show mixing zone compliance.

The Koh and Fan near-field model is a submerged jet model consisting of a set of seven simultaneous differential equations. They include equations of conservation of mass, horizontal momentum flux, vertical momentum flux, density deficiency flux, and thermal energy flux, and two equations of horizontal and vertical distance. The solution of these equations provides jet width, dilution, temperature, density, jet trajectory, and temperature rise as a function of position.

The field monitoring program that was performed consisted of thermal mapping of the St. Lucie Unit No. 1 discharge plume and ambient conditions using a mobile mapping system, supplemented by vertical, temperature profiles and airborne infrared photography. In addition, fixed *in situ* temperature and current instruments were moored at a depth of about ten feet below the surface at

four pre-selected points, two on each side of the diffuser, to obtain continuous records of water temperature and current. Thermal mapping was performed by boat-mounted fast scanning thermal sensors, designed and provided by Environmental Devices Corporation (ENDECO). This system employed three thermistors at three depths with a towed V-fin depressor, a digital data display printer, and a magnetic cassette recorder. Continental Shelf Associates, Inc. of Tequesta, FL, provided field support and a 24-foot V-hull boat in which the mapping system was mounted. Boat position was established using a Motorola Mini-Ranger III and two shore-based transponders. The thermistor probes measured temperatures between 32 and 122 ° F with an accuracy of + or - 0.1°F and a resolution of 0.1° F.

For the near field, boat speed was set to about four knots and the interval of data logging was set to two seconds. At this combination of boat speed and rate of data collection, temperatures were measured at about 15-foot intervals. Track spacing was 30 to 45 feet apart and track lengths were usually 1200 feet. Ten to fifteen tracks were run for each near-field map. To supplement temperature measurements taken at three depths by the mobile mapping system, vertical temperature measurements were conducted at selected points in the plume area. Temperatures were measured at 1, 3, 5, 10, 15, and 25-foot depths with a Hydrolab Thermistor probe and deck read-out unit. Four to seven temperature profiles were obtained during each survey.

The field survey was conducted between March 25 and April 4, 1977. With respect to the near-field model, Envirosphere reached the following conclusions:

1. "Based on the near-field results, it is concluded that the diffuser performs close to its expected performance."
2. "The near-field (Koh-Fan) model gives satisfactory comparisons (*i.e.*, 0.2 to 1°F) between the predicted and measured results."

References:

Koh, R.C.Y. and Fan, L.N., "Mathematical Models for the Prediction of Temperature Distributions Resulting from the Discharge of Heated Water". Report for the U.S. Environmental Protection Agency, Water Quality Office, Program #16310, DWO, Contract #14-12-570. October, 1970.

Pritchard, D.W., "Design and Siting Criteria for Once-Through Cooling Systems." Chesapeake Bay Institute, The John Hopkins University. AIChE 68th National Meeting. March 2, 1970.

Calculations

Golder Associates

SUBJECT Revised Y-Nozzle Diffuser MULDI Runs

Job No. 07387685
Ref. St Lucie Uprate
Calc 12

Made By H. Frediani
Checked S.Asamenaw
Reviewed

Date 11/20/2007
Sheet 1 of 2

Based on the SCA Review Meeting on Nov. 13 and 14, it was decided to model the Y-Port Diffuser for an existing plant case using the highest recorded plant discharge temperature from calc 11. It was also decided to model two uprate cases as follows:

- Adding 2.9 ° F to the existing case discharge temperature will result in a post-uprate discharge temperature which exceeds the existing NPDES permit limit of 113 ° F. FPL has committed to shed load in such a case, assuming the discharge temperature exceeding 113 ° F is not caused by " ...condenser and/or circulating water pump maintenance, throttling circulating water pumps to minimize use of chlorine, and/or fouling of circulating water system." as allowed by the NPDES Permit Effluent Limitation I.A.3. Therefore, the maximum discharge temperature under normal C.W. flow conditions will be 113 ° F. Assuming worst case is with maximum DT, ambient temperature in this case will be 113 - 28.6 (see calc 6) = 84.4 ° F
- When flow is reduced due to " ...condenser and/or circulating water pump maintenance, throttling circulating water pumps to minimize use of chlorine, and or fouling of circulating water system.", the maximum discharge temperature will be 117 ° F. For this case, it is assumed the flow has been reduced by the temporary condition. Assuming the DT is 32 ° F (from the NPDES Permit Effluent Limitation I.A.3), the corresponding ambient temperature is 117 - 32 = 85 ° F.

The following cases will be modeled:

- Case 1 Existing plant. (Pre-Uprate)
- Case 2 Post-Uprate with Discharge at 113 ° F
- Case 3 Post-Uprate with Discharge at 117 ° F

The input parameters for each case are delineated in attached worksheets called "Input-x", where "x" is the case number.

Case 1

From Calc. 10, the peak discharge temperature over the period of record was 111.1 ° F, we will use that for discharge temp.

Since existing peak DT is 25.7 ° F, ambient is 84.4 ° F.

For associated densities, use Book1.xls which was developed in Calc 7.

Golder Associates

SUBJECT Revised Y-Nozzle Diffuser MULDIF Runs

Job No. 07387675
Ref. PSL Uprate
Calc 12

Made By H. Frediani
Checked S.Asamenaw
Reviewed

Date 11/20/2007
Sheet 2 of 2

From Calc 6, CW flow is $(2,301 \text{ cfs}) / 2 = 1151 \text{ cfs}$ for both ports. Therefore, each port has a flow of $2301/4 = 575.25 \text{ cfs}$
Calculate jet velocity = $575.3 / (7.5 * 7.5 * 3.14159/4) = 13.02 \text{ feet per second}$
Rest of parameters remain the same as in calc 7. See worksheet "Input-1" for results.

Case 2

Parameters are the same, except for temperatures and densities, see book1.xls for values derived.

Case 3

Parameters are the same except for temperatures and densities, see book1.xls for values derived, and the velocity is reduced.
From page 1, flow is reduced by the inverse ratio of the DTs which are 32 and 28.6. Therefore the flow is $575.3 * (28.6/32) = 514.1 \text{ cfs}$

Velocity = $514.1 / (7.5 * 7.5 * 3.14159/4) = 11.64 \text{ feet per second}$

Set up files as follows:

	<u>Input file</u>	<u>Output File</u>
Case 1	PSL-1.dat	PSL-1.out
Case 2	PSL-2.dat	PSL-2.out
Case 3	PSL-3.dat	PSL-3.out

Create the files and run the programs. Open the output files as Word files and save as .doc files, which are attached.

Note that the DT drops below 17° F in the second step for all three runs. Plot Center line temperature against center line horizontal distance for all three runs and compare to the runs in Calc 7. Do this by importing them all into Excel, file called PSL-Y-OUT.xls

MULDIF- Y-Port Diffuser Case 1
Input Parameters

Parameter	Existing Y-Port	Units	Definition	Note
NC	2	none	Number of layers	Assume 2 layers at same temp and density
DO	7.5	Ft	Jet diameter	Discharge is through
UO	13.02	Ft/Sec	Discharge velocity per jet	From Calc 6
TO	111.1	Deg F	Discharge Temperature	From Conference call on 10/19 with Ron Hix
DEN1	1.017838	g/cm ³	Discharge density	Calculated
THETAO	0	none	Angle of discharge with respect to horizontal	Two scenarios
DJ	34	Ft	Depth of discharge	Depth of discharge
SPACJ	115	Ft	Spacing between jet centers	Only 1 jet
D	34	Ft	Depth of discharge	Depth of discharge
TA	85.4	Deg F	Ambient River temperature	
Dena	1.023365	g/cm ³	Ambient River density	
GRAVAC	32.2	Ft/Sec ²	Gravitational constant	Gravitational constant
BLDR	575.3	cfs	Discharge flow	Calculated
RIVR	0		River flow (0 for slack tide)	Assume slack tide

MULDIF- Y-Port Diffuser - Case 2

Input Parameters

Parameter	Proposed Y-Port	Units	Definition	Note
NC	2	none	Number of layers	Assume 2 layers at same temp and density
DO	7.5	Ft	Jet diameter	Discharge is through
UO	13.02	Ft/Sec	Discharge velocity per jet	From Calc 6
TO	113	Deg F	Discharge Temperature	From Conference call on 10/19 with Ron Hix
DEN1	1.017362	g/cm ³	Discharge density	Calculated
THETAO	0	none	Angle of discharge with respect to horizontal	Two scenarios
DJ	34	Ft	Depth of discharge	Depth of discharge
SPACJ	115	Ft	Spacing between jet centers	Only 1 jet
D	34	Ft	Depth of discharge	Depth of discharge
TA	85	Deg F	Ambient River temperature	
Dena	1.023438	g/cm ³	Ambient River density	
GRAVAC	32.2	Ft/Sec ²	Gravitational constant	Gravitational constant
BLDR	575.3	cfs	Discharge flow	Calculated
RIVR	0		River flow (0 for slack tide)	Assume slack tide

MULDIF- Y-Port Diffuser - Case 3

Input Parameters

Parameter	Proposed Y-Port	Units	Definition	Note
NC	2	none	Number of layers	Assume 2 layers at same temp and density
DO	7.5	Ft	Jet diameter	Discharge is through
UO	11.64	Ft/Sec	Discharge velocity per jet	From Calc 6
TO	117	Deg F	Discharge Temperature	From Conference call on 10/19 with Ron Hix
DEN1	1.01633	g/cm ³	Discharge density	Calculated
THETAO	0	none	Angle of discharge with respect to horizontal	Two scenarios
DJ	34	Ft	Depth of discharge	Depth of discharge
SPACJ	115	Ft	Spacing between jet centers	Only 1 jet
D	34	Ft	Depth of discharge	Depth of discharge
TA	85	Deg F	Ambient River temperature	
Dena	1.023438	g/cm ³	Ambient River density	
GRAVAC	32.2	Ft/Sec ²	Gravitational constant	Gravitational constant
BLDR	514.1	cfs	Discharge flow	Calculated
RIVR	0		River flow (0 for slack tide)	Assume slack tide

PSL-Y-OUT.xls PSL-1

M ULTIPOR BAQUEOUS FUSER IN A ARBITRARI DENSITY S TRATIFIED E VIRONMENT

AA= 115. 00 FEET

1----- AA-----1 A= 7. 50 FEET

1

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*

JET DISC HARGE ANG .00 DEG REES W/HO IZ

* *****

JET DISC HARGE VELCTY= 13.02 FT/SEC

*

* *****

JET DISC HARGE TEM ATURE= 113.00 F

JET DISC HARGE DENS Y= 1.017362 GRAM/CC

JET DISC HARGE DEP 134.00 FEET

X	Y	JET WIDTH	DILUTION	JET TEM	JET DENS	AMB DEN	AMB TEM	DELTA T	ALLOW T
46.84	0.00015	15.15771	1.01051	109.1504	1.0182	1.02344	85	24.15036	17
65.32795	0.979604	23.69739966						17	
76.70126	1.58214	28.9508	1.93665	97.60127	1.0207	1.02344	85	12.60128	17
91.47353	3.91752	35.67405	2.40216	95.15929	1.02123	1.02344	85	10.1593	17
105.9779	7.55859	42.14262	2.87192	93.49754	1.02159	1.02344	85	8.49754	17
120.0498	12.61691	48.2433	3.34881	92.28745	1.02186	1.02344	85	7.28745	17
133.5237	19.10192	53.90034	3.83613	91.36169	1.02206	1.02344	85	6.36169	17
146.2664	26.92742	59.10154	4.33722	90.62671	1.02222	1.02344	85	5.62671	17
THIS IS FREE SURFACE									

MUL TI PORT S BAQUEO USER IN . ARBITRA DENSITY RATIFIEL VIRONMENT

AA= 115.00 FEET

1-----A A-----1

A= 7.5 0 FEET

1

--A--

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*

JET DISCHARGE ANGLE= 0.00 DEGREES W/ F Z

*

JET DISCHARGE VELOCITY= 11.6 FT/SEC

*

***** JET DISCHARGE TEMPERATURE= 00 F

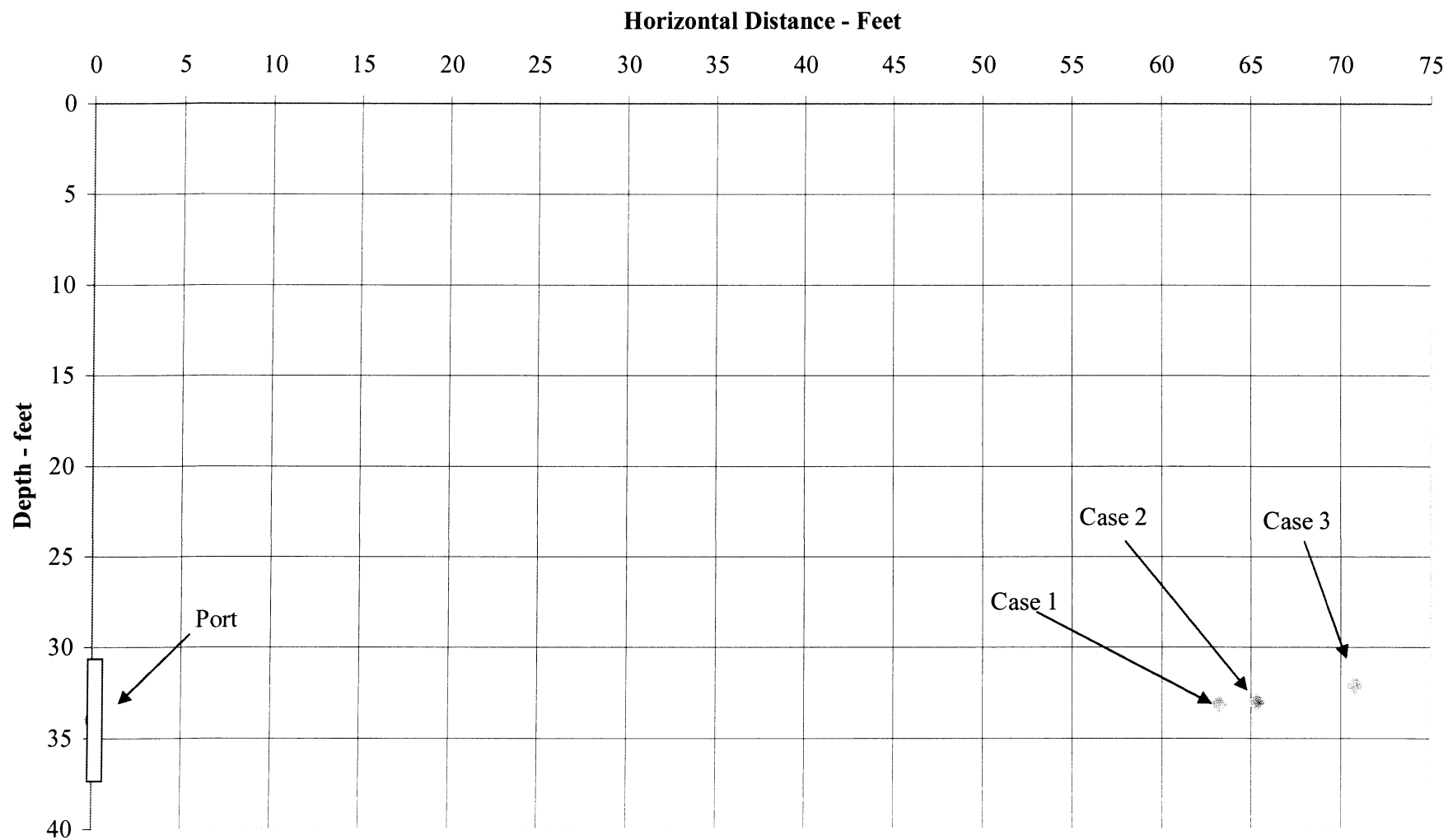
JET DISCHARGE DENSITY= 1.0163 GRAM/CC

JET DISCHARGE DENSITY= 34.00 FEET

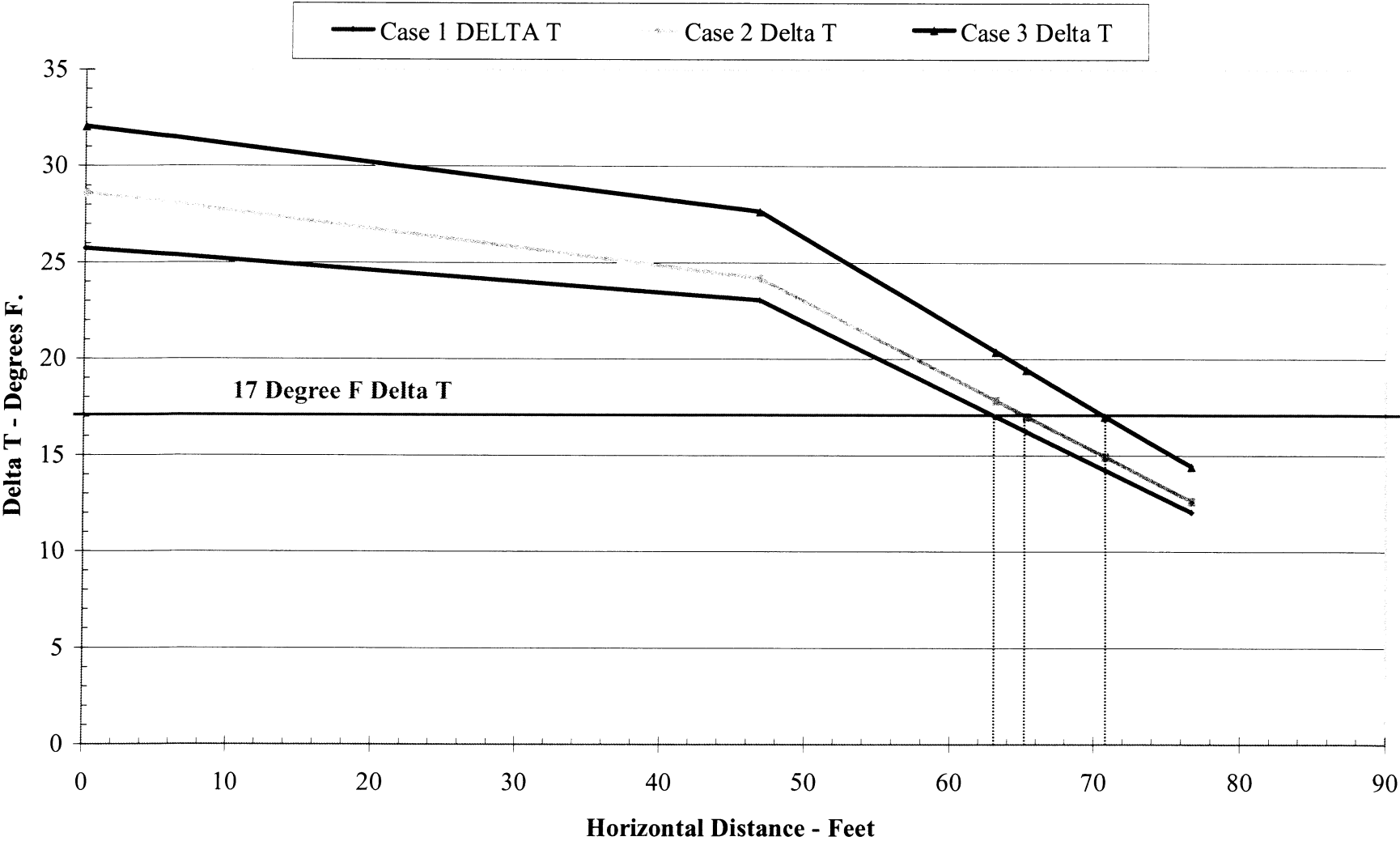
X	Y	JET WIDTH	DILUTION	JET TEM	JET DENS	AMB DEN	AMB TEM	DELTA T	ALLOW T
46.84	0.00022	15.15771	1.01051	112.6004	1.01731	1.02344	85	27.60041	17
70.75587	1.850115							17	
76.63532	2.30489	28.85568	1.93765	99.39401	1.02024	1.02344	85	14.39401	17
91.2058	5.65904	35.35647	2.40634	96.59048	1.02086	1.02344	85	11.59048	17
105.2571	10.76426	41.40145	2.88355	94.67231	1.02129	1.02344	85	9.67231	17
118.5446	17.61576	46.88834	3.37425	93.26571	1.0216	1.02344	85	8.26571	17
130.8926	26.04585	51.83208	3.88326	92.18227	1.02184	1.02344	85	7.18228	17

THI S IS FREE SURFACE

X	Y	Case 1 DELTA T	Case 2 Delta T	Case 3 Delta T
0	0	25.7	28.6	32
46.84	0.00014	23.02909	24.15036	27.60041
63.1925	0.814116	17	17.82589933	20.35236921
65.32795	0.941532	16.21267257	17	19.40586131
70.75587	1.850115	14.21142081	14.90196869	17
76.70811	1.48688	12.01686	12.60128	14.39401
91.50193	3.68498	9.68938		
106.0567	7.12125	8.10653		
120.2216	11.91491	6.95493		
133.8389	18.09402	6.07482		
146.7748	25.59637	5.37677		
T	HIS IS FR	SURFACE		
Interpolated Point				
X	Depth	Y		
0	34	0		
63.1925	33.18588	0.814115849		
65.32795	33.05847	0.941532237		
70.75587	32.14989	1.850114514		

Centerline Location of 17Degree F isotherm

Y-Nozzle Diffuser
Temperature Rise vs. Horizontal Distance



T	Rho(actual)	Rho(est)	
30	64.25	64.2420	
40	64.20	64.2090	
50	64.17	64.1600	
60	64.10	64.0950	
70	64.02	64.0140	
80	63.95	63.9170	
84.4		63.8693	1.023546
85		63.8625	1.023438
85.4		63.8580	1.023365
90	63.80	63.8040	
91		63.7918	
92		63.7795	
93		63.7670	
94		63.7543	
95		63.7415	
96		63.7285	
97		63.7154	
98		63.7021	
99		63.6886	
100	63.70	63.6750	
101		63.6612	
102		63.6473	
103		63.6332	
104		63.6189	
105		63.6045	
106		63.5899	
107		63.5752	
108		63.5603	
109		63.5452	
110		63.5300	
111		63.5146	
111.1		63.5131	1.017838
112		63.4991	
113		63.4834	1.017362
114		63.4675	
115		63.4515	
116		63.4353	
117		63.4190	1.01633
118		63.4025	
119		63.3858	
120		63.3690	

Unit 1	4 CW pumps @ 121,000 gpm each =	484,000	gpm (from Circ Water pump Curves)	
Unit 1	2 AECW pumps @ 14,500 gpm each=	29,000	gpm (assumed same as Unit 2)	
Unit 2	4 CW pumps @ 122,650 gpm each =	490,600	gpm (from Circ Water pump Curves)	
Unit 2	2 AECW pumps @ 14,500 gpm each=	29,000	gpm (from Unit 2 FES p 4-12)	
	Total =	1,032,600	gpm	
	Total =	1,487	MGD	
	Total =	2,301	CFS	

MULTIPOINT SUBAQUEOUS DIFFUSER IN AN ARBITRARILY DENSITY STRATIFIED ENVIRONMENT

1-----AA-----1
 1
 --A-- * *
 ***** ***** *****

AA= 115.00 FEET
 A= 7.50 FEET
 JET DISCHARGE ANGLE= .00 DEGREES W/HORIZ
 JET DISCHARGE VELOCITY= 13.02 FT/SEC
 JET DISCHARGE TEMPERATURE= 111.10 F
 JET DISCHARGE DENSITY= 1.017838 GRAM/CC
 JET DISCHARGE DEPTH= 34.00 FEET

X	Y	JET WIDTH	DILUTION	JET TEM	JET DENS	AMB DEN	AMB TEM	DELTA T	ALLOW T
46.84000	.00014	15.15771	1.01051	107.42910	1.01862	1.02355	84.40000	23.02909	17.00000
76.70811	1.48688	28.96076	1.93655	96.41686	1.02098	1.02355	84.40000	12.01686	17.00000
91.50193	3.68498	35.70835	2.40173	94.08938	1.02147	1.02355	84.40000	9.68938	17.00000
106.05670	7.12125	42.22679	2.87068	92.50653	1.02181	1.02355	84.40000	8.10653	17.00000
120.22160	11.91491	48.40776	3.34601	91.35493	1.02206	1.02355	84.40000	6.95493	17.00000
133.83890	18.09402	54.17075	3.83077	90.47482	1.02225	1.02355	84.40000	6.07482	17.00000
146.77480	25.59637	59.48996	4.32811	89.77677	1.02240	1.02355	84.40000	5.37677	17.00000

THIS IS FREE SURFACE

MULTIPOINT SUBAQUEOUS DIFFUSER IN AN ARBITRARILY DENSITY STRATIFIED ENVIRONMENT

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AA= 115.00 FEET
A= 7.50 FEET
JET DISCHARGE ANGLE= .00 DEGREES W/HORIZ
JET DISCHARGE VELOCITY= 13.02 FT/SEC
JET DISCHARGE TEMPERATURE= 113.00 F
JET DISCHARGE DENSITY= 1.017362 GRAM/CC
JET DISCHARGE DEPTH= 34.00 FEET

```

1-----AA-----1
1
--A-- * *

X	Y	JET WIDTH	DILUTION	JET TEM	JET DENS	AMB DEN	AMB TEM	DELTA T	ALLOW T
46.84000	.00015	15.15771	1.01051	109.15040	1.01820	1.02344	85.00000	24.15036	17.00000
76.70126	1.58214	28.95080	1.93665	97.60127	1.02070	1.02344	85.00000	12.60128	17.00000
91.47353	3.91752	35.67405	2.40216	95.15929	1.02123	1.02344	85.00000	10.15930	17.00000
105.97790	7.55859	42.14262	2.87192	93.49754	1.02159	1.02344	85.00000	8.49754	17.00000
120.04980	12.61691	48.24330	3.34881	92.28745	1.02186	1.02344	85.00000	7.28745	17.00000
133.52370	19.10192	53.90034	3.83613	91.36169	1.02206	1.02344	85.00000	6.36169	17.00000
146.26640	26.92742	59.10154	4.33722	90.62671	1.02222	1.02344	85.00000	5.62671	17.00000

THIS IS FREE SURFACE

MULTI-PORT SUBAQUEOUS DIFFUSER IN AN ARBITRARILY DENSITY STRATIFIED ENVIRONMENT

[illegible]

AA= 115.00 FEET

A= 7.50 FEET

JET DISCHARGE ANGLE= .00 DEGREES W/HORIZ

JET DISCHARGE VELOCITY= 11.64 FT/SEC

JET DISCHARGE TEMPERATURE= 117.00 F

JET DISCHARGE DENSITY= 1.016330 GRAM/CC

JET DISCHARGE DEPTH= 34.00 FEET

X	Y	JET WIDTH	DILUTION	JET TEM	JET DENS	AMB DEN	AMB TEM	DELTA T	ALLOW T
46.84000	.00022	15.15771	1.01051	112.60040	1.01731	1.02344	85.00000	27.60041	17.00000
76.63532	2.30489	28.85568	1.93765	99.39401	1.02024	1.02344	85.00000	14.39401	17.00000
91.20580	5.65904	35.35647	2.40634	96.59048	1.02086	1.02344	85.00000	11.59048	17.00000
105.25710	10.76426	41.40145	2.88355	94.67231	1.02129	1.02344	85.00000	9.67231	17.00000
118.54460	17.61576	46.88834	3.37425	93.26571	1.02160	1.02344	85.00000	8.26571	17.00000
130.89260	26.04585	51.83208	3.88326	92.18227	1.02184	1.02344	85.00000	7.18228	17.00000

THIS IS FREE SURFACE

Golder Associates

SUBJECT Revised Multiport Diffuser MULDIF Runs

Job No. 07387685
Ref. St Lucie Uprate
Calc 13

Made By H. Frediani
Checked S. Asamenaw
Reviewed

Date 11/20/2007
Sheet 1 of 2

Based on the SCA Review Meeting on Nov. 13 and 14, it was decided to model the Multiport Diffuser for an existing plant case using the highest recorded plant discharge temperature from calc 11. It was also decided to model two uprate cases as follows:

- ° Adding 2.9 ° F to the existing case discharge temperature will result in a post-uprate discharge temperature which exceeds the existing NPDES permit limit of 113 ° F. FPL has committed to shed load in such a case, assuming the discharge temperature exceeding 113 ° F is not caused by "...condenser and/or circulating water pump maintenance, throttling circulating water pumps to minimize use of chlorine, and or fouling of circulating water system." as allowed by the NPDES Permit Effluent Limitation I.A.3. Therefore, the maximum discharge temperature under normal C.W. flow conditions will be 113 ° F. Assuming worst case is with maximum DT, ambient temperature in this case will be $113 - 28.6$ (see calc 6) = 84.4 ° F
- ° When flow is reduced due to "...condenser and/or circulating water pump maintenance, throttling circulating water pumps to minimize use of chlorine, and or fouling of circulating water system.", the maximum discharge temperature will be 117 ° F. For this case, it is assumed the flow has been reduced by the temporary condition. Assuming the DT is 32 ° F (from the NPDES Permit Effluent Limitation I.A.3), the corresponding ambient temperature is $117 - 32 = 85$ ° F.

The following cases will be modeled:

- Case 4 Existing plant. (Pre-Uprate)
- Case 5 Post-Uprate with Discharge at 113 ° F
- Case 6 Post-Uprate with Discharge at 117 ° F

The input parameters for each case are delineated in attached worksheets called "Input-x", where "x" is the case number.

Case 4

From Calc. 10, the peak discharge temperature over the period of record was 111.1 ° F, we will use that for discharge temp..

Since existing peak DT is 25.7 ° F, ambient is 85.4 ° F.

For associated densities, use Book1.xls which was developed in Calc 7.

Golder Associates

SUBJECT Revised Multiport Diffuser MULDIF Runs

Job No. 07387675
Ref. PSL Uprate
Calc 13

Made By H. Frediani
Checked S. Asamenaw
Reviewed

Date 11/20/2007
Sheet 2 of 2

From Calc 6, CW flow is $(2,301 \text{ cfs}) / 2 = 1151 \text{ cfs}$ for all ports. Therefore, each port has a flow of $2301 / (2 * 58) = 19.836 \text{ cfs}$
Calculate jet velocity = $19.84 / (((17.75/12) * (17.75/12)) * 3.14159/4) = 11.54 \text{ feet per second}$
Rest of parameters remain the same as in calc 7. See worksheet "Input-4" for results.

Case 5

Parameters are the same, except for temperatures and densities, see book1.xls for values derived.

Case 6

Parameters are the same except for temperatures and densities, see book1.xls for values derived, and the velocity is reduced.

From page 1, flow is reduced by the inverse ratio of the DTs which are 32 and 28.6. Therefore the flow is $19.84 * (28.6/32) = 17.7 \text{ cfs}$

Velocity = $17.7 / (((17.75/12) * (17.75/12)) * 3.14159/4) = 10.32 \text{ feet per second}$

Set up files as follows:

	<u>Input file</u>	<u>Output File</u>
Case 4	PSL-4.dat	PSL-4.out
Case 2	PSL-5.dat	PSL-5.out
Case 3	PSL-6.dat	PSL-6.out

Create the files and run the programs. Open the output files as Word files and save as .doc files, which are attached.

Note that the DT drops below 17° F in the second step for all three runs. Plot Center line temperature against center line horizontal distance for all three runs and compare to the runs in Calc 7. Do this by importing them all into Excel, file called PSL-multiport-OUT.xls

MULDIF- Multiport Diffuser Case 4

Input Parameters

Parameter	Existing Multiport	Units	Definition	Note
NC	2	none	Number of layers	Assume 2 layers at same temp and density
DO	1.4792	Ft	Jet diameter	Discharge is through
UO	11.54	Ft/Sec	Discharge velocity per jet	From Calc 6
TO	111.1	Deg F	Discharge Temperature	From Conference call on 10/19 with Ron Hix
DEN1	1.017838	g/cm ³	Discharge density	Calculated
THETAO	0	none	Angle of discharge with respect to horizontal	Two scenarios
DJ	26.5	Ft	Depth of discharge	Depth of discharge
SPACJ	42	Ft	Spacing between jet centers	
D	34	Ft	Depth of water body	Depth of water body
TA	85.4	Deg F	Ambient River temperature	
Dena	1.023365	g/cm ³	Ambient River density	
GRAVAC	32.2	Ft/Sec ²	Gravitational constant	Gravitational constant
BLDR	19.84	cfs	Discharge flow	Calculated
RIVR	0		River flow (0 for slack tide)	Assume slack tide

MULDIF- Multiportort Diffuser - Case 5
Input Parameters

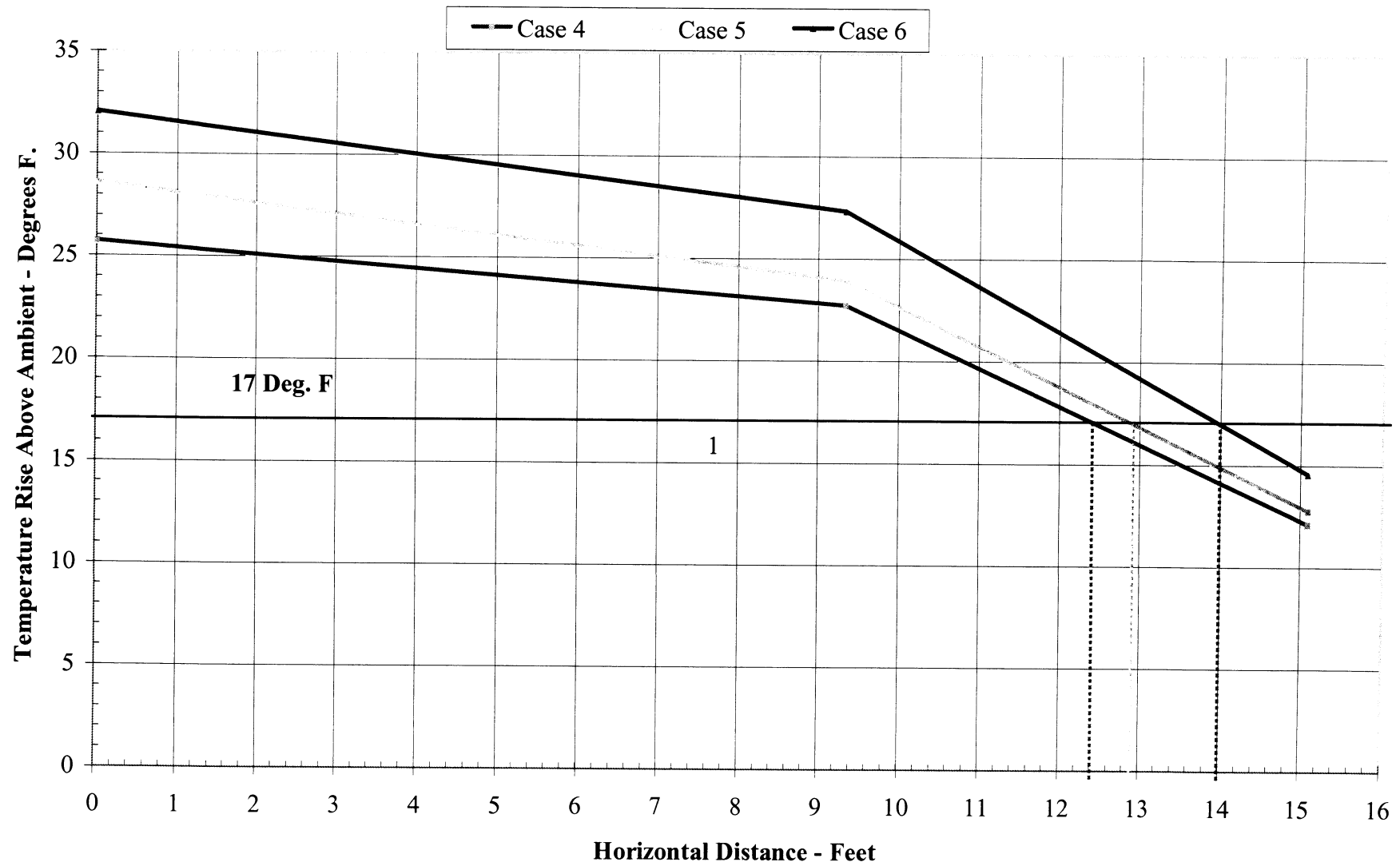
Parameter	Proposed Multiport	Units	Definition	Note
NC	2	none	Number of layers	Assume 2 layers at same temp and density
DO	1.4792	Ft	Jet diameter	Discharge is through
UO	11.54	Ft/Sec	Discharge velocity per jet	From Calc 6
TO	113	Deg F	Discharge Temperature	From Conference call on 10/19 with Ron Hix
DEN1	1.017362	g/cm ³	Discharge density	Calculated
THETAO	0	none	Angle of discharge with respect to horizontal	Two scenarios
DJ	26.5	Ft	Depth of discharge	Depth of discharge
SPACJ	42	Ft	Spacing between jet centers	Only 1 jet
D	34	Ft	Depth of water body	Depth of water body
TA	85	Deg F	Ambient River temperature	
Dena	1.023438	g/cm ³	Ambient River density	
GRAVAC	32.2	Ft/Sec ²	Gravitational constant	Gravitational constant
BLDR	19.84	cfs	Discharge flow	Calculated
RIVR	0		River flow (0 for slack tide)	Assume slack tide

MULDIF- Multiport Diffuser - Case 6
Input Parameters

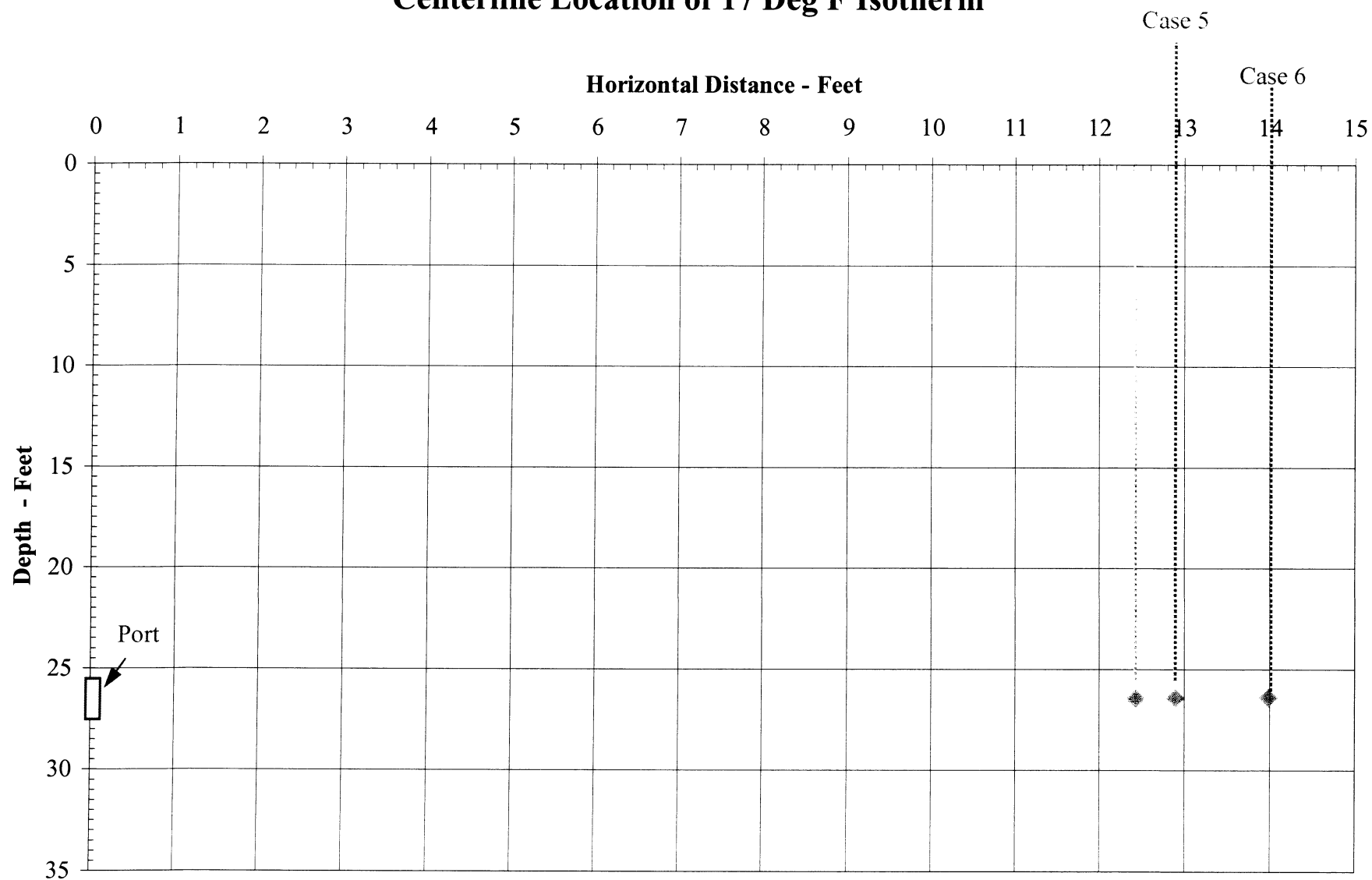
Parameter	Proposed Multiport	Units	Definition	Note
NC	2	none	Number of layers	Assume 2 layers at same temp and density
DO	1.4792	Ft	Jet diameter	Discharge is through
UO	10.32	Ft/Sec	Discharge velocity per jet	From Calc 6
TO	117	Deg F	Discharge Temperature	From Conference call on 10/19 with Ron Hix
DEN1	1.01633	g/cm ³	Discharge density	Calculated
THETAO	0	none	Angle of discharge with respect to horizontal	Two scenarios
DJ	26.5	Ft	Depth of discharge	Depth of discharge
SPACJ	42	Ft	Spacing between jet centers	Only 1 jet
D	34	Ft	Depth of discharge	Depth of discharge
TA	85	Deg F	Ambient River temperature	
Dena	1.023438	g/cm ³	Ambient River density	
GRAVAC	32.2	Ft/Sec ²	Gravitational constant	Gravitational constant
BLDR	17.7	cfs	Discharge flow	Calculated
RIVR	0		River flow (0 for slack tide)	Assume slack tide

X	Y	JET WIDTH	Case 4 ΔT	Case 5 ΔT	Case 6 ΔT
0	0	1.492	25.7	28.6	32
9.33539	0.00004	3.03464	22.68659	23.90364	27.30238
15.08721	0.07247	5.70205	12.07158	12.72115	14.53009
	X	Depth	Y	JET WIDTH	
Case 4	12.41671	26.4611584	0.038842	4.463604	
Case 5	12.88629	26.4523576	0.047642	4.681316	
Case 6	13.9742	26.4089917	0.091008	5.185152	

Multiport Diffuser Temperature Rise vs. Horizontal Distance



Centerline Location of 17 Deg F Isotherm



MULTIPOINT SUBAQUEOUS DIFFUSER IN AN ARBITRARILY DENSITY STRATIFIED ENVIRONMENT

AA= 42. 00 FEET
 A= 1. 48 FEET
 JET DISC HARGE ANGLE = .00 DE GREES W/IZ
 JET DISC HARGE VELOCITY= 11.54 FT/SEC
 JET DISC HARGE TEMPERATURE= 111 .10 F
 JET DISC HARGE DENSITY= 1.01783 8 GRAM/CC
 JET DISC HARGE DEPTH = 26.50 FE ET

X	Y	JET WIDTH	DILUTION	JET TEM	JET DENS	AMB DEN	AMB TEM	DELTA T	ALLOW T
9.33539	0.00004	3.03464	1.02577	107.0866	1.0187	1.02355	84.4	22.68659	17
12.41671	0.038842	4.46360399						17	
15.08721	0.07247	5.70205	1.92777	96.47157	1.02097	1.02355	84.4	12.07158	17
18.04352	0.18222	7.07187	2.39179	94.12963	1.02147	1.02355	84.4	9.72963	17
21.16055	0.36981	8.51419	2.88186	92.47507	1.02182	1.02355	84.4	8.07508	17
24.10752	0.62835	9.87468	3.3466	91.3537	1.02206	1.02355	84.4	6.9537	17
27.04511	0.97754	11.22617	3.81207	90.50462	1.02224	1.02355	84.4	6.10462	17
29.80682	1.40049	12.49069	4.25267	89.87215	1.02238	1.02355	84.4	5.47214	17
32.71232	1.95641	13.81255	4.72067	89.32964	1.02249	1.02355	84.4	4.92964	17
35.59235	2.63182	15.11182	5.19072	88.88324	1.02259	1.02355	84.4	4.48324	17
38.4398	3.43344	16.38319	5.66342	88.50904	1.02267	1.02355	84.4	4.10904	17
41.2471	4.3659	17.62163	6.13947	88.19043	1.02274	1.02355	84.4	3.79043	17
44.00659	5.43157	18.82279	6.6196	87.9155	1.02279	1.02355	84.4	3.51551	17
46.71082	6.63053	19.98342	7.10458	87.67553	1.02285	1.02355	84.4	3.27552	17
49.35301	7.96064	21.10163	7.5952	87.46394	1.02289	1.02355	84.4	3.06394	17
51.92731	9.41782	22.17697	8.09223	87.27575	1.02293	1.02355	84.4	2.87575	17
54.42904	10.99637	23.21041	8.59639	87.10709	1.02297	1.02355	84.4	2.70709	17
56.85479	12.6894	24.20412	9.10837	86.95493	1.023	1.02355	84.4	2.55493	17
59.20241	14.48924	25.16113	9.62878	86.81684	1.02303	1.02355	84.4	2.41684	17
61.47092	16.38785	26.08507	10.15818	86.69089	1.02306	1.02355	84.4	2.29089	17
63.66044	18.37707	26.97981	10.69703	86.57549	1.02308	1.02355	84.4	2.17548	17
65.77192	20.44896	27.84928	11.24575	86.46934	1.0231	1.02355	84.4	2.06934	17
67.80704	22.59595	28.6972	11.80466	86.37136	1.02312	1.02355	84.4	1.97136	17
69.76798	24.8109	29.52706	12.37404	86.28065	1.02314	1.02355	84.4	1.88065	17

THIS IS FREE

SURFACE

interpolated value

MUL TIPORT S BAQUEOUS EFFUSER IN N ARBITR DENSITY : RATIFIED IN ENVIRONMENT

AA= 42.0 0 FEET

1----- #NAME?

A= 1.4 8 FEET

1

--A--

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*

JET DISCHARGE ANG= .00 DE GREES W Z

*

JET DISCHARGE VELOCITY= 11.54 FT/SEC

*

JET DISCHARGE TEMPERATURE= 1.00 F

JET DISCHARGE DENSITY= 1.01732 GRAM/CC

JET DISCHARGE DEPTH= 26.50 FEET

X	Y	JET WIDTH	DILUTION	JET TEM	JET DENS	AMB DEN	AMB TEM	DELTA T	ALLOW T
9.33539	0.00005	3.03464	1.02577	108.7713	1.01828	1.02344	84.86765	23.90364	17
12.88629	0.047642	4.6813163						17	
15.08713	0.07714	5.70192	1.92778	97.58743	1.02069	1.02344	84.86629	12.72115	17
18.04317	0.19398	7.07142	2.39182	95.1206	1.02122	1.02344	84.86423	10.25637	17
21.15943	0.39361	8.51292	2.88194	93.37845	1.0216	1.02344	84.8607	8.51774	17
24.1049	0.66866	9.87186	3.3468	92.19843	1.02186	1.02344	84.85585	7.34257	17
27.03975	1.03995	11.22065	3.81248	91.30576	1.02205	1.02344	84.8493	6.45646	17
29.79727	1.48931	12.48117	4.25341	90.64164	1.02219	1.02344	84.84136	5.80028	17
32.69601	2.07932	13.79679	4.72195	90.07298	1.02232	1.02344	84.83096	5.24202	17
35.56625	2.79513	15.08735	5.19279	89.60609	1.02242	1.02344	84.81832	4.78777	17
38.4002	3.64318	16.34723	5.6666	89.21583	1.0225	1.02344	84.80336	4.41247	17
41.18972	4.62753	17.57129	6.14415	88.88463	1.02258	1.02344	84.78599	4.09864	17
43.92667	5.74976	18.75531	6.62624	88.59991	1.02264	1.02344	84.76618	3.83374	17
46.6034	7.00888	19.89643	7.11369	88.35243	1.02269	1.02344	84.74397	3.60846	17
49.2131	8.40164	20.99334	7.60734	88.13516	1.02274	1.02344	84.71938	3.41578	17
51.75012	9.92278	22.04634	8.10798	87.94277	1.02278	1.02344	84.69254	3.25023	17
54.21018	11.5655	23.05716	8.61638	87.77106	1.02282	1.02344	84.66355	3.10751	17
56.5904	13.32197	24.02867	9.13321	87.61673	1.02286	1.02344	84.63255	2.98417	17
58.88924	15.1837	24.9645	9.6591	87.47712	1.02289	1.02344	84.5997	2.87742	17
61.10639	17.14204	25.86874	10.19458	87.35009	1.02292	1.02344	84.56514	2.78495	17
63.24258	19.18842	26.74555	10.7401	87.23388	1.02294	1.02344	84.52903	2.70485	17
65.29939	21.31461	27.59901	11.29605	87.12704	1.02297	1.02344	84.49151	2.63553	17
67.27898	23.51289	28.4329	11.86273	87.02835	1.02299	1.02344	84.45271	2.57564	17
69.18401	25.77611	29.25064	12.4404	86.93682	1.02301	1.02344	84.41277	2.52405	17

THI S IS FREE SURFACE

M ULTIPOR BAQUEOUFUSER IN ARBITRA DENSITY RATIFIED VIRONMENT

AA= 42.0 0 FEET

1----- AA-----1

1

A= 1.4 8 FEET

--A-- * *

JET DISCHARGE AN .00 DEG REES W/HIZ

* *****

*

JET DISCHARGE VEITY= 10.32 FT/SEC

*

* *****

JET DISCHARGE TEMPERATURE= 100 F

JET DISCHARGE DENSITY= 1.0163 GRAM/CC

JET DISCHARGE DELTA T= 26.50 FEET

X	Y	JET WIDT	DILUTION	JET TEM	JET DENS	AMB DEN	AMB TEM	DELTA T	ALLOW T
9.33539	0.00007	3.03464	1.02577	112.17	1.0174	1.02344	84.86765	27.30238	17
13.9742	0.091008	5.185152							17
15.08631	0.11281	5.70072	1.92784	99.39574	1.02022	1.02344	84.86565	14.53009	17
18.03966	0.2835	7.06706	2.39208	96.5776	1.02085	1.02344	84.86265	11.71495	17
21.14861	0.57459	8.50067	2.88277	94.58665	1.02129	1.02344	84.85751	9.72915	17
24.07964	0.97431	9.84494	3.34874	93.2373	1.02159	1.02344	84.85046	8.38684	17
26.98863	1.51109	11.16857	3.81644	92.21555	1.02181	1.02344	84.84098	7.37458	17
29.70689	2.15608	12.3925	4.2605	91.4544	1.02198	1.02344	84.8296	6.6248	17
32.5435	2.99476	13.65279	4.73407	90.80144	1.02213	1.02344	84.8148	5.98664	17
35.32558	3.99948	14.869	5.21222	90.26404	1.02225	1.02344	84.79707	5.46697	17
38.04129	5.17179	16.03531	5.69614	89.81347	1.02235	1.02344	84.77638	5.03708	17
40.67979	6.50884	17.1484	6.18705	89.42973	1.02244	1.02344	84.75278	4.67694	17
43.23207	8.00395	18.20785	6.68615	89.09853	1.02251	1.02344	84.7264	4.37213	17
45.69145	9.64746	19.21586	7.19456	88.80935	1.02258	1.02344	84.6974	4.11196	17
48.05373	11.42778	20.17673	7.71328	88.55434	1.02263	1.02344	84.66598	3.88836	17
50.31712	13.33232	21.09603	8.24321	88.32748	1.02269	1.02344	84.63237	3.69511	17
52.48186	15.34833	21.97987	8.78506	88.12411	1.02273	1.02344	84.59679	3.52731	17
54.54987	17.46351	22.83433	9.33943	87.94055	1.02277	1.02344	84.55947	3.38108	17
56.52425	19.66639	23.66506	9.90678	87.77387	1.02281	1.02344	84.52059	3.25328	17
58.40893	21.94654	24.47704	10.48749	87.6217	1.02285	1.02344	84.48035	3.14134	17
60.20831	24.29461	25.2745	11.0818	87.48209	1.02288	1.02344	84.43892	3.04317	17
T	HIS IS FRI SURFACE								

Golder Associates

SUBJECT Predicted vs Allowed Mixing Zones

Job No. 07387685
Ref. FPL Uprate PSL
Calculation 14

Made By H. Frediani
Checked S. Asamenaw
Reviewec

Date: 11/21/2007
Sheet 1 of 4

From the NPDES Permit (see attachment1), page 4, we have the following mixing zone ($\Delta T \leq 17$ deg F) limits:

(numbers in black are from permit, numbers in red are calculated from black numbers)

	Y-port		Multiport		Both
Acre-Feet	283.9		10.7		
cubic meters	350,202		13,198		
cubic feet	12,367,168		466,092		
seaward extent (feet)	380.0		1,385.5		
width perpendicular to pipe axis (feet)			21.0		
height above bottom of discharge (feet)	27.26		8.0		
length (meters)	115.82				
height above bottom (meters)	8.31				
square meters	42,142		5,406		47,548
square feet	453,613		58,191		511,804

From Calc 12, calculate the mixing zone size for the Y-Port Diffuser for pre- and post-uprate conditions:

At the origin, for each port, there is a circular cross section with radius = $7.5/2 = 3.75$ feet

Area = $\pi R^2 = \pi (3.75)^2 = 44.18$ sq ft.

First point for Case 1 is at X = 46.84 ft where jet width = 15.2 ft, radius = $15.2/2 = 7.6$ ft., Area = 180.5 sq ft

Second point is at 61.45 ft (see calc 12) . At this point, radius of circle = area = zero.

Using average end-area method, volume = $(44.18+180.5)(46.84/2) + (180.5+0)((61.45-46.84)/2)$

Volume = 6,581 cubic feet per nozzle, total = 13,161 cubic feet

Similarly, cross sectional area = $((7.5 + 15.2)/2) \cdot 46.84 + ((15.2+0.0)/2) \cdot (61.45-46.84) = 643$ sq ft per nozzle

First point for Case 2 at X = 46.84 ft where jet width = 15.2 ft, radius = $15.2/2 = 7.6$ ft, A = 180.504 sq ft

Second point is at X = 65.3; At this point, radius of circle = area = zero.

Using average end-area method, volume = $(44.18+180.5)(46.84/2) + (180.5+0)((65.3-46.84)/2)$

Volume = 6,928 cubic feet per nozzle, total = 13,856 cubic feet

Similarly, cross sectional area = $((7.5 + 15.16)/2) \cdot 46.84 + ((15.16+0.0)/2) \cdot (65.3-46.84) = 671$ sq ft per nozzle

Similarly, for case 3, distance to first point is still 46.84 ft, to second point at 17 deg isotherm, its 70.8 ft

Volume = $(44.18+180.5)(46.84/2) + ((180.5 + 0) \cdot (70.8-46.84)/2) = 7,424$ cubic feet per nozzle, = 14,849 cu ft

Area = $((7.5 + 15.16)/2) \cdot 46.84 + ((15.16+0.0)/2) \cdot (70.8-46.84) = 712$ sq ft per nozzle.

On page 2, tabulate permitted values vs. predicted for Y-port diffuser.

Golder Associates

SUBJECT Predicted vs Allowed Mixing Zones

Job No. 07387685
Ref. FPL Uprate PSL
Calculation 14

Made By H. Frediani
S. Asamenaw
Reviewed

Date: 11/21/2007
Sheet 2 of 4

From the previous page, tabulate the Y-Port Diffuser values (in blue) for the pre- and post-uprate plumes with the permitted limits:

	permitted	Case 1 - (existing)	Case 2- (113°F)	Case 3 -(117°F)
Acre-Feet	283.9	0.31	0.32	0.34
cubic meters	350,202	373	392	420
cubic feet	12,367,168	13,161	13,856	14,849
seaward extent (feet)	380.0	63.20	65.3	70.8
width perpendicular to pipe axis (feet)				
height above bottom of discharge (feet)	27.26	7.6	7.6	7.6
length (meters)	115.82	19.3	19.9	21.6
height above bottom (meters)	8.31	2.32	2.32	2.32
square meters	42,142	119	125	132
square feet	453,613	1,285	1,341	1,425

From Calc 13, calculate the mixing zone size for the Multiport Diffuser for pre- and post-uprate conditions:

At the origin, for each port, there is a circular cross section with radius = $17.75/(12 \times 2) = 0.74$ feet

Area = $\pi \times R^2 = \pi \times (0.74)^2 = 1.72$ sq ft.

First point for Case 4 is at X = 9.3 ft where jet width = 3.0 ft, radius = $3.0/2 = 1.50$ ft., Area = 7.07 sq ft

Second point is at X = 12.4 ft; At this point, radius of circle = area = zero.

Using average end-area method, volume = $(1.72 + 7.07) \times (9.3/2) + (7.07 + 0) \times ((12.4 - 9.3)/2)$

Volume = 52 cubic feet per nozzle, total = 3,006 cubic feet

Similarly, cross sectional area = $((1.48 + 3.0)/2 \times 9.3) + ((3.0 + 0.0)/2 \times (12.4 - 9.3)) = 25.5$ sq ft per nozzle
= 1,478 sq ft

Distance from pipe centerline = $X \times \sin(25^\circ) = 5.24$ ft.

Length along main pipe from first to last port = $(58 - 1) \times 24 = 1,368$ feet

Add in the extent of the plume from the last port = $12.4 \times \cos(25^\circ) = 11.2$ ft

Total mixing zone extent seaward = $1368 + 11.2 = 1,379$ feet

For the Multiport Diffuser for post-uprate conditions (Cases 5 and 6):

At the origin, for each port, there is a circular cross section with radius = $17.75/(2 \times 12) = 0.74$ feet

$$\text{Area} = \pi R^2 = \pi (0.74)^2 = 1.72 \text{ sq ft.}$$

First point for Case 5 is at $X = 9.3$ ft where jet width = 3.0 ft, radius = $3.0/2 = 1.50$ ft., Area = 7.07 sq ft

Second point is at $X = 12.9$; At this point, radius of circle = area = zero.

Using average end-area method, volume = $(1.72 + 7.07) \times (9.3/2) + (7.07 + 0) \times ((12.9 - 9.3)/2)$

Volume = 54 cubic feet per nozzle, total = 3,109 cubic feet

Similarly, cross sectional area = $((1.48 + 3.0)/2) \times 9.3 + ((3.0 + 0.0)/2) \times (12.9 - 9.3) = 26 \text{ sq ft per nozzle}$
= 1,521 sq ft

Distance from pipe centerline = $X \times \sin(25^\circ) = 5.45$ ft.

Length along main pipe from first to last port = $(58 - 1) \times 24 = 1,368$ feet

Add in the extent of the plume from the last port = $12.9 \times \cos(25^\circ) = 11.7$ ft

Total mixing zone extent seaward = $1368 + 11.7 = 1,380$ feet

First point for Case 6 is at $X = 9.3$ ft where jet width = 3.0 ft, radius = $3.0/2 = 1.50$ ft., Area = 7.07 sq ft

Second point is at $X = 14.0$; At this point, radius of circle = area = zero.

Using average end-area method, volume = $(1.72 + 7.07) \times (9.3/2) + (7.07 + 0) \times ((14.0 - 9.3)/2)$

Volume = 57.5 cubic feet per nozzle, total = 3,334 cubic feet

Similarly, cross sectional area = $((1.48 + 3.0)/2) \times 9.3 + ((3.0 + 0.0)/2) \times (14.0 - 9.3) = 28 \text{ sq ft per nozzle}$
= 1,617 sq ft

Distance from pipe centerline = $X \times \sin(25^\circ) = 5.92$ ft.

Length along main pipe from first to last port = $(58 - 1) \times 24 = 1,368$ feet

Add in the extent of the plume from the last port = $12.9 \times \cos(25^\circ) = 12.7$ ft

Total mixing zone extent seaward = $1368 + 12.7 = 1,381$ feet

On page 4, tabulate permitted values vs. predicted for multiport diffuser.

**Golder
Associates**

SUBJECT Predicted vs Allowed Mixing Zones

Job No. 07387685
Ref. FPL Uprate PSL
Calculation 14

Made By H. Frediani
S. Asamenaw
Reviewed

Date: 11/21/2007
Sheet 4 of 4

From the previous page, tabulate the Multiport Diffuser values (in blue) for the pre- and post-uprate plumes with the permitted limits:

	Permitted		Case 4 (Existing)		Case 5 (113°F)		Case 6 (117°F)
Acre-Feet	10.7		0.069		0.071		0.077
cubic meters	13,198		85		88		94
cubic feet	466,092		3,006		3,109		3,334
seaward extent (feet)	1,385.5		1,379		1,380		1,381
width perpendicular to pipe axis (feet)	21.0		5.2		5.5		5.92
height above bottom of discharge (feet)	8.0		0.04		0.04		0.06
length (meters)							
height above bottom (meters)							
square meters	5,406		137		141		150
square feet	58,191		1,478		1,521		1,617

Listing of MULDIF

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C      MULTIPOINT DIFFUSER IN A STABLY DENSITY-STRATIFIED STAGNANT ENVIRN.
C      THIS PROGRAM WILL OUTPUT THE JET TEMPERATURE DISTRIBUTION AT 1/2
C      FT INTERVALS FROM THE JET ORIFICE TO THE FREE SURFACE. INPUT
C      PARAMETERS MAY BE IN FPS,MKS OR CGS UNITS. WHEN SPECIFYING TABLE
C      OF AMBIENT DEPTH, TEMPERATURE AND DENSITY, FIRST DEPTH MUST BE
C      EQUAL OR LESS THAN DJ, THEN WORK TOWARDS SURFACE. IF AMBIENT IS
C      UNIFORM, SPECIFY TWO POINTS, AT DJ AND AT 1 FT- WHEN THE TWO
C      VALUES COINCIDE, AMBIENT IS UNIFORM. THE INPUT PARAMETERS ARE
C      DEFINED AS FOLLOWS:
C      NC          NUMBER OF STRATIFIED LAYERS INPUTTED
C      DO          DIAMETER OF INDIVIDUAL JETS
C      UO          VELOCITY OF JET DISCHARGE
C      TO          TEMPERATURE OF DISCHARGE
C      DEN1        DENSITY OF DISCHARGE(MUST BE IN GM/CC)
C      THETAO      ANGLE OF DISCHARGE W/RESPECT TO HORIZ.
C      DJ          DEPTH OF DISCHARGE
C      SPACJ       JET SPACING(BETWEEN CENTERS)
C      D(I=1,NC)   DEPTH AT WHICH AMBIENT SPECIFIED
C      TA(I=1,NC)  AMBIENT TEMPERATURE AT D(I=1,NC)
C      DENA(I=1,NC) AMBIENT DENSITY AT D(I=1,NC)
C      GRAVAC      GRAVITATIONAL ACCELERATION
C      PROGRAM MULDIFF
C      DIMENSION TA(50),D(50),DENA(50),ET(50),ED(50),YT(50)
C      DIMENSION Y(6),YP(6)
C      REAL LAMBDR,LAMBDs,M
C      COMMON LAMBDR,LAMBDs,M,H,ALPHAR,ALPHAS,NC,ET,ED,PAI,GRAVAC,YT,IK
C      1,ICHEK,IQ,SPACJ
C      1 FORMAT(11I10,7F10.6)
C      10 FORMAT (3F10.6)
C      11 FORMAT (3F10.5)
C      100 FORMAT(T11,'MULTIPOINT SUBAQUEOUS DIFFUSER IN AN ARBITRARILY DENSIT
C      1Y STRATIFIED ENVIRONMENT',///T60,'AA= ',F6.2,' FEET',/T28,'1----
C      2--AA-----1',T61,'A= ',F6.2,' FEET',/T43,'1',/T25,'*--A--*
C      3*      *',T60,'JET DISCHARGE ANGLE= ',F6.2,' DEGREES W/HORIZ',
C      4/T11,'*****'
C      5T60,'JET DISCHARGE VELOCITY= ', F6.2,' FT/SEC',/T55,'*',/T11,'****
C      6*****'
C      7T60,'JET DISCHARGE TEMPERA
C      7TURE= ',F6.2,' F',/T60,'JET DISCHARGE DENSITY= ',F8.6,' GRAM/CC',
C      8/T60,'JET DISCHARGE DEPTH= ',F6.2,' FEET'////////)
C      102 FORMAT (75H1ROW BUOYANT JETS IN AN ARBITRARILY DENSITY STRATIFIED
C      1STAGNANT ENVIRONMENT///5X,13HJET DIAMETER=,1F6.3,6HMETERS,5X,
C      223HJET DISCHARGE VELOCITY=,1F6.2,8HMET./SEC/5X, 26HJET DISCHARGE T
C      3EMPERATURE=,1F6.2,13HDEGREE CENTIG,5X,22HJET DISCHARGE DENSITY=,
C      41F10.7, 11HGRAM PER ML/4X,18H JET DISCH.ANGLE=,1F6.2,8H DEGREES/
C      55X,20HJET DISCHARGE DEPTH=,1F6.2,6HMETERS,5X,16HJET SPACING C-C=,
C      61F6.2,6HMETERS)
C      103 FORMAT (75H1ROW BUOYANT JETS IN AN ARBITRARILY DENSITY STRATIFIED
C      1STAGNANT ENVIRONMENT///5X, 13HJET DIAMETER=,1F6.2,4H CM.,5X,
C      223HJET DISCHARGE VELOCITY=,1F6.2,8H CM./SEC/5X, 26HJET DISCHARGE T
C      3EMPERATURE=,1F6.2,13HDEGREE CENTIG, 5X,22HJET DISCHARGE DENSITY=,
C      41F10.7, 11HGRAM PER ML/4X,18H JET DISCH. ANGLE=, 1F6.2,8H DEGREES/
C      55X,20HJET DISCHARGE DEPTH=,1F6.2,4H CM., 5X,16HJET SPACING C-C=,
C      61F6.2,4H CM.)
C      111 FORMAT(///7X,1HX,10X,1HY,6X,9HJET WIDTH,3X,8HDILUTION,3X,7HJET TEM
C      1,3X,8HJET DENS,4X,7HAMB DEN,4X,7HAMB TEM,4X,7HDELTA T,3X,7HALLOW T
C      2)
C      120 FORMAT(5X,53H INSUFFICIENT DATA ON AMBIENT DENSITY AND TEMPERATURE

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1)
222 FORMAT (12F11.5)
520 FORMAT (10X, 20HTRANSITION POINT TWO)
532 FORMAT (10X,20HTHIS IS FREE SURFACE)
1222 FORMAT (10X,20HTRANSITION POINT ONE)
204 READ(5,1)NC,DO,UO,TO,DEN1,THETAO,DJ,SPACJ
    IF (DO) 2,2,3
2 GO TO 104
3 READ(5,10) (D(I),TA(I),DENA(I),I=1,NC)
  READ (5,11) GRAVAC,BLDR,RIVR
  TRA=(BLDR*TO+RIVR*TA(1))/(BLDR+RIVR)
  TRA=TA(1)
  PAI=3.14159265
  ALPHAR=.082
  ALPHAS=.16
  LAMBDR=1.16
  LAMBD=1.
  DO 999 I=1,NC
999 YT(I)=DJ-D(I)
    THETA=THETAO*PAI/180.
    ZIP=1.5
    ICHEK=0.
    L=0
C    CHECK PHYSICAL UNITS
    IF(GRAVAC-900.) 97,97,98
97 IF(GRAVAC-30.) 101,99,99
C    IN FPS UNITS
99 WRITE(6,100) SPACJ,DO,THETAO,UO,TO,DEN1,DJ
    GO TO 110
C    IN MKS UNITS
101 WRITE (6,102) DO,UO,TO,DEN1,THETAO,DJ,SPACJ
    GO TO 110
C    IN CGS UNITS
98 WRITE (6,103) DO,UO,TO,DEN1,THETAO,DJ,SPACJ
110 WRITE(6,111)
    S=0.
C    TO FIND REFERENCE TEMPERATURE AND DENSITY
    IR=1
    IF (DJ-D(IR)) 112,113,114
113 TR=TA(IR)
    DENR=DENA(IR)
    GO TO 118
112 IR=IR+1
    IF (DJ-D(IR)) 112,113,117
114 WRITE (6,120)
    GO TO 204
117 SL=(DJ-D(IR))/(D(IR-1)-D(IR))
    TR=TA(IR)+SL*(TA(IR-1)-TA(IR))
    DENR=DENA(IR)+SL*(DENA(IR-1)-DENA(IR))
C    INITIAL CONDITIONS
118 Y(1)=PAI*DO*DO*UO*0.5
    M=Y(1)*UO*0.5
    VOLFJ=Y(1)
    H=M*COS(THETA)
    Y(2)=M*SIN(THETA)
    Y(3)=Y(1)*(DENR-DEN1)/DENR*0.5
    Y(4)=Y(1)*(TR-TO)/TR*0.5

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      Y(5)=6.2*DO*COS(THETA)
      Y(6)=6.2*DO*SIN(THETA)
      IQ=0
      IP=0
      IK=2
      SQLAM=(1.+LAMBDL*LAMBDL)/(LAMBDL*LAMBDL)
      SURLAM=SQRT(1.+LAMBDS*LAMBDS)/LAMBDS
C     CALCULATION OF DENSITY AND TEMPERATURE GRAIDENTS
      NC1=NC-1
      DO 912 I=1,NC1
      I1=I+1
      DP1=YT(I1)-YT(I)
      ET(I)=(TA(I1)-TA(I))/(TR*DP1)
912   ED(I)=(DENA(I1)-DENA(I))/(DENR*DP1)
C     CHOICE OF INTEGRATION STEP
      DS1=DO/9.
      DS2=DJ/100.
      K=1
      IF (DS1-DS2) 301,301,302
301   DS=DS1
      GO TO 303
302   DS=DS2
C     INTEGRATION BY RUNGE-KUTTA METHOD
      K=1
303   CALL RUNGS (S,DS,6,Y,YP,L)
304   Y20=Y(2)
      CALL RUNGS (S,DS,6,Y,YP,L)
      IF (Y(2)*Y20) 20,21,21
20    K=K+1
      IF(K-3) 21,22,22
22    IF(ICHEK-1) 204,511,204
21    CONTINUE
C     LOOP FOR TRANSITION POINT TWO
      IF(ICHEK-2) 513,514,204
513   IF(ICHEK-1) 203,206,206
203   TRANW=SPACJ
C     ROUND JET SOLUTION
514   IF (Y(6)-DJ) 530,531,531
531   WRITE (6,532)
      GO TO 204
530   IF (IQ) 533,533,206
533   M=SQRT(H*H+Y(2)*Y(2))
      WIDTH=2.*Y(1)/SQRT(PI*M)
      IF(WIDTH-TRANW)207,206,206
C     PRINT SPACING CONTROL
207   SJP=2.*DO
      PI=IP*SJP
      IF(S-PI)220,221,221
220   GO TO 304
221   IP=IP+1.
      DENDIF=SQLAM*DENR*Y(3)/Y(1)
      TDIF=SQLAM*TR*Y(4)/Y(1)
      DILU=Y(1)/VOLFJ
      IF (DENDIF) 401,920,920
401   DENDIF=DENDIF*0.5
      TDIF=0.5 * TDIF
C     TO FIND AMBIENT DENSITY AND TEMPERATURE VALUES

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920 IY=2
906 IF (Y(6)-YT(IY)) 900,901,902
901 DENAA=DENA(IY)
    TAA=TA(IY)
    IY=IY+1
    GO TO 909
900 IY=IY-1
    IF (Y(6)-YT(IY)) 900,901,905
905 IYY=IY+1
    SYY=(Y(6)-YT(IYY))/(YT(IY)-YT(IYY))
    TAA=SYY*(TA(IY)-TA(IYY))+TA(IYY)
    DENAA=SYY*(DENA(IY)-DENA(IYY))+DENA(IYY)
    GO TO 909
902 IY=IY+1
    GO TO 906
909 TJ=TAA-TDIF
    DENJ=DENAA-DENDIF
    TDIFM=-TDIF
    IF(1.3-DILU)428,423,423
428 IF(DILU-ZIP)304,425,425
425 ZIP=ZIP+.5
423 ALT=17.
    WRITE (6,222) Y(5),Y(6),WIDTH,DILU,TJ,DENJ,DENAA,TAA,TDIFM,ALT
    GO TO 304
C    SLOT JET SOLUTION
C    CHECK TRANSITION POINT ONE OR TWO
206 IF (Y(6)-DJ) 522,511,511
511 ICHEK=ICHEK+1
    IF (ICHEK-2) 512,512,204
C    TRANSITION POINT TWO
512 S=SO
    Y(1)=Y1
    Y(2)=Y2
    Y(3)=Y3
    Y(4)=Y4
    Y(5)=Y5
    Y(6)=Y6
    IP=IPC
    IK=IKC
    IQ=O
    IY=IYC
    L=O
    K=KI
    WRITE (6,520)
    GO TO 303
522 IQ=1
    IF (ICHEK-1) 240,241,241
C    TRANSITION POINT ONE
240 WRITE (6,1222)
C    STORE SOLUTIONS AS INITIAL CONDITIONS FOR TRANSITION POINT TWO
    SO=S
    Y1=Y(1)
    Y2=Y(2)
    Y3=Y(3)
    Y4=Y(4)
    Y5=Y(5)
    Y6=Y(6)

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        TRANW=2.*ALPHAS*SPACJ/(PAI*ALPHAR)
        IPC=IP
        KI=K
        IKC=IK
        ICHEK=ICHEK+1
        IYC=IY
C      PRINT SPACING CONTROL
241  PI=IP*SJP
      IF (S-PI) 304,501,501
501  IP=IP+1
      M=SQRT(H*H+Y(2)*Y(2))
      WIDTH=Y(1)*Y(1)/(SQRT(PAI)*M*SPACJ)*2.
      DENDIF=SQRLAM*DENR*Y(3)/Y(1)
      TDIF=SQRLAM*TR*Y(4)/Y(1)
      DILU=Y(1)/VOLFJ
      IF (DENDIF) 402,906,906
402  CONST=0.5*SQRT(PAI*0.5)
      DENIF=CONST*DENDIF
      TDIF=CONST*TDIF
      GO TO 906
104  STOP
      END
      SUBROUTINE DERIVE (S,N,Y,YP)
      DIMENSION Y(6),YP(6)
      DIMENSION ET(50),ED(50),YT(50)
      REAL LAMBDR,LAMBDS,M
      COMMON LAMBDR,LAMBDS,M,H,ALPHAR,ALPHAS,NC,ET,ED,PAI,GRAVAC,YT,IK
1,ICHEK,IQ,SPACJ
C      COMPUTATION OF DENSITY AND TEMPERATURE GRADIENTS AT Y
814  IF (Y(6)-YT(1)) 811,811,812
812  IF (Y(6)-YT(NC)) 806,813,813
811  EDD=ED(1)
      ETT=ET(1)
      GO TO 70
813  EDD=ED(NC-1)
      ETT=ET(NC-1)
      GO TO 70
806  IF (Y(6)-YT(IK)) 800,801,802
801  EDD=(ED(IK)+ED(IK-1))*0.5
      ETT=(ET(IK)+ET(IK-1))*0.5
      IK=IK+1
      GO TO 70
800  IK=IK-1
      IF(Y(6)-YT(IK)) 800,801,805
805  EDD=ED(IK)
      ETT=ET(IK)
      IK=IK+1
      GO TO 70
802  IK=IK+1
      IF (IK-NC) 814,814,807
807  WRITE (6,808)
808  FORMAT (10X,25H THIS IS THE FREE SURFACE)
      RETURN
70  IF (IQ) 71,71,72
C      ROUND JET SOLUTION
71  ENTRAN=2.*ALPHAR*SQRT(2.*PAI*M)
      CLAM=(1.+LAMBDR*LAMBDR)/2.

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      GO TO 73
C      SLOT JET SOLUTION
72  ENTRAN=2.*SQRT(2.)*ALPHAS*SPACJ*M/Y(1)
      CLAM=SQRT((1.+LAMBDS*LAMBDS)/2.)
73  SQROTM=SQRT(Y(2)*Y(2)+H*H)
      YP(1)=ENTRAN
      YP(2)=CLAM * GRAVAC * Y(1) * Y(3)/SQROTM
      YP(3)=Y(1) * EDD * Y(2)/SQROTM
      YP(4)=Y(1) * ETT * Y(2)/SQROTM
      YP(5)=H/SQROTM
      YP(6)=Y(2)/SQROTM
      RETURN
      END
      SUBROUTINE RUNGS (X,H,N,Y,YPRIME,INDEX)
      DIMENSION Y(7),YPRIME(7),Z(7),W1(7),W2(7),W3(7),W4(7)
CRUNGS - RUNGE-KUTTA SOLUTION OF SET OF FIRST ORDER O.D.E. FORTRAN II
      IF (INDEX) 5,5,1
1    DO 2 I=1,N
      W1(I)=H * YPRIME(I)
2    Z(I)=Y(I)+(W1(I)*.5)
      A=X+H/2.
      CALL DERIVE (A,N,Z,YPRIME)
      DO 3 I=1,N
      W2(I)=H * YPRIME(I)
3    Z(I)=Y(I)+.5*W2(I)
      A=X+H/2.
      CALL DERIVE (A,N,Z,YPRIME)
      DO 4 I=1,N
      W3(I)=H * YPRIME(I)
4    Z(I)=Y(I)+W3(I)
      A=X+H
      CALL DERIVE (A,N,Z,YPRIME)
      DO 7 I=1,N
      W4(I)=H * YPRIME(I)
7    Y(I)=Y(I)+((2.*(W2(I)+W3(I)))+W1(I)+W4(I))/6.)
      X=X+H
      CALL DERIVE (X,N,Y,YPRIME)
      GO TO 6
5    CALL DERIVE (X,N,Y,YPRIME)
      INDEX=1
6    RETURN
      END

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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Florida Power & Light Company's)
Petition to Determine Need for Expansion)
of Electrical Power Plants and for)
Exemption from Rule 25-22.082, F.A.C.)

Docket No. _____

Dated: September 17, 2007

PETITION

Pursuant to Sections 366.04 and 403.519, Florida Statutes, and Rules 25-22.080, 25-22.081, and 28-106.201, Florida Administrative Code, Florida Power & Light Company ("FPL" or the "Company") petitions this Commission for an affirmative determination of need to expand the electric generating capacity of FPL's existing Turkey Point nuclear power plant ("PTN") and St. Lucie nuclear power plant ("PSL"). FPL also requests that the Commission confirm or grant on an expedited basis an exemption from Rule 25-22.082, F.A.C. (the "Bid Rule") and confirm that the costs of the uprates will be recovered as provided in Section 366.93, Florida Statutes, and Rule 25-6.0423, F.A.C.

I. Introduction and Overview

1. FPL owns and operates four nuclear units at two nuclear generating plant sites in Florida: Turkey Point Units 3 and 4, and St. Lucie Units 1 and 2. These units together have operated cleanly, safely, and reliably for more than a combined 125 years. Their operation has saved customers billions of dollars in fuel costs, enhanced fuel diversity, and supported electric system reliability. In doing so, the nuclear units also have prevented the emission of hundreds of millions of tons of carbon dioxide ("CO₂") and other greenhouse gasses ("GHG") into the atmosphere.

2. FPL is working to expand its nuclear production. FPL's efforts consist of two parts. First, FPL is proposing to expand the electric generating capacity of its existing nuclear

units, as discussed in this Petition. Second, FPL intends to propose, in a subsequent petition, two new nuclear-fueled units at FPL's existing Turkey Point site.

3. Capacity expansions at existing nuclear plants are referred to as "uprates." The nuclear uprates proposed by FPL involve major work to all four nuclear units scheduled during separate outages during 2011 and 2012. The PTN uprates will increase the gross power of both PTN units by about 14%. The PSL uprates will increase the gross power of both PSL units by about 11%. Altogether, the nuclear uprates will add about 414 megawatts ("MW") of baseload generating capacity – significant additions to the nuclear powered generating capability of the FPL system.

4. FPL's 2006/2007 resource planning work determined that FPL has future resource needs for 2012 of 490 MW of incremental capacity, or 408 MW at the generator of cost-effective demand site management ("DSM"). The resource needs for 2012 and 2013 combined are 907 MW of incremental capacity or 756 MW of additional cost-effective DSM. All DSM that is known to be cost-effective through 2013 has already been reflected in FPL's 2006/2007 resource planning work. Consequently, in order to meet FPL's summer reserve margin criterion of 20% through 2013, FPL needs new capacity (power plant construction and/or purchases).

5. FPL's economic analyses show that the proposed nuclear uprates are the most cost-effective means of meeting FPL's future capacity needs, maintaining fuel diversity, and reducing CO2 emissions beginning in 2011. Scenario analysis shows an economic advantage for the proposed nuclear uprates in eight of nine scenarios, with the economic advantage ranging from \$122 million (\$2007) in cumulative present value of revenue requirements ("CPVRR") to

\$863 million (\$2007). Moreover, the one case not showing an economic advantage from the uprates results from an unlikely scenario of lower than expected gas costs and environmental compliance costs, and would result in \$33 billion in CPVRR savings for customers on an FPL system-wide basis, due to the large amounts of natural gas used on FPL's system. Thus, FPL expects that customers are highly likely to realize substantial economic benefits through implementation of the proposed nuclear uprates.

6. If the nuclear uprates are approved by the Commission, economic benefits will begin as each uprate is placed into service. Cost savings result from nuclear generation displacing higher-cost fossil fuel generation. Customers will receive all of the benefits of the lower fuel costs that are achieved, and these savings will be reflected in fuel cost recovery clause charges. The uprates are also expected to reduce future capacity costs. Capacity cost reductions occur because the nuclear uprates defer by about one year, and reduce the number of needed MW, of natural gas capacity additions scheduled in the 2014-2017 period.

7. The uprates will decrease reliance on natural gas and oil, improve fuel diversity and contribute to peninsular Florida's energy independence. FPL's analyses show that the nuclear uprates would contribute to FPL's system supplying approximately 19% of its energy with nuclear-fueled energy, rather than 17% if the nuclear uprates are not implemented. Likewise, the nuclear uprates would contribute to FPL's system supplying 65% of its energy with natural gas, as opposed to 67% of energy being fueled from natural gas if the nuclear uprates are not implemented. The additional amount of nuclear energy projected from the

uprates is the equivalent of the annual energy needs of approximately 213,000 residential customers.

8. In addition to meeting electric reliability needs, improving fuel diversity, and the high likelihood of achieving substantial cost savings, the uprates will also result in environmental benefits for customers. The uprates are expected to prevent emission of about 1 million tons per year of CO₂ into the atmosphere. In total, the uprates will prevent emission of about 27 million total tons of CO₂ over their operating lives.

9. FPL requests that the Commission confirm or grant an exemption from the Bid Rule. Section 403.519(4)(c), Florida Statutes, provides an exemption from the Bid Rule for nuclear-fueled electric power plants. Further, in any event, the Bid Rule itself expressly permits a utility to be exempted from its requirements under circumstances such as those presented by these nuclear uprates. Affirming or granting an exemption will make possible lower cost supply of electricity, increase the reliable supply of electricity to the general body of FPL's customers, and serve the public welfare by reducing reliance on natural gas and oil, improving fuel diversity, and avoiding many millions of tons of CO₂ and other emissions. These significant benefits also support granting a need determination and a finding that undertaking the nuclear uprates is prudent and reasonable. No other entity can reasonably be expected to provide 400 MW of non-GHG emitting baseload capacity beginning in the 2012-2013 time period at a cost that results in net savings, not net costs, to customers. FPL requests that the Commission affirm or grant the requested exemption early in this need determination proceeding so that this question is resolved prior to the hearing on FPL's request for a determination of need.

10. The estimated cost of the nuclear uprates, including construction carrying costs, is \$1,798 million (nominal). This substantial new investment in additional nuclear generation in Florida is greatly facilitated by the Florida Legislature's policy of encouraging investment in nuclear generation, embodied in Section 366.93, Florida Statutes, and in the Commission's nuclear cost recovery rule, Rule 25-6.0423, F.A.C. The Commission's timely ongoing review and determination of the prudence of FPL's nuclear uprate expenditures, as well as the cost recovery and rate adjustment provisions contained in the referenced statute and rule, make it possible for FPL to propose this significant and beneficial investment at the earliest feasible point in time. Absent the increased regulatory certainty and cost recovery provisions that have been provided by the Florida Legislature and Commission, FPL would not be encouraged to undertake such capital-intensive nuclear uprates on such an expedited basis. Because of the significance of these cost recovery considerations in FPL's decision to propose the nuclear uprates, and before proceeding with this major investment in additional cost-effective, non-GHG emitting nuclear generation, FPL requests that the Commission confirm that the costs of the uprates will be recovered as provided in Section 366.93 and consistent with the nuclear cost recovery rule, Rule 25-6.0423, F.A.C.

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

11. The Petitioner's name and address are:

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

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

William G. Walker, III
Vice President
Florida Power & Light Company
215 South Monroe Street
Suite 810
Tallahassee, Florida 32301-1859

R. Wade Litchfield
Vice President and
Associate General Counsel
Florida Power & Light Company
700 Universe Boulevard
Juno Beach, Florida 33408
Telephone: 561-691-7101

13. FPL is a Florida corporation with principal offices at 9250 West Flagler Street, Miami, Florida 33174. FPL is a utility as defined in Section 366.82(1), Florida Statutes, and is an applicant as defined in Section 403.503(4) for purposes of Section 403.519, Florida Statutes. FPL is the primarily affected utility within the meaning of Rule 25-22.081, F.A.C.

14. FPL is the largest investor-owned electric utility in Florida and is among the largest in the United States. FPL currently serves more than 4.41 million customer accounts in 35 counties. FPL's service area contains approximately 27,650 square miles within which the population is approximately 8.6 million. Besides being one of the most populous states in the nation, Florida continues to be one of the fastest growing. Over the past decade, FPL added an average of about 85,000 new customers each year.

15. FPL is charged with serving its existing customers, as well as new customers that locate in its service territory. FPL forecasts continued growth of customers in its service territory. The Company is projecting an annual average increase of about 85,000 new customers for the next fifteen years. FPL projects that its annualized retail customer growth will be 2.0% for 2007, 2.1% for 2008, and an average of 1.7% for the succeeding twelve years. In addition to

significant projected customer growth, FPL forecasts significant increases in per-customer electrical load and energy usage. FPL projects that in 2007 FPL's energy use per customer will be 1.9% above 2006, with an increase of 1.7% in 2008, and a compound annual average growth rate of 1.1% thereafter. Combining the growth in customers and the growth in energy use per customer yields a growth in energy sales estimated at 3.9% in 2007, 3.8% in 2008, and then an average of 2.9% for the succeeding thirteen years.

16. In 2007, FPL experienced a coincident peak demand of 21,943 MW (summer) which is 333 MW lower than the all time record peak for FPL's service territory of 22,276 MW experienced in 2005. The winter peak for 2006/2007 was 16,815 MW, well below the all time high winter peak of 2002/2003, which was 20,190 MW. These electric demands reflect the effect of relatively mild weather in 2007 and the continuing impact of the 2005 hurricanes. FPL projects that summer peak demand will grow from 21,943 MW in 2007 to 30,091 MW in 2020, an increase over 2007 of 8,148 MW. Similarly, the winter peak is forecasted to grow from 16,815 MW in the winter of 2006/2007 to 29,308 MW in the winter of 2019/2020, an increase over 2007 of 12,493 MW.

17. FPL is part of a nationwide interconnected power network. FPL is interconnected directly with eight other electric utilities. Multiple points of interconnection enable power to be exchanged among utilities. During 2006, the FPL bulk transmission system was comprised of a total of 6,620 circuit miles of transmission lines. Integration of the generation, transmission and distribution system is achieved through FPL's 542 substations.

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

18. FPL is an industry leader in renewable energy and conservation through DSM, and has one of the cleanest generating fleets in the country. FPL meets its customers' energy needs through a mix of conventional and nuclear generating units, purchased power, including renewable generation, and DSM. FPL's existing generating resources are located at 14 generating sites distributed geographically throughout its service territory, and they also include partial ownership of one unit located in Georgia and two units located in Jacksonville, Florida. In the summer of 2007, FPL's generating facilities totaled approximately 22,123 MW (summer) of capacity and its generating units consisted of 4 nuclear steam units, 3 coal steam units in which it holds partial ownership interests, 12 combined cycle ("CC") units, 17 fossil fuel steam units, 48 combustion turbines and 5 diesel units. In 2006, FPL's fuel mix was as follows: natural gas (50%); nuclear (21%); coal (18%); fuel oil (9%); and other sources (about 2%).

19. FPL presently has long-term Unit Power Sales contracts to purchase up to 931 MW of coal-fired generation from Southern Company. FPL also has long-term contracts with Jacksonville Electric Authority for the purchase of 381 MW (summer) of coal-fired generation from St. John's River Power Park Units One and Two. In addition, FPL has a number of short-term, firm capacity purchased power contracts with a variety of suppliers totaling 943 MW (summer) for 2007. However, in 2015 the UPS contract expires and FPL expects that Internal Revenue Service regulations will require it to stop taking power under the SJRPP contract.

20. FPL has contracts to purchase firm capacity and energy from five cogeneration and small power production facilities totaling 738 MW for 2007. This value decreases to 595

MW in 2011 due to the expiration of several contracts with municipal waste-to-energy facilities. Though analyses are still underway, for purposes of this filing FPL is optimistically assuming that it will be able to extend these three contracts.⁴ The current total capacity under contract from the purchases, 143 MW, is assumed to continue through 2026, contributing to a total assumption of 738 MW through 2020.

21. FPL continues to encourage the development of renewable sources of energy in Florida and elsewhere and seeks to enter into contracts with renewable energy suppliers that will benefit FPL's customers. FPL is also working on developing utility-owned wind and solar renewable generation.

22. With respect to DSM, FPL employs comprehensive and cost-effective DSM programs to reduce load requirements and encourage conservation. FPL has long been one of the key innovators in the field of DSM, and is a nationally ranked industry leader in conservation and load management. FPL's programs include both conservation initiatives and load management. FPL's DSM efforts through 2006 have resulted in a cumulative summer peak reduction of approximately 3,659 MW at the generator – or the equivalent of 11 medium-sized power plants – after accounting for reserve margin requirements. The Commission recently approved FPL's proposal to modify seven existing DSM programs and to introduce two new DSM programs. These efforts will result in a projected increase of 564 MW at the generator of additional DSM beyond FPL's Commission-approved DSM Goals.

IV. The Need for the PTN and PSL Nuclear Uprates (Rule 25-22.081(1)(c) and (2)(a))

23. There is a clear need for the PTN and PSL uprates in order to meet FPL's requirements for new capacity to meet FPL's summer reserve margin criterion. In addition to this reliability need, there is an economic need for many benefits from the PTN and PSL Uprates. There are several aspects to these benefits: (i) the uprates are highly likely to result in large amounts of net savings to customers that will more than pay for their cost; (ii) the uprates will reduce GHG emissions by many millions of tons; (iii) the uprates will improve fuel diversity; (iv) the uprates will enhance fuel supply reliability; and (v) the uprates will improve the balance between generation and load in Southeast Florida.

24. FPL's 2006/2007 resource planning work determined that FPL has future resource needs for 2012 of 490 MW of incremental capacity, or 408 MW at the generator of cost-effective DSM. The resource needs for 2012 and 2013 combined are 907 MW of incremental capacity or 756 MW of additional cost-effective DSM. All DSM that is known to be cost-effective through 2013 already has been reflected in FPL's 2006/2007 resource planning work. Consequently, in order to meet FPL's summer reserve margin criterion of 20% through 2013, FPL needs new capacity (power plant construction and/or purchases).

25. FPL's resource planning work also projects a cumulative capacity need of 6,570 MW through 2020. This large capacity need provides significant opportunities for a wide variety of options – new fossil units, renewable energy options, DSM and other energy efficiency options (such as building standards and appliance standards) and new nuclear units – to play a role in FPL's resource plans.

26. With respect to cost savings for customers, upon being placed into service the PTN and PSL uprates will displace large amounts of higher cost fossil fuel and purchase power generation with additional baseload nuclear generation, resulting in substantial fuel savings that provide a net benefit (i.e., lower system cost) to customers. Total estimated gross fuel savings are reflected in FPL's economic analyses. In addition, customers will benefit from reduced capacity costs due to the deferral effect of the nuclear uprates upon the timing of subsequent units in the 2014-2017 time period, as well as lower capital requirements for subsequent units during this period due to the capacity provided by the nuclear uprates.

27. With respect to GHG reductions, by displacing use of fossil fuels the nuclear uprates will cause about 1 million tons per year in reduced CO₂ emissions, totaling about 27 million tons over the expected life of the nuclear uprates. The expected economic value of these reductions, in terms of reduced environmental compliance costs for existing and expected environmental regulations, is reflected in FPL's economic analysis of the effect of the uprates, discussed below.

28. Increasing nuclear generation through the nuclear uprates enhances fuel diversity. During 2006, about 21% of the energy produced by FPL was generated using nuclear fuel. Without the nuclear uprates, due to system growth, the percentage of nuclear-fueled production will decrease to about 17% by 2013 and decline thereafter. In contrast, FPL's analyses show that the nuclear uprates by 2013 would contribute to FPL's system supplying approximately 19% of its energy with nuclear-fueled energy. Likewise, by 2013 the nuclear uprates would contribute to FPL's system supplying 65% of its energy with natural gas, which is lower than the 67% of

energy being fueled from natural gas if the nuclear uprates are not implemented. Thus, the nuclear uprates clearly contribute to improving and maintaining FPL's fuel diversity as well as decreasing reliance on natural gas as a fuel for electric generation. This increase in annual nuclear generation from the uprates is equivalent to the annual energy needs of approximately 213,000 residential customers.

29. Increasing nuclear generation through the nuclear uprates also reduces the risk of fuel supply interruptions to the economic benefit of customers. This is because nuclear generation is not dependent upon the availability of other fuels, such as natural gas in the event of natural gas production or transportation interruptions, like those production interruptions that occurred after hurricanes in the Gulf of Mexico during recent years. The diversification of fuel type, technology type and transportation method enhances reliability for FPL's customers.

30. In the course of its 2007/2008 cycle of resource planning work, FPL evaluated accelerating the construction of a natural gas combined cycle generating unit into 2011 that otherwise might be added to meet capacity needs in 2012 and 2013. Analysis showed that acceleration would decrease customers' fuel costs and FPL's system GHG emissions, due to the efficiency of the unit. In the event that such a re-sequencing of capacity additions was to occur, the nuclear uprates would serve their intended system reliability purposes while displacing and deferring other new natural gas-fired generation that would otherwise be projected to be built in 2014-2017. For completeness purposes, FPL's resource planning scenarios prepared for this Petition assumed the acceleration of the natural gas unit into 2011. FPL's analysis shows that

the acceleration slightly increases the economic benefit of the nuclear uprates to customers compared with not accelerating the unit.

31. In summary, the proposed PTN and PSL nuclear uprates are needed and expected to produce adequate electricity at a reasonable cost, improve system efficiency, and maintain system reliability, as well as improve fuel diversity, decrease reliance on oil and natural gas, and reduce GHG and other emissions.

V. The Proposed PTN and PSL Nuclear Uprates (Rule 25-22.081(1)(b) and (2)(b))

32. Upon an affirmative determination of need by this Commission, FPL proposes to commence the process of licensing, installing and operating major uprates at its existing Turkey Point and St. Lucie nuclear plants. The nuclear uprates will represent a large investment in Florida, with significant positive impacts on the provision of clean, cost-effective, reliable energy to FPL's customers.

33. PTN and PSL nuclear uprates will be achieved through major plant modifications that will increase the gross power at PTN and PSL by approximately 14% and 11%, respectively. In order to make more electricity from the greater amount of steam flow, FPL will install major modifications to the units' turbines and main generators, as well as install necessary support and control systems. The uprates will require no changes to the footprints of the existing plants and will have no significant adverse environmental impacts.

34. The nuclear uprates proposed by FPL involve major work to all four nuclear units scheduled during separate outages during 2011 and 2012. At PTN, each unit is expected to

increase gross power by about 14%. Net electrical generation per unit is expected to increase from approximately 700 MW to approximately 804 MW, for a two-unit total of about 208 MW. At PSL, each unit is expected to increase gross power by about 11%. Net electrical generation per unit is expected to increase from about 840 MW to about 943 MW, for a two-unit total of 206 MW. The total MW of the PTN and PSL nuclear uprates is about 414 MW.

35. In order to increase reactor power, FPL is required to obtain prior NRC approval in the form of license amendments for each nuclear unit. FPL plans to submit license amendment applications to the Nuclear Regulatory Commission ("NRC") in January 2009. The NRC will complete a thorough safety and environmental review to assess whether the Company can accomplish the uprates safely and reliably. FPL expects, but cannot be assured of, NRC approval for the PTN and PSL uprates in the Spring of 2010.

36. The estimated nominal costs for the PTN and PSL uprates, not including construction carrying costs, are approximately \$750 million and \$651 million, respectively. The costs of changes to the transmission system that are needed in order to support the Projects are estimated at \$45 million. As discussed below, upon operation the PTN and PSL uprates will displace generation from higher-cost fossil fuels, producing substantial savings at a net present value benefit to customers. The annualized base revenue requirement for the first twelve months of operation for each of the PTN and PSL uprates are, in the order the uprated units will go into service, as follows: PSL Unit 1, \$59.8 million; PTN Unit 3, \$76.4 million; PSL Unit 2, \$61.8 million; and PTN Unit 4, \$72.9 million. A customer bill impact of \$0.34 to \$1.79 per 1000 kWh is projected for the 2009-2012 time frame under a relatively conservative scenario. For the same

scenario, a customer bill impact of \$0.21 per 1000 kWh is projected for 2013, the first full year of operation of all the uprates, reflecting projected fuel savings due to the uprates.

37. FPL has significant power uprate experience in that it has completed successful uprate projects at the four FPL nuclear units in Florida. In addition, the PTN and PSL uprate projects will be staffed by a core team that successfully completed the technical work and obtained the NRC approval for the Seabrook Station Power Uprate in 2006. This same team also obtained NRC approval for renewals of the operating licenses for PTN and PSL. All required regulatory approvals were obtained for these projects, which were all completed on schedule and under budget.

38. Although FPL is targeting completion of the work during separate outages during 2011 and 2012, this is an aggressive schedule, the achievement of which will depend on a number of factors including timely NRC and other regulatory approvals and the receipt of necessary materials and equipment from FPL's vendors and contractors. Delays in obtaining the requisite approvals or equipment and materials could adversely affect the project schedule.

VI. Generating and Non-Generating Alternatives (Rule 25-22.081(1)(d) and (1)(e))

39. In order to fully evaluate the system impacts of the nuclear uprates, FPL developed a long-term resource plan that included the uprates. This resource plan is referred to as the Plan with Nuclear Uprates. In addition, FPL developed an alternate resource plan not including the nuclear uprates that could be used in comparative analyses. This alternate plan is referred to as the Plan without Nuclear Uprates. In summary, FPL's analysis showed that in

eight of the nine economic scenarios comparing the generating technology choices represented in the scenarios, the Plan with Nuclear Upgrades was the economic winner. In addition to being the economic winning plan, the Plan with Nuclear Upgrades also has the environmental benefits of avoiding GHG and other emissions, enhancing fuel diversity, decreasing reliance on natural gas, and other positive attributes described in this Petition. A description of FPL's economic generating alternative analyses and results follows.

40. When comparing generating technologies that use different fuels, i.e. nuclear units and natural gas units, it is appropriate that different fuel cost forecasts be utilized in order to determine the relative economics between the technologies. In this way, the analyses can address the uncertainty that exists regarding fuel costs, particularly in regard to the future cost differential between natural gas and nuclear fuel. Accordingly, FPL developed a representative range of different fuel forecasts for use in its economic analyses of alternatives.

41. Just as there is uncertainty with respect to the future cost of fuels, there is uncertainty concerning future environmental regulations and the costs of complying with those regulations. When comparing generating technologies that burn different fuels and have different emission profiles, such as is the case with nuclear and natural gas units, the future environmental regulations will determine how the differences in the emission profiles of the generating technologies will affect the relative cost of the technologies. Therefore, FPL found it appropriate to conduct its analyses using different environmental compliance cost forecasts to address emissions.

42. FPL's economic analysis also addresses total system costs for the FPL system, including all fixed and variable costs, upstream gas costs and cost of capital impacts, for the Plan with Nuclear Uprates and the Plan without Nuclear Uprates. In total, FPL analyzed nine fuel cost and environmental compliance cost scenarios that all included FPL's total system costs. FPL's analyses show that the Plan with Nuclear Uprates has a lower CPVRR cost in eight of the nine scenarios of fuel forecasts and environmental compliance cost forecasts. The CPVRR savings of the Plan with Nuclear Uprates compared to the Plan without Nuclear Uprates in the referenced eight of the nine scenarios ranged from a low of \$122 million CPVRR savings to a high of \$863 million, with seven of the eight scenarios resulting in CPVRR savings of greater than \$200 million. Moreover, the one case not showing an economic advantage from the uprates results from an unlikely scenario of lower than expected gas costs and environmental compliance costs, and would result in \$33 billion in CPVRR savings for customers on an FPL system-wide basis, due to the large amounts of natural gas used on FPL's system.

43. Based upon FPL's analysis, it is clear that the Plan with Nuclear Uprates is highly likely to result in net CPVRR savings for customers. This means that the Plan with Nuclear Uprates is expected to deliver clean, non-GHG emitting generation for many years to customers ultimately at a net saving, not a net cost, to customers.

44. FPL employs comprehensive and cost-effective DSM programs to reduce load requirements and encourage conservation. FPL has long been one of the key innovators in the field of DSM, and is a nationally ranked industry leader in conservation and load management.

Without its DSM, FPL would require far more additional capacity to meet its present and projected needs.

45. FPL's forecasted need already accounts for all known, cost-effective DSM that can reasonably be achieved in this time frame. Additional conservation measures cannot be implemented to eliminate the need for the PTN and PSL uprates. An attempt to avoid the PTN and PSL uprates using conservation measures would increase reliance on fossil fuels. Conversely, the PTN and PSL uprates will replace fossil fuel generation and reduce emissions.

46. FPL will also continue to encourage and itself pursue development of cost-effective renewable resources. During 2007, FPL issued a request for proposals for renewable energy, which FPL is hopeful will result in contracts for up to an additional 144 MW of renewable generating firm capacity and up to 100 MW of non-firm capacity and energy from the five bidders. Regardless, there is not enough potential generation from renewable fuels at this time to eliminate the economic and socio-economic need for the PTN and PSL uprates, particularly considering that nuclear units operate as baseload capacity, whereas only a relatively small percentage of renewables is able to do so. In fact, FPL's analyses have already accounted for the additional 144 MW of firm capacity in its capacity need projections.

VII. Adverse Consequences of Delay in Approval (Rule 25-22.081(1)(f))

47. The fuel savings benefits are premised on completion of the PTN and PSL uprates in 2011 and 2012 as planned. However, as noted, the proposed schedule for completing the uprates is aggressive. Delays in obtaining NRC or other regulatory approvals, or equipment

vendor or other contractor-related delays, could result in a later implementation schedule. The benefits of the PTN and PSL uprates will be delayed to the extent the uprates themselves are delayed. Accordingly, to enable FPL to move forward on a timely basis with these projects, FPL requests that the Commission expeditiously approve FPL's proposed uprates. If the uprates are not approved on a timely basis, and the necessary equipment purchases and other contracting measures therefore not undertaken, FPL will be unable to implement the uprates during the planned outages, thus eliminating or at best delaying substantial cost savings, fuel diversity benefits, and CO2 emission reductions for customers.

VIII. Discussions With Other Utilities Regarding Ownership (Rule 25-22.081(2)(d))

48. FPL owns 100% of the PTN plant, which consists of two nuclear steam units located in Florida City, Florida. The units are baseload units fueled with enriched uranium, and the plant currently generates 1386 MW (summer). The PSL plant consists of two nuclear steam units located in Hutchinson Island, Florida. They are also baseload units fueled with enriched uranium. FPL owns 100% of PSL Unit 1 and 85.1% of PSL Unit 2. FPL's share of the PSL plant currently generates 1553 MW (summer). The co-owners of PSL Unit 2 will have the option to take their pro-rata share of the power generated from the PSL uprate, which will be 14.9%, or approximately 15 MW.

IX. The PTN and PSL Uprates Are Exempt from the Commission's Bid Rule

49. The legislature's policy of encouraging investment in nuclear generation, embodied in Section 366.93 as discussed below, also gave rise to significant amendments to the Florida Power Plant Siting Act ("PPSA"). One such amendment was Section 403.519(4)(c), which renders the Bid Rule inapplicable to electrical power plants using nuclear materials as fuel, sited under the PPSA. Accordingly, so that this question is resolved prior to the hearing on FPL's request for a determination of need, FPL requests that the Commission, on an expedited basis, confirm that the Bid Rule is inapplicable to the nuclear uprates, or alternatively, grant an exemption from the requirements of Rule 25-22.082, for the reasons set forth herein.

50. Even putting aside the statutory exemption under Section 403.519(4)(c), Rule 25-22.082(18) itself permits a utility to be exempted from compliance with any part or all of the Bid Rule if the utility demonstrates that its proposal "will likely result in a lower cost supply of electricity to the utility's general body of ratepayers, increase the reliable supply of electricity to the utility's general body of ratepayers, or otherwise will serve the public welfare." *Id.* While satisfying any one of these criteria is legally sufficient to support granting an exemption, the PTN and PSL uprates satisfy all three elements of the Bid Rule's exemption provision.

51. FPL's proposed PTN and PSL uprates will result in significant fuel savings from additional nuclear power at a net savings, not cost, to customers. This unique characteristic of the PTN and PSL uprates means that no entity offering a supply-side generation alternative can likely propose a lower cost alternative for the same amount of power in this time frame, and certainly not from a source without emissions, such as nuclear generation. Issuing a request for

proposals (“RFP), therefore, is unnecessary. The PTN and PSL uprates, by virtue of the net savings benefits that likely will be achieved, are the lowest cost supply of electricity for FPL's customers. Further, the PTN and PSL uprates will increase the reliable supply of baseload power. The public welfare will also be served by reducing the reliance on fossil fuel resources and providing additional needed capacity with zero GHG emissions. All elements of the Bid Rule exemption provision, therefore, are satisfied by the PTN and PSL uprates.

52. In addition, any RFP process would delay the PTN and PSL uprates to the detriment of customers. Such a delay, as explained above, would delay the fuel-savings benefits to customers, and delay the system-wide reduction in emissions. The time required to conduct an RFP would make it impracticable to implement the uprates during the scheduled 2011 and 2012 planned refueling outages. Thus, it is in the public interest for the Commission to approve FPL moving forward with the PTN and PSL uprates without the delay of an RFP.

53. In summary, the PTN and PSL uprates should be found by the Commission to be exempt from the requirements of the Bid Rule under Section 403.519(4)(c) or, alternatively, pursuant to Rule 25-22.082(18). The risk of losing significant fuel savings and other benefits if the PTN and PSL uprates are delayed for an RFP process far outweighs any benefit from rote compliance with the Bid Rule with no hope of another alternative that provides benefits comparable to those that the PTN and PSL uprates provide. This exemption would also be consistent with Commission precedent, as Progress Energy Florida was recently granted an exemption from the Bid Rule to commence a nuclear uprate project. In re: Petition for

Determination of Need for Expansion of Crystal River 3 Nuclear Power Plant, Order No. PSC-07-0119-FOF-EI, Docket No. 060642-EI, 2007 Fla. PUC Lexis 77, *9 (Feb. 8, 2007).

X. Request for Finding of Prudence and Confirmation Of Cost Recovery Treatment

54. FPL believes that the decision to implement the PTN and PSL uprates is in the long-term interest of its customers. But the investment necessary to realize the benefits of the PTN and PSL uprates is significant. Prior to undertaking the PTN and PSL uprates and in conjunction with this request for a determination of need, FPL requests that the Commission determine that FPL's decision to undertake the proposed uprates is reasonable and prudent.

55. FPL also requests that, in connection with granting a need determination, the Commission confirm that it: (a) will provide for annual reviews and determination of the prudence of the nuclear uprate costs, and recovery of costs, as provided for in the Commission's nuclear power plant cost recovery rule, Rule 25-6.0423; and (b) will affirm that after the uprates are placed in commercial service, FPL will be allowed to increase its base rate charges by the projected annual revenue requirements associated with the uprates in the manner provided for in Section 366.93, Florida Statutes and Rule 25-6.0423.

56. The Commission's confirmation of the application of Section 366.93 and Rule 25-6.0423 plays an essential role in FPL's decision to pursue development of more than 400 MW of cost-effective, non-GHG-emitting nuclear generation in a time frame where it would not otherwise occur. The Commission's timely ongoing review and determination of the prudence of FPL's nuclear uprate expenditures, as well as the interim cost recovery and base rate

adjustment provisions contained in Section 366.93, Florida Statutes and Rule 25-6.0423, provide an appropriate regulatory framework within which FPL is encouraged to undertake this significant and beneficial investment at the earliest feasible point in time. Absent the enhanced regulatory certainty and more predictable cost recovery provided for nuclear plant investment by the Florida Legislature and the Commission, FPL would not be encouraged to undertake this capital-intensive nuclear investment on an expedited basis.

57. Under Section 366.93 and Rule 25-6.0423, FPL will file a petition for Commission approval of a base rate increase as each nuclear uprate is placed into service, pursuant to Section 366.93(4) equal to the annualized revenue requirements for the nuclear uprate for the first 12 months of operations, in accordance with Rule 25-6.0423(7). The timing of the base rate increase for each uprate would be implemented in concert with the fuel cost decreases that will begin as each uprate is placed into service.

58. The full benefit of lower fuel costs achieved because of the uprates would flow to customers through lower monthly fuel charges, the savings of which in the aggregate, are expected to more than offset the cost of the uprates and result in many millions of dollars of net economic benefits for customers. The economic benefits to customers are in addition to improved fuel diversity, reductions in the use of natural gas and oil as fuel for electric generation, and the expected prevention of about 27 million tons of CO₂ emissions due to the uprates.

59. The annual review and determination of prudence contemplated in Rule 25-6.0423, as well as both the cost recovery and adjustments to base rates when the uprates are

placed in service, will facilitate the significant additional investment by the Company in clean nuclear generation consistent with the objectives of Section 366.93 and Rule 25-6.0423. In addition, these actions will at least partially mitigate the increased business risk associated with such a large capital expenditure involving the expansion of existing nuclear capacity.

XI. Disputed Issues of Material Fact and Ultimate Facts Alleged

60. FPL is presently unaware of any disputed issues of material fact affecting this proceeding. In any event, consistent with the requirements of Section 403.519, FPL's filing demonstrates that: (a) the PTN and PSL uprates are needed to provide adequate electricity at reasonable cost, taking into account the need for fuel diversity and supply reliability; (b) the PTN and PSL uprates are the most cost-effective option for providing fuel diverse generation capacity needed by FPL's customers starting in 2011 and 2012; (c) there is no reasonably available conservation or other non-generation alternative that would mitigate the need for the PTN and PSL uprates; (d) the circumstances of this matter support a specific determination of the prudence of FPL's decision to proceed with the PTN and PSL uprates, (e) FPL's proposal is appropriately exempt from the requirements of the Bid Rule; and (f) application of Section 366.93 and Rule 25-6.0423 for purposes of recovering the significant costs associated with this investment is appropriate.

CONCLUSION

61. FPL seeks an affirmative determination of need and an exemption from all requirements of the Bid Rule for the PTN and PSL uprates. The PTN and PSL uprates are the most cost-effective option available to provide 414 MW of baseload electric generating capacity beginning in 2011 and 2012. That capacity will provide enough energy to meet the annual electricity requirements of 213,000 residential customers, while helping satisfy FPL's future summer reserve margin requirements. The nuclear uprates will do so while providing many millions of dollars of expected fuel cost savings that will directly benefit customers through lower fuel charges. Starting in 2011 and 2012, the PTN and PSL uprates are the most cost-effective option available to the Company. The uprates will provide adequate electricity at a reasonable cost, or in this case at a net savings, through additional nuclear power. No other generation can provide additional power at a net savings to customers with the additional environmental and fuel diversity benefits of the PTN and PSL uprates; therefore, any effort to solicit alternatives will only be futile and delay and reduce the substantial fuel savings benefits of the uprates. The costs to achieve the benefits associated with the proposed expansion of nuclear power on FPL's system are substantial and are recoverable pursuant to Section 366.93 and Rule 25-6.0423, consistent with the Florida Legislature's intent to encourage additional nuclear-fueled generation in the state of Florida. An affirmative determination of need, an exemption from the bid rule, and confirmation of the requested cost recovery, are warranted for the PTN and PSL uprates.

WHEREFORE, for the reasons set forth above, and as more fully set forth and described in the supporting testimony and exhibits submitted with this Petition, Florida Power & Light Company respectfully requests that the Commission: (i) grant an affirmative determination of need for the PTN and PSL uprates; (ii) confirm or grant on an expedited basis an exemption from all of the requirements of the Bid Rule (Rule 25-22.082); (iii) confirm that it will provide for annual reviews and determination of the prudence of the Project's costs, and recovery of costs, as provided for in the Commission's Nuclear Power Plant Cost Recovery Rule, Rule 25-6.0423; (iv) confirm that after the nuclear uprates are placed into commercial service, FPL shall be allowed to increase its base rate charges by the projected annual revenue requirements associated with the uprates in the manner provided for in Section 366.93, Florida Statutes and Rule 25-6.0423; and (v) further requests that the Commission grant such additional appropriate relief as the case and law may permit

Respectfully submitted this 17th day of September, 2007.

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REFERENCES

- ABI, 1984. AB-530, Florida Power & Light Company St. Lucie Plant Annual Non-Radiological Environmental Monitoring Report, 1983, Applied Biology Inc., Atlanta, Georgia.
- American National Standard Institute (ANSI), S12.9-1993, (Part 3) (1993 and Revised 1998). Quantities and Procedures for Description and Measurement of Environmental Sound – Biological and Chemical Data – South, Part 3: Short-Term Measurements with an Observer Present.
- Anderson, W.W., Gehringer, J. W. and Cohen, E., 1960. Physical, Oceanographic, Atlantic Coast of the United States, M/V Theodore N. Gill cruises 1-9. USFWS Spec. Sci. Rep. Fish. No. 380. 206pp.
- Bearden, H.W., 1972, *Water available in canals and shallow sediments in St. Lucie County, Florida*: Tallahassee, Florida Bureau of Geology Report of Investigations No. 60, 50 p.
- Bradner, L.A., 1994, *Ground-water resources of Okeechobee County, Florida*: U.S. Geological Survey Water-Resources Investigations Report 92-4166, 41 p.
- Briel, L.I, 1974. *Water Quality Studies of the Indian River*. Annual Report 1973-1974. Vol. 1. Harbor Branch Consortium, p56-109.
- Brown, E. G., 1962. *The acid-soluble nucleotides of mature pea seeds*. Biochem. J. 85, 633.
- Ecological Associates, Inc., 2001. *Survey of Aquatic Environments Potentially Affected by the Operation of the St. Lucie Power Plant, Hutchinson Island, Florida*. Report prepared for Florida Power & Light Company, 41 p.
- Florida Department of Children and Families, 2007. <http://199.250.30.131/childcare/provider/providersearch.aspx>. (Accessed October, 2007.)
- Florida Department of Education, 2007a. Statistical Brief, Bureau of Education Information and Accountability Services, <http://www.fldoe.org/eias/>.
- Florida Department of Education, 2007. Private School Directory, <http://www.floridaschoolchoice.org/Information/PrivateSchoolDirectory>. (Accessed October, 2007)
- Florida Department of Education, 2007b. www.fldoe.org/. (Accessed October, 2007.)
- Florida Department of Transportation (FDOT), 1999. *Florida Land Use, Cover and Forms Classification System (FLUCFCS) Handbook*. Surveying and Mapping, Thematic Mapping Section, FDOT.
- Florida Emergency Management Agency, 2007. <http://msc.fema.gov>. *Flood Maps*. (accessed October, 2007).
- Florida Natural Areas Inventory (FNAI), 2004. *Element Occurrences, Potential Natural Areas, and Potential Habitats for Rare Species in St. Lucie County*. December 15, 2004.
- Florida Power & Light Company (FPL), 2007a. St. Lucie Plant, Energy Encounter Exhibit.
- Florida Power & Light Company (FPL), 2007b. St. Lucie Plant – Unit No. 1, Final Safety Analysis Report. Docket No. 50-335, U.S. Nuclear Regulatory Commission, Amended November 13, 2007.
- Florida Power & Light Company (FPL), 2003. St. Lucie Plant, Annual Environmental Operating Report, Sea Turtle Refuge.

- Florida Smart, 2007. <http://www.floridasmart.com/local/counties/>. (Accessed October, 2007).
- Florida State Parks, 2007. www.nps.gov. (Accessed October, 2007).
- Gale Research Company. 1980. *Climates of the States*. Book Tower, Detroit, Michigan 48226.
- Gilmore, G.R., Donohoe, C. J., Cooke, D. W., and Herrema, D. J., 1981. *Fishes of the Indian River Lagoon and adjacent waters*, Florida. Harbor Branch Foundation, Inc., Technical Report No. 41. September 1981.
- Gilmore, R.G., Jr., 1977. *Fishes of the Indian River Lagoon and adjacent waters*, Florida. Bull. Florida St. Mus., Biol. Sci. 22:101-148.
- Gilmore, R.G., 1995. *Environmental and biogeographic factors influencing ichthyofaunal diversity: Indian River Lagoon*. Bull. Mar. Sci. 57(1): 153–170.
- Golder Associates Inc., 2005. Clean Water Act Section 316(b) Phase II – Proposal for Information Collection, St. Lucie Nuclear Power Plant, Florida Power & Light Company, Project Number 0437645, May 2005.
- Keller, M., Arnink, K. J. and Hrazdina, G., 1998. *Interaction of nitrogen availability during bloom and light intensity during veraison*. I. Effect on grapevine growth, fruit development, and ripening. Am. J. Enol. Vitic. 49:333-340.
- Lane, R. A. B., Morris, R. J. H. & Sheedy, J. W. , 1972. *A haematological study of the southern elephant seal*, *Miroungaleonina* (Linn.). Comp. Biochem. Physiol. A Comp. Physiol. 42:841±850.
- Leve, G.W., 1966. *Ground water in Duval and Nassau Counties*, Florida: Florida Geological Survey Report of Investigations no. 43, 91 p.
- National Oceanic and Atmospheric Administration (NOAA). Navigational Chart 11472.
- National Park Service. 2007. <http://www.nps.gov/>. (Accessed October, 2007)
- Paulz, 1969. *Severe Local Storm Occurrences 1955-1967*. U.S. Weather Bureau, Silver Spring, MD.
- Randazzo, A.F., Jones, D.S., 1997. *The Geology of Florida*. University Press of Florida, Gainesville, FL.
- Reese, R.A. (2004) *Does significance matter?* Significance, **1**, 39–40.
- Scott, A.J. (1988) *New industrial spaces: flexible production organization and regional development in North America and Western Europe*. Pion, London.
- Sepulveda, Nicasio. 2002. *Simulation of ground-water flow in the intermediate and Floridan aquifer systems in peninsular Florida*. U.S. Geological Survey Water-Resources Investigations Report 02-4009, 130 pp.
- Sinclair, W.C., and Stewart, J.W., 1985. *Sinkhole type, development, and distribution in Florida*. Florida Bureau of Geology Map Series 110.
- St. Lucie County, 2007a. <http://www.stluciecd.org/ComprehensivePlan.asp>. *Comprehensive Plan*.
- St. Lucie County (Online), 2007b. <http://www.stlucieco.gov/>.
- St. Lucie County Fire District, 2007. <http://www.slcfcd.org/>. (Accessed October, 2007)
- St. Lucie County GIS Department, 2007. <http://199.201.190.29/GIS/>. (Accessed November, 2007)

- St. Lucie County Parks and Recreation Department, 2007. <http://www.stlucieco.gov/parks/index.htm>. (Accessed October, 2007).
- St. Lucie County Sheriff's Department, 2007. <http://www.stluciesheriff.com>. (Accessed October, 2007).
- State of Florida Labor Market Statistics, 2006. "Quarterly Census of Employment and Wages" (ES-202), Annual NAICS files, [Online] (Accessed October, 2007)
- Thom, H., 1963. *Tornado Probabilities*. Monthly Weather Review, Volume 91.
- U.S. Atomic Energy Commission (USAEC), 1973. *Final Environmental Statement Related to the St. Lucie Plant, Unit No. 1*; Florida Power & Light Company. Docket No.50-335, Directorate of Licensing, Washington, D.C., June 1973.
- U.S. Department of Commerce, 2005. Regional Economic Information 2005, Bureau of Economic Analysis, U.S. Department of Commerce.
- U. S. Geological Survey (USGS), 2003, Hydrogeology, Water Quality, Distribution and Sources of Salinity in the Floridan Aquifer System, Martin and St. Lucie Counties, Florida, USGS/WRIR 034242, U.S. Geology Survey.
- U.S. Nuclear Regulatory Commission (NRC), 1997. *Section 7, Biological Consultation, Biological Opinion*. St. Lucie Plant, Units 1 and 2, Florida Power & Light Company, May 30, 1997.
- U.S. Nuclear Regulatory Commission (NRC), 1982. *Final Environmental Statement Related to the Operation of St. Lucie Plant, Unit No. 2*; Florida Power & Light Company, Orlando Utilities Commission of the City of Orlando, Florida. Docket No. 50-389, NUREG-0842, Office of Nuclear Reactor Regulation, Washington, D.C. April 1982.
- U.S. Nuclear Regulatory Commission (NRC), 2001. *Endangered Species Act – Section 7 Consultation* 2001. Biological Opinion, St. Lucie Plant, Units 1 and 2, May 18, 2001.
- University of Florida Bureau of Economic and Business Research (UFBEBR), 2006. Florida Statistical Abstract, 2006, Warrington College of Business, University of Florida, Gainesville, Florida.
- Wennekens, M.O., 1959. *Water Mass Properties of the Strait of Floirda and Related Waters*. Bulletin of Marine Science of the Gulf and Caribbean 9(1):1-52.
- Worth, D.F. and Hollinger, M.L., 1977. *Nearshore Marine Ecology at Hutchinson Island, Florida*. 1971-1974. III. Physical and Chemical Environment. Floirda Department of Natural Resources Mar. Res. Lab. No. 23. pp 25-85.