TURKEY POINT

UPRATE PROJECT

SITE CERTIFICATION APPLICATION

JANUARY 2008

FPL

FPL

January 18, 2008

Michael P. Halpin, Program Administrator
Office of Siting Coordination
Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: **Turkey Point Unit 3 and 4 Uprate Project**
Application for Site Certification

Dear Mr. Halpin:

Florida Power & Light Company (FPL) is pleased to submit to the Department of Environmental Protection (Department) its Site Certification Application (SCA) for the Turkey Point Unit 3 and 4 Uprate Project in Miami Dade County, pursuant to the Florida Electrical Power Plant Siting Act, (PPSA) Section 403.501et seq., F.S. and Rule Chapter 62-17, F.A.C. Enclosed is FPL Check No. 1187458, made payable to the Department in the amount of $200,000.00, and provided as the application fee pursuant to Rule 62-17.293(1)(b), F.A.C. Pursuant to Section 403.5064(1)(a), F.S, FPL is also providing copies of the SCA to the agencies identified in Section 403.507(2)(a), F.S., and to other agencies and persons, as indicated on the attached distribution list.

The SCA addresses all aspects of the Turkey Point Unit 3 and 4 Uprate Project by presenting information in accordance with the Department's "Instruction Guide", DEP Form 62-1.211(1), F.A.C.

We are seeking certification for both Turkey Point Units 3 and 4. The Uprate Project will not change the existing footprint of the plant and will only increase the steam-electric output of each unit, while operations will remain within existing regulatory limits for the Plant.

FPL looks forward to working with the Department and other interested agencies in the certification process. If you should have any questions regarding our SCA, please do not hesitate to call myself at 561-691-7518 or Stacy Foster at 561-691-7065.

Sincerely,

Barbara P. Linkiewicz

Barbara P. Linkiewicz
Director of Environmental Licensing

cc: Tim Gray, FDEP Southeast District Office
Douglas Roberts, HGS
Distribution List (attached)

FPL Turkey Point Uprate Project; SCA Distribution list. January, 2008

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SITE CERTIFICATION APPLICATION
TURKEY POINT UPRATE PROJECT

Submitted by:

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

January 2008

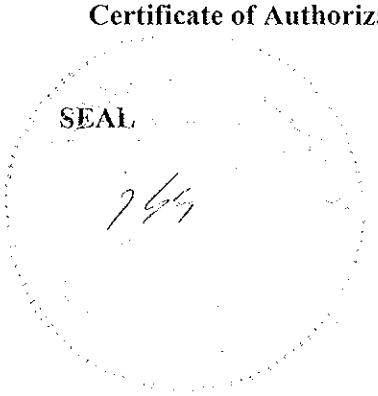
0738-7685

Kennard F. Kosky 1/14/08

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

SEAL



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, Director of Environmental Licensing, Environmental Services,
700 Universe Boulevard, Juno Beach, FL 33408 Phone: (561) 691-7518 Fax: (561) 691-7049

Site Location (county) ***9 miles east of US Highway 1 on 344th Street, Miami-Dade County, FL 33035***

Nearest Incorporated City ***Homestead, FL (about 4.5 miles east of nearest boundary)***

Latitude and Longitude ***25° 26' 04" N 80° 19' 53" W***

UTMs: Northerly ***2,813.2 km N***

Easterly ***567.3 km E (Zone 17)***

Section, Township, Range ***Portions of Sections 27, 28, 33, and 34 of Township 57S, Range 40E***

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

Name Plate Generating Capacity ***Two existing 700 MW (Nominal Net) nuclear electric generating units [Uprates of 104 MW (Nominal Net) 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 Turkey Point Uprate Project

LEGAL DESCRIPTION
CERTIFIED SITE, TURKEY POINT UNITS 3 AND 4

Commencing at a Miami-Dade Water and Sewer Department GPS/GIS Project Control Point, Station Lloyd[1]; thence S 57°14′43″ E, for a distance of 18493.52′ to the point of beginning of this description; thence around the subject property for the following 24 (twenty-four) courses:

Thence North 89°06′52″ East, a distance of 260.20 feet;
Thence North 79°24′40″ East, a distance of 277.34 feet;
Thence North 48°36′26″ East, a distance of 83.64 feet;
Thence North 00°55′33″ West, a distance of 47.35 feet;
Thence North 86°54′12″ East, a distance of 290.41 feet;
Thence South 04°49′53″ East, a distance of 300.96 feet;
Thence South 86°40′55″ West, a distance of 241.95 feet;
Thence South 01°08′06″ East, a distance of 154.77 feet;
Thence North 88°20′31″ East, a distance of 278.78 feet;
Thence South 06°58′18″ East, a distance of 622.91 feet;
Thence South 00°58′19″ East, a distance of 352.56 feet;
Thence South 89°09′13″ West, a distance of 950.30 feet;
Thence North 00°55′28″ West, a distance of 177.00 feet;
Thence North 17°37′16″ West, a distance of 108.40 feet;
Thence North 11°53′21″ West, a distance of 144.75 feet;
Thence North 03°00′58″ West, a distance of 6.61 feet;
Thence South 89°19′53″ West, a distance of 247.88 feet;
Thence North 00°47′58″ West, a distance of 275.73 feet;
Thence North 55°53′42″ East, a distance of 212.81 feet;
Thence North 75°38′52″ East, a distance of 39.29 feet;
Thence North 88°55′32″ East, a distance of 40.42 feet;
Thence North 00°52′51″ West, a distance of 330.33 feet;
Thence North 27°17′12″ West, a distance of 28.05 feet;
Thence North 00°35′36″ West, a distance of 85.71 feet

to the point of beginning of this description.

Said lands lying and being in Miami-Dade County, and containing 30.27 acres more or less.

Surveyor's Note:

Bearings shown [within this legal description] are relative to Florida State Plane Coordinate System East Zone, Grid North, Transverse Mercator Projection, as established by monuments established by Miami-Dade Water and Sewer Department GPS/GIS Project Monuments F-10-R, and Lloyd. (See Figure 2.1.1-2.)

[1] The GPS/GIS Project Control Point at Station Lloyd is located at N 411026.763, E 860992.107. (See Figure 2.1.1-2.)

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LIST OF ACRONYMS AND ABBREVIATIONS

AAQS	Ambient Air Quality Standards
ANSI	American National Standard Institute
BACT	Best Available Control Technology
°C	degrees Celsius
CAA	Clean Air Act
CDMP	Comprehensive Development Management Plan
CFR	Code of Federal Regulations
cfs	cubic feet per second
Cl^-	chloride
cm	centimeter
CO	carbon monoxide
CO_2	carbon dioxide
CTs	combustion turbines
dB	decibel
dBA	A-weighting decibel
DERM	Department of Environmental Resource Management
EDI	electrodeionization
EIS	Environmental Impact Statement
EMB	Everglades Mitigation Bank
EMS	Emergency Medical Services
EPA	U.S. Environmental Protection Agency
°F	degrees Fahrenheit
F.A.C.	Florida Administrative Code
FAS	Floridan Aquifer System
FCREPA	Florida Committee on Rare and Endangered Plants and Animals
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FDER	Florida Department of Environmental Resources
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FFWCC	Florida Fish and Wildlife Conservation Commission

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

FLUCFCS	Florida Land Use, Cover and Forms Classification System
FNAI	Florida Natural Area Inventory
FPL	Florida Power & Light Company
FR	Federal Register
FS	Florida Statutes
ft	feet, foot
ft-bgs	feet below ground surface
ft-msl	feet below mean see level
GE	General Electric
gpd	gallons per day
gpd/ft	gallons per day per foot
gpm	gallons per minute
HEFT	Homestead Extension of Florida Turnpike
HRSGs	heat recovery steam generators
Hz	hertz
IU-3	Industrial Unlimited Manufacturing Distsrict
IWWF	Industrial Waste Water Facility
kg	kilogram
km	kilometer
kV	kiloVolt
kW	kiloWatt
lb/MMBtu	pounds per million British thermal units
LOS	Level of Service
L_w	sound power level
m	meter
m^3	cubic meter
mg/L	milligrams per liter
MGD	million gallons per day
mi^2	square mile
$\mu g/m^3$	micrograms per cubic meter
µm	micrometers

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

µPa	micropascal
µS/cm	microsiemens per centimeter
MLW	Mean Low Water
Mph	miles per hour
msl	Mean Sea Level
MW	megawatt
MW-hr	megawatt-hour
mw(t)	megawatt (thermal)
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NO_x	nitrogen oxides
NP	National Park
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
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
$PM_{2.5}$	particulate matter with aerodynamic size of 2.5 microns or less
ppm	parts per million
PPSA	Power Plant Siting Act
ppt	parts per thousands
PSD	prevention of significant deterioration
PTN	Plant Turkey Point
PWR	pressurized water reactor
RACT	Reasonably Available Control Technology
RO	reverse osmosis

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

RO/MB	reverse osmosis/mixed bed
SCA	Site Certification Application
SFWMD	South Florida Water Management District
SO_2	sulfur dioxide
SOR	Save Our Rivers
SPL	sound pressure level
ΔT	Delta T, average temperature difference
TAZ	Traffic Analysis Zone
TSS	total suspended solids
UF/BEBR	University of Florida/Bureau of Economics and Business Records
UFA	Upper Floridan Aquifer
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compounds
WSE	water supply environment

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 and describes the Turkey Point Uprate Project (the Project) identified by FPL to meet that need.

1.1 Introduction – The Project

FPL's Turkey Point Plant is located in Miami-Dade County on an FPL-owned 11,000-acre site. The Turkey Point Plant is bordered by the Atlantic Ocean to the east and is located about 8 miles east of Florida City and 4.5 miles southeast of Homestead. Located on the Site are two nuclear powered units (Units 3 and 4), along with 3 oil and gas units (Units 1, 2, and 5). Unit 5, an 1,100-megawatt (MW) combined cycle unit, went into service in May 2007 and was previously certified under the Florida Electrical Power Plant Siting Act (PPSA). Turkey Point Units 3 and 4 have been in operation since 1972 and 1973, respectively. The maximum net electrical output for each unit is currently about 700 MW. Following a detailed evaluation, FPL has determined that these two units can be modified or "uprated" to increase their electrical output in a cost-effective and environmentally beneficial manner. The Turkey Point Uprate Project will involve changes to several existing main components within the existing facilities to expand their capability to produce steam for the generation of electricity. However, no new or expanded facilities are required as part of the Project. (See Figure 1.1.0-1).

FPL is seeking approval of the Turkey Point Uprate Project under the PPSA, Chapter 403, Part II, Florida Statutes (F.S.). The PPSA provides a centralized review process for new or expanded 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 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 Chapter 62-17, 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 environments, the facilities to be modified and operated at the Turkey Point 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 generating resources are distributed geographically around the service territory (see Figure 1.2.0-1), 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 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 Turkey Point Units 3 and 4 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 emissions.

FPL's Turkey Point Units 3 and 4 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 is comprised of 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 Turkey Point Uprate Project will increase the electrical output from both Units 3 and 4 without changing the footprint of the existing plants. 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. 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 14 percent. Net electrical generation per unit is expected to increase from about 700 MW to about 804 MW. The net increase will be about 104 MW per unit for a two-unit total of about 208 MW.

No significant environmental impacts have been identified from the Uprate Project, as discussed in the remainder of this SCA. The uprated Plant is expected to operate within existing permit limits for the Turkey Point Units 3 and 4. Further, nuclear generation is non-greenhouse gas emitting, and the Uprate Project will avoid approximately 0.6 million tons per year of CO_2 that would be emitted from a comparable natural gas-fired plant.

The Turkey Point Plant has received re-licensing approval from the federal Nuclear Regulatory Commission (NRC) for Unit 3 through 2032 and Unit 4 through 2033. The power uprates at the Turkey Point Plant will be implemented in 2012. FPL plans to perform the physical work associated with the Turkey Point Uprate Project at the time of normally scheduled refueling outages in 2010, 2011 and 2012. The estimated cost of the uprate at Turkey Point Units 3 and 4 is approximately $750 million.

In order to increase reactor power, a separate license amendment for each unit will also have to be issued by the NRC. Detailed engineering analyses will be required for the uprate effort. The license amendment requests and NRC reviews will examine all essential nuclear safety and technical aspects of the Uprate Project.

The Project will provide the most cost-effective, reliable, self-build resource to meet FPL customers' incremental capacity needs starting in 2012, 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 CO_2 emissions.

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

1.4 Need for the Project

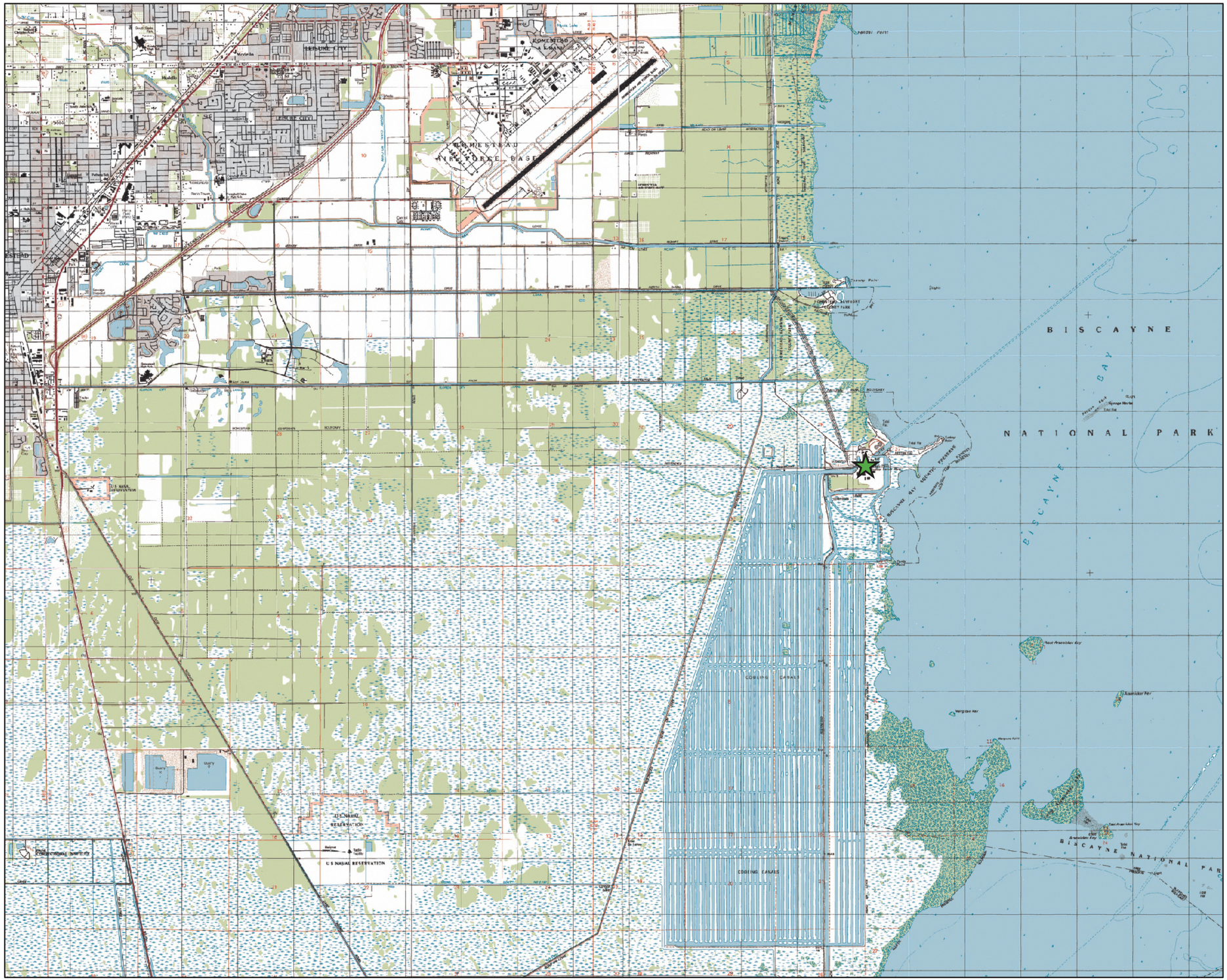
On September 17, 2007, FPL submitted a separate Petition to Determine Need for Expansion of Electrical Power Plants, including the Turkey Point Plant, to the FPSC pursuant to Section 403.519, F.S. That Petition, along with supporting documentation, addressed the manner in which the Project, along with a similar, but separate uprate project at FPL's St. Lucie 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. On December 10, 2007, the FPSC held a hearing on FPL's Petition to Determine Need and approved the Petition. The FPSC's final order determining the need for the Project is presented in Appendix 10.7.

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. FPL will continue this dialogue with citizens in Miami-Dade County. One goal will be to build shared understanding between FPL, citizens, and other stakeholders about this new Project, as well as to explore other shared, individual, and community interests. 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 activities involve FPL employees, surrounding community government officials and residents.

Primary activities for accomplishing these outreach goals include continuing dialogue with citizens through one-on-one discussions, group meetings, and other opportunities as may be of interest to residents. Activities will be focused on listening to peoples' needs, issues, and concerns. FPL is committed to responding to peoples' comments and questions in a timely manner. FPL's goal is to be the first and best source of information about the Project.

FPL is committed to keeping the community updated on the Project through ongoing conversations, presentations, information on the FPL website, and in various print materials.



LEGEND

★ Turkey Point Uprate Project Location

REFERENCE

1. Topo Image, USGS, 2001. 2. Base Map, ESRI Media Kit, 2004

0 0.5 1 2 Miles

N

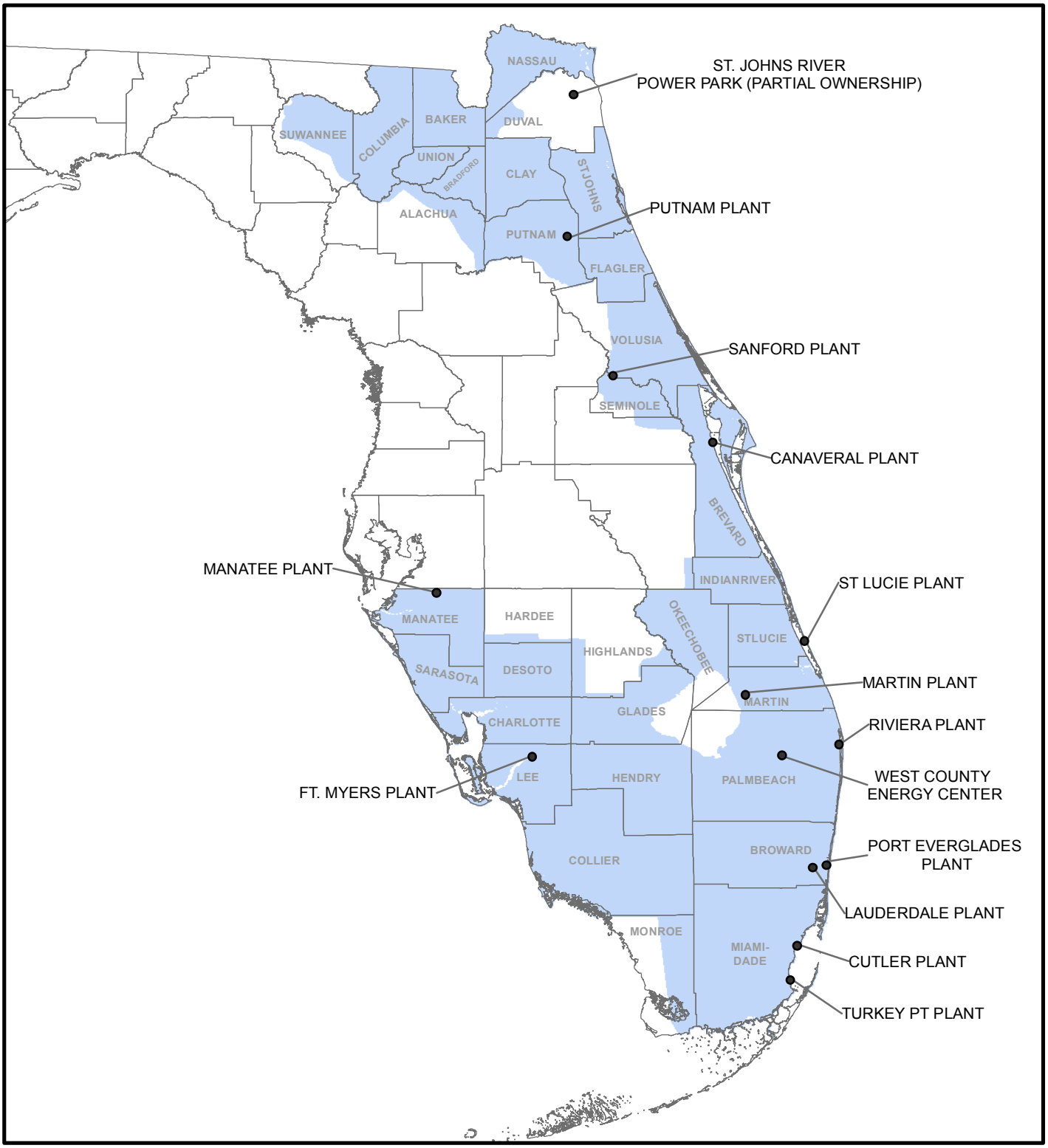
PROJECT
TURKEY POINT
UPRATE PROJECT

TITLE
SITE LOCATION

FPL

PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07	FIGURE 1.1.0-1	
GIS	RL	12/12/07		
CHECK	SM	?? Aug. 2005		
REVIEW	KK	?? Aug. 2005		

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINT\MapDocuments\07387685TPA06_SiteLocationMap



LEGEND

- FPL Power Plants
- FPL Service Territory

0 37.5 75 150 Miles

N

REFERENCE

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

PROJECT

TURKEY POINT
UPRATE PROJECT

TITLE

SERVICE TERRITORY

FPL

PROJECT No.073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	11/28/07		
GIS	RL	12/05/07		
CHECK	SM	12/05/07		
REVIEW	KK	12/05/07		

FIGURE 1.2.0-1

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2.0 SITE AND VICINITY CHARACTERISTICS

2.1 Site and Associated Facilities Delineation

2.1.1 Site Location

Turkey Point Units 3 and 4 are part of the larger FPL Turkey Point Plant located in unincorporated Miami-Dade County, Florida (Figure 2.1.1-1). The Turkey Point Plant comprises 11,000 acres and has five steam electric generating units. Units 1, 2 and 5 are fossil-fuel fired steam-electric generating units and Units 3 and 4 are nuclear powered steam-electric generating units. All five of the steam electric generating units lie in the developed area of the Turkey Point Plant.

The Turkey Point Plant is located in portions of Sections 27, 28, 33, and 34 of Township 57S, Range 40E. Turkey Point Units 3 and 4 are located in portions of Sections 27 and 34. The Turkey Point Plant lies approximately 8 miles east of Florida City, Florida and 4.5 miles east of the southeastern municipal limits of Homestead, Florida. It is approximately 9 miles east of the intersection of U.S. Highway 1 and Palm Drive (SW 344th Street). The Turkey Point Plant is adjacent to the 13,000-acre Everglades Mitigation Bank (EMB), also owned by FPL.

Turkey Point Units 3 and 4 are south of Turkey Point Units 1, 2 and 5 and comprise approximately 30 acres. This 30-acre Site for which certification is sought is shown in Figure 2.1.1-2 (Certified Site or Site).

2.1.2 Existing Turkey Point Plant Uses

The five existing power generation units and support facilities occupy approximately 130 acres of the 11,000-acre Turkey Point Plant. Support facilities include service buildings, an administration building, fuel oil tanks, water treatment facilities, circulating water intake and outfall structures, wastewater treatment basins, and a system substation. The cooling canal system occupies approximately 5,900 acres (FPL, 2000, FPL, 2003).

The two 400-megawatt (MW) (nominal) fossil fuel-fired steam electric generation units at the Turkey Point Plant have been in service since 1967 (Unit 1) and 1968 (Unit 2). These units currently burn residual fuel oil and/or natural gas with a maximum equivalent sulfur content of 1 percent. The two 700-MW (nominal) nuclear units have been in service since 1972 (Unit 3) and 1973 (Unit 4). Turkey

Point Units 3 and 4 are pressurized water reactor (PWR) units, each rated at 693 MW (nominal net). Turkey Point Unit 5 is a nominal 1,120-MW combined cycle unit that began operation in 2007.

2.1.2.1 Cooling Canal System

Turkey Point Units 3 and 4 use a system of canals to cool heated non-contact water and to recirculate water for reuse. The cooling canal system is a closed cycle system of recirculating canals used by Units 1 through 4 with no surface water discharge. Unit 5 has mechanical draft cooling towers for the steam generation cycle using water from the Upper Floridan Aquifer (UFA) as makeup and routing cooling tower blowdown to the cooling canal system. The cooling canals occupy an area approximately 2 miles wide by 5 miles long (5,900 acres). The discharge canal receives heated water from the Plant and distributes flow into 32 feeder canals. Water in the feeder canals flows south into a single collector canal that distributes water to seven return canals. Water in the return canals flows north to the intakes that serve Units 1 through 4. The feeder and return canals are shallow, generally 1 to 3 feet deep, with the exception of the westernmost return canal (formerly Card Sound Canal) which extends to a depth of −18 feet mean sea level (ft-msl). The canals undergo routine maintenance of the canal bottoms and removal of aquatic vegetation to minimize flow restriction (FPL, 2000; FPL, 2003). The canals will not be changed or altered as a result of the Project.

2.1.2.2 Interceptor Ditch

Along the northwest and west sides of the cooling canals, FPL constructed a ditch, called the Interceptor Ditch, which has no hydraulic connection to the cooling canals or other surface waters. The purpose of the ditch is to restrict inland movement of water from the cooling canal system by pumping Interceptor Ditch water back into the cooling canals (FPL, 2000).

2.1.2.3 Transmission Systems

Turkey Point Units 1 through 5 share a single switchyard that supplies power to the 230-kilovolt (kV) (nominal) transmission lines leaving the Plant. Transmission lines exit the Turkey Point Plant in two corridors, one traveling to the west and one to the north. The Florida City – Turkey Point transmission line leaves the Turkey Point Plant to the west for approximately 5 miles, where it connects to the Florida City substation. The Florida City corridor is 330 feet wide and traverses undeveloped land for most of its distance. Seven other lines leave the Turkey Point Plant to the north, in a second 330-foot wide corridor. This corridor extends approximately 19 miles to the Davis substation, located in southwest Miami at SW 136 Street and SW 127 Avenue (FPL, 2000).

2.1.3 Adjacent Properties

Turkey Point Units 3 and 4 are directly south of Units 1 and 2; Unit 5 is located northwest of Units 1 and 2. The 5,900-acre closed-loop cooling canal system is located south of Turkey Point Units 3 and 4. The South Florida Water Management District (SFWMD) Canal L 31E lies west of the Turkey Point Plant.

Land uses surrounding the Turkey Point Plant are predominantly undeveloped land. Adjacent properties to Turkey Point Plant are as follows:

- North: Homestead Bayfront Park;
- East: Biscayne National Park (NP); and
- South and West: FPL Everglades Mitigation Bank (EMB).

The FPL EMB is west and south of Turkey Point Units 3 and 4. The EMB is returning more than 13,000 acres of wetlands to their natural, historical condition, which enables FPL to offer wetland mitigation credits in one of Florida's most environmentally important areas.

2.1.4 Uses within the Site

Figure 2.1.4-1 provides the layout for Units 3 and 4, including the facilities that support operation. As discussed in more detail in Chapter 3.0, the uses within the Site will not change as a result of the Project.

2.1.5 100-Year Flood Zone

The Federal Emergency Management Agency (FEMA) map for the Turkey Point Plant, indicating an area outside the 100-year floodplain, is shown in Figure 2.1.5-1. The Turkey Point Unit 3 and 4 power blocks have been elevated to 18 ft-msl to mitigate flooding and wave impacts.

2.2 Socio-Political Environment

2.2.1 Governmental Jurisdictions

Turkey Point Units 3 and 4 are located in unincorporated southeastern Miami-Dade County, Florida. The majority of Miami-Dade County's urban development is located north of the Turkey Point Plant along the eastern portion of the county (Atlantic coast). The city of Homestead is the closest

municipality to Turkey Point Units 3 and 4, approximately 4.5 miles northwest of Turkey Point Units 3 and 4 (Figure 2.2.1-1).

The Biscayne National Park, Biscayne Bay Aquatic Preserve, SFWMD conservation area (Model Lands Basin), Homestead Air Reserve Base, Homestead Bayfront Park, and Biscayne Trail are located within 5 miles of the Site (see Figure 2.2.1-1). FPL's EMB is also within 5 miles of Turkey Point Units 3 and 4. The Biscayne Aquatic Preserve and the Homestead Bayfront Park are located within 1 mile of Turkey Point Units 3 and 4 (Figure 2.2.1-2).

2.2.2 Zoning and Land Use Plans

2.2.2.1 Future Land Use

Turkey Point Units 3 and 4 are located in unincorporated Miami-Dade County, Florida. Miami-Dade County has adopted a Comprehensive Development Master Plan (CDMP) to meet the requirements of the Local Government Comprehensive Planning and Land Development Regulation Act, Chapter 163, Part II, F.S., and Chapter 9J-5, F.A.C. The CDMP was last revised in October 2006.

Turkey Point Units 3 and 4 have a Future Land Use category of Institutions, Utilities, and Communications according to the Miami-Dade County Comprehensive Development Master Plan Map (Figure 2.2.2-1) (Appendix 10.3). The CDMP Map illustrates the locations of major institutional uses, communication facilities, and utilities of metropolitan significance. The Miami-Dade County CDMP Land Use Element allows a full range of institutions, communications, and utilities in the Institutions, Utilities, and Communications Future Land Use category. Turkey Point Units 3 and 4 as well as Units 1, 2, and 5 are an allowed use under this land use designation.

2.2.2.2 Zoning

The Miami-Dade County Land Development Code (Code) has been adopted to implement the policies and objectives of the Miami-Dade CDMP and to regulate land development within the unincorporated portions of Miami-Dade County. The Code incorporates a zoning map that depicts the zoning categories of lands lying within unincorporated Miami-Dade County. Turkey Point Units 3 and 4 are zoned as Industrial Unlimited Manufacturing District (IU-3) (Figure 2.2.2-2) (Appendix 10.2.2). The IU-3 zoning district allows "atomic reactors" (i.e., nuclear reactors) as a permitted use in the Miami-Dade County Zoning Code. The Project is an allowed use in the IU-3 District and does not represent a change or adjustment to the existing use status of Turkey Point Units 3 and 4. The

Miami-Dade County Department of Planning and Zoning has concurred with that conclusion (see Appendix 10.2.1).

2.2.3 Demography and Ongoing Land Use

According to the 2006 Florida Statistical Abstract (UF/BEBR, 2006), Miami-Dade County was estimated to have 2,422,075 residents in 2005, a 7.47 percent increase from 2000. The median population projections for all of Miami-Dade County depict continued growth, with an estimated population of 3,067,000 in 2025. Census counts and population estimates for Miami-Dade County and the city of Homestead are shown below:

County and Municipality	Census 2000	Estimates 2005	Percentage Change
Miami-Dade	2,253,779	2,422,075	7.47
Homestead	31,909	38,396	20.33

Source: UF/BEBR, 2006

Existing land use patterns near Turkey Point Units 3 and 4 are depicted in Figure 2.2.3-1. The predominant existing land uses around the Turkey Point Plant are undeveloped and protected areas. Land use adjacent to the Turkey Point Units 3 and 4 comprises undeveloped land, Units 1, 2, and 5, and transmission infrastructure. The cooling canal system for the generation facilities is located to the south and southwest of the existing units. Biscayne National Park, Homestead Bayfront Park, Biscayne Aquatic Preserve, Biscayne Trail, and the EMB surround the Turkey Point Plant. The Homestead Air Reserve Base is approximately 4.4 miles northwest of Turkey Point Units 3 and 4 and the Homestead-Miami Speedway is approximately 4.7 miles northwest of Turkey Point Units 3 and 4.

Future land use patterns in the surrounding area are similar to the existing land uses. As depicted on the Miami-Dade County CDMP Map, environmental protection areas and institutions/utilities are the predominant future land uses around Turkey Point Units 3 and 4.

2.2.4 Easements, Title, Agency Works

No easements, titles, or agency works are affected by or required for the Project.

2.2.5 Regional Scenic, Cultural and Natural Landmarks

Biscayne National Park and the Biscayne Bay Aquatic Preserve are located northeast, east, and southeast of the Turkey Point Plant. The Biscayne National Park headquarters is located approximately 1.4 miles north of Turkey Point Units 3 and 4. The Biscayne National Park was first established in 1968 as a National Monument and was expanded in 1980 to approximately 173,000 acres of water, coastal lands, and 42 keys. The Park fulfills a multi-purpose mission by managing natural and historic resources, advocating responsible stewardship, and enabling visitors to experience scenic vistas and compatible recreation activities. Boating is the most prevalent activity in the Park, and recreational and commercial fishing are allowed. Other recreational activities include snorkeling, diving, camping, picnicking, and hiking.

A portion of Biscayne Bay Aquatic Preserve is located approximately half a mile to the east of Turkey Point Units 3 and 4. The Preserve is a shallow, subtropical lagoon consisting of three separate areas of Biscayne Bay. The northern part of the Preserve is just south of Cape Florida on the east, and south of Chicken Key on the west. The southern portion of the Preserve is in Card Sound. These areas of the Preserve are separated by Biscayne National Park. The Preserve is approximately 69,000 acres of submerged state land that has been designated as an Outstanding Florida Water, Class III. The Florida Department of Environmental Protection (FDEP), Office of Coastal and Aquatic Managed Areas manages the Preserve. The Preserve offers recreational and commercial in-water activities, including power boating, sail boating, canoeing, sculling, water skiing, jet skiing, hang gliding, swimming, windsurfing, snorkeling, diving, and fishing.

The Model Lands Basin was a Save Our Rivers (SOR) land acquired by SFWMD. The Model Lands are fragmented, with state, local, and private ownership west of the Turkey Point Units 3 and 4 and east of U.S. Highway 1. With the exception of a small segment of Canal L 31E, the closest Model Lands Basin properties are approximately 2 miles from Turkey Point Units 3 and 4. The Model Lands Basin is comprised largely of fresh and salt-water wetlands that form a contiguous habitat corridor with Everglades NP, the Southern Glades SOR project located further to the southwest, Biscayne NP, and other designated lands in Miami-Dade County. Everglades NP is located about 13 miles west of the Site.

Homestead Air Reserve Base is located approximately 4.7 miles northwest of Turkey Point Units 3 and 4. The 482nd Fighter Wing maintains and operates the facility and five tenant organizations use

services and infrastructure at the base. The Homestead Air Reserve Base's history dates to World War II when it was originally opened as Homestead Army Air Field to serve as a maintenance and fueling stopover for aircraft headed overseas.

Homestead Bayfront Park is a recreational park located approximately 1 mile north of Turkey Point Units 3 and 4. Miami-Dade County owns and operates the Park. Facilities include a marina, atoll pool and beach, picnic pavilions, grills, playground, and fishing area. The Park is adjacent to the Biscayne National Park.

2.2.6 Archaeological and Historical Sites

There are no known archaeological or historical sites located within the Turkey Point Plant (FPL, 2000, 2003).

Results of a search of the Florida Master Site File conducted for the Turkey Point Plant in June 2003 indicated no previously recorded archaeological sites, no standing structures, and one prior field survey for the Turkey Point Plant and vicinity (FPL, 2003). Historic and archaeological site file searches were also conducted at the National Park Service Southeast Archaeological Center and at Biscayne National Park for an Environmental Impact Statement (EIS) associated with the relicensing of Turkey Point Units 3 and 4 in 2002 and no archaeological or historical sites were identified (FPL, 2000).

An archaeological resource survey for the EMB, southwest of the Turkey Point Plant, found no historic or prehistoric cultural materials within the 13,000-acre mitigation bank. During a 1996 investigation of the EMB, areas most likely to contain historic or prehistoric cultural resources were identified through analysis of maps, photographs, and other information sources. No cultural resources were found in surveys of more than 100 target sites and 61 test excavations (Lewis and Davis, 1996). In a letter dated September 11, 1996, the archaeologist for the Miami-Dade County Office of Community and Economic Development, Historic Preservation Division, concurred with the findings of the survey report (FPL, 2000).

2.2.7 Socioeconomics and Public Services

2.2.7.1 Labor Force

The total labor force in Miami-Dade County for 2005 was 1,113,560 with employment of 1,065,417. Unemployment in 2005 was 48,143 or 4.3 percent in Miami-Dade County. For the state of Florida,

the unemployment rate was 3.8 percent and the U.S. unemployment rate was 5.1 percent (UF/BEBR, 2006).

Average private-sector employment by major industry group in Miami-Dade County for December 2006 is depicted in Table 2.2.7-1.

The service-providing industry group had the most employment in Miami-Dade County with about 30 percent of the total employment. The construction industry provided about 54,222 jobs.

Employment projections for construction and extraction trades in Florida have been estimated for the year 2013. Statewide, construction employment is expected to increase from 546,810 in 2005 to 660,509 in 2013 (UF/BEBR, 2006).

2.2.7.2 General Income

Miami-Dade County had a per capita personal income of $31,347 for 2005 compared to state of Florida and U.S. per capita personal income of $34,001 and $34,471, respectively (U.S. Department of Commerce, 2005). This income level ranked 20th out of the 67 counties in Florida.

The median household income in Miami-Dade County was $33,035 in 2003. When compared to the 2000 median household income, this income level is a 0.6 percent decrease. 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 per job in Miami-Dade County in 2005 was $40,282, approximately 10 percent higher than the statewide average of $36,583 (U.S. Department of Commerce, 2005).

2.2.7.3 Housing

The total number of housing units in Miami-Dade County by occupancy type according to the U.S. Census Bureau is as follows:

Housing Occupancy	Estimate
Occupied Housing Unit	834,800
Renter Occupied	346,119
Owner Occupied	488,681
Total Occupied	1,659,600

* ± 5,228 – 9,389 margin of error.

The average house purchase-price in Miami-Dade County in 2005 was $297,530 (UF/BEBR, 2006).

A total of 6,566 licensed lodgings were reported in 2006, representing 220,351 lodging units. This includes 169,879 apartment building units, 1,752 rooming house units, 3,159 rental condominium units, and 325 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. According to the Florida Department of Education, Statistical Brief, Miami-Dade County had a total student membership in preschool through twelfth grade of 353,783 in the fall of 2006. Miami-Dade County schools employed approximately 21,567 teachers in the fall of 2006. (Florida Department of Education, 2007a).

There are 378 public schools and 410 private schools (includes non-religious, religious, military, and uncategorized schools) within Miami-Dade County. There are no existing public or private schools within 5 miles of the Site; the closest public school to Turkey Point Units 3 and 4 is the Keys Gate Charter School, located approximately 6.2 miles west of the Site. (Miami-Dade County School District, 2007).

2.2.8.2 Transportation

The Florida Turnpike, Interstate 95, and U.S. Highway 1 are considered the major transportation corridors for north-south traffic movement in Miami-Dade County. U.S. Route 41 is a major east-west highway that traverses the middle of the county.

The main access road into and out of the facility is via Palm Drive (SW 344th Street) Figure 2.2.8-1. SW 344th Street (Palm Drive) maintains a functional classification of a county collector roadway for both the 1995 and 2015 roadway systems.

According to Miami-Dade County Concurrency Management System, there are three traffic concurrency stations in the vicinity of the Project. The available capacities on the three concurrency stations are presented in Table 2.2.8-1 (see Appendix 10.5.1).

The available capacities shown in Table 2.2.8-1 reflect existing traffic, as well as traffic associated with developments that are approved, but not yet built and/or fully occupied. As indicated, all nearby traffic concurrency stations have sufficient peak hour capacity to accommodate additional development within southern Miami-Dade County. The existing traffic volumes for these stations would include traffic to and from the Turkey Point Plant to areas west and north of the Site.

There are no rail systems within 5 miles of Turkey Point Units 3 and 4. The Homestead Air Reserve Base and its associated runways lie approximately 4.7 miles northeast of Turkey Point Units 3 and 4. The airport has both military and civilian operations. Miami International Airport is located about 29 miles north of the Site.

2.2.8.3 Medical Facilities

Miami-Dade County has 113 hospitals and 357 nursing and residential care facilities. There are 6,651 licensed doctors of medicine and osteopathy, 1,415 dentists, 961 dental hygienists, 3,992 dental radiographers, 5,436 health practitioners, 19,216 registered and practical nurses, 459 opticians, and 2,161 pharmacists and pharmacist interns in Miami-Dade County (UF/BEBR, 2006).

Homestead Hospital is the primary health care provider in the southeast portion of Miami-Dade County and is located approximately 9.6 miles northwest of the Site. Homestead Hospital is a 120-bed facility with emergency facilities and services as well as numerous surgical and non-surgical programs. The Emergency Medical Services (EMS) Division of Miami-Dade County Fire and Rescue Department provides emergency medical transport services throughout the County, including the Turkey Point Plant. The EMS Division has 57 Advanced Life Support units, 760 state certified paramedics, and 640 state-certified emergency medical technicians.

FPL maintains a medical clinic at the Turkey Point Plant for onsite personnel.

2.2.8.4 Firefighting Facilities

The Turkey Point Plant has an onsite fire brigade that provides response in the event of an emergency. In addition, Miami-Dade County Fire and Rescue is responsible for providing fire rescue, fire prevention, hazardous materials, and technical rescue services to Miami-Dade County, as well as to the Turkey Point Plant. During 2004, the Miami-Dade Fire and Rescue Department responded to 206,413 calls, an average of 564 calls per day (Miami-Dade County, 2007a). Seventy five percent of the total service calls are for medical rescue. The closest County fire stations to

Turkey Point Plant are Stations 6 and 16, located approximately 8.2 miles and 9.6 miles northwest of the Site. Station 6 has a tanker and rescue truck. Station 16 has an engine, 50 ft tank truck, and a rescue truck. Both facilities operate 24 hours a day (Miami-Dade County, 2007b).

2.2.8.5 Police Protection

The Miami-Dade County Police Department provides law enforcement in the vicinity of the Turkey Point Plant and patrols the surrounding area.

FPL maintains a security force including contracted security personnel at the Turkey Point Plant.

2.2.8.6 Recreation Facilities

The Miami-Dade County Park and Recreation Department manages more than 12,000 acres, roughly half of which are environmentally sensitive or threatened natural areas requiring protection and conservation. The Park and Recreation Department maintains more than 250 parks, recreation facilities, and greenway areas, including Homestead Bayfront Park.

The Biscayne National Park, Biscayne Bay Aquatic Preserve, and the Homestead Bayfront Park offer residents and visitors of Miami-Dade County many recreational activities as described in Subsection 2.2.5.

The Biscayne Trail is located approximately 2 miles north of the Site. The Biscayne Trail traverses Miami-Dade County. Homestead Bayfront Park offers access to the trail for biking and pedestrian activities.

The Homestead Miami Speedway, a 600-acre race course, is located approximately 4.7 miles northwest of the Site.

2.2.8.7 Electricity and Gas

FPL and Homestead Electric provide electricity to Miami-Dade County businesses and residents. TECO Peoples Gas is the primary natural gas provider in the area. A natural gas pipeline serving Turkey Point Units 1, 2, and 5 is owned and operated by Florida Gas Transmission.

2.2.8.8 Water Supply Facilities

Approximately 330 million gallons per day (MGD) of water are withdrawn from the Biscayne Aquifer through wells extending an average of 80 ft-bgs to meet the needs of Miami-Dade County businesses and residents (http://www.miamidade.gov, 2007; Miami-Dade County, 2007c). Three water treatment plants supply the needs of users north of SW 258th Street through a common distribution system. Five smaller water treatment plants comprising the South Dade Water Supply System serve the unincorporated areas of the County south of SW 248th Street, which includes Turkey Point Plant. The Turkey Point Plant receives potable water from the Miami-Dade County Newton water treatment plant.

2.2.8.9 Sewage Treatment Facilities

Regional wastewater facilities, package plants, and septic tanks serve Miami-Dade County businesses and residents. Regional facilities are large systems that serve areas of dense population. There are three regional facilities that serve the majority of businesses and residents in Miami-Dade County: the North, Central, and South Dade Wastewater Treatment Plants. Package plants are small and pre-constructed, serving isolated developments. Septic tanks provide service to individual residences or small developments that produce flows of less than approximately 2,000 gallons per day (gpd).

Sanitary wastes associated with Turkey Point Units 3 and 4, as well as other Units, are treated in an onsite treatment plant. The effluent, after treatment and disinfection, is discharged through a Class V injection well. Smaller volumes of sanitary wastes are routed to a septic tank system. No changes in the sanitary treatment facilities or flows will result from the Project, since the Project will not result in additional staffing.

2.2.8.10 Solid Waste Disposal

The Miami-Dade County Department of Solid Waste Management is responsible for solid waste collection, transport, and disposal in unincorporated portions of the county and eight municipalities. The Miami-Dade County Solid Waste Management solid waste disposal system consists of a resource recovery waste-to-energy facility and two landfills [North Dade Landfill (a trash-only facility) and South Dade Landfill (a garbage and trash facility)], which are supported by three regional waste transfer stations.

An approved solid waste contractor collects and transports the solid waste generated at the existing Turkey Point Plant for disposal at county facilities.

2.3 Bio-Physical Environment

2.3.1 Geohydrology

2.3.1.1 Geologic Description of the Site Vicinity

The generalized hydrostratigraphy for Miami-Dade County, including the Turkey Point Plant, is shown in Table 2.3.1-1. The Turkey Point Plant lies upon the Floridian Plateau, a partly-submerged peninsula of the continental shelf. The peninsula is underlain by approximately 4,000 to 15,000 ft of sedimentary rocks consisting of limestone and associated formations that range in age from Paleozoic to Recent. Little is known about the basement complex of Paleozoic igneous and metamorphic rocks due to their great depth.

Generally in Miami-Dade County, the surficial aquifer (Biscayne Aquifer) consists of a wedge-shaped system of porous clastic and carbonate sedimentary materials, primarily limestone and sand deposits of the Miocene to late Quaternary age. The Biscayne Aquifer is thickest along the eastern coast and varies in thickness from 80 to 200 ft thick. The surficial aquifer is typically composed of Pamlico Sand, Miami Limestone (Oolite), the Fort Thompson and Anastasia Formations (lateral equivalents), Caloosahatchee Marl, and the Tamiami formation. The lower confining layers below the surficial aquifer range in thickness from 350 to 600 ft and are composed of the Hawthorn Group. Beneath the Hawthorn Group, the Floridan Aquifer System (FAS) ranges from 2,800 to 3,400 ft thick and consists of Suwannee Limestone, Avon Park Limestone, and the Oldsmar Formations.

2.3.1.2 Site Lithologic Description

Turkey Point Units 3 and 4 are located adjacent to oil and gas-fired Units 1 and 2. The immediate area surrounding Units 3 and 4 is flat and rises very gently from sea level to an elevation about 10 ft-msl at a point some 8 to 10 miles west of the Site. The Site has underlying limestone bedrock on which has been placed compacted limestone rock fill. The subsurface conditions at the Site were investigated with 50 test borings, ranging in depth from 10 to 188.5 feet. Rock cores were recovered from 17 of these borings. In addition, a series of 62 rock probings, a geophysical uphole velocity survey, a ground motion survey, and a downhole television camera survey in a special 24-inch diameter boring were made.

The Pleistocene formation known as the Miami oolite underlies the Site. It was initially overlain by organic, mangrove swamp soils which averaged 4 to 8 feet in thickness. These soils were removed prior to construction of Units 3 and 4, and the entire Site area was backfilled with the compacted limestone rock fill. The Miami oolite, a deposit of highly permeable limestone, extends to about −20 ft-msl. The rock contains random zones of harder and softer rock and heterogeneously distributed small voids and solution channels, many of which contain secondary deposits. This limestone lies unconformably upon the Fort Thompson formation, which is a complex sequence of limestones and calcareous sandstones. The upper 5 to 10 feet of the limestone beneath the Miami oolite contains much coral which may represent the Key Largo formation, a coralline reef rock. This formation is contemporaneous in part with both the Fort Thompson formation and the Miami oolite.

The Fort Thompson formation, together with the Miami oolite, comprises the bulk of the Biscayne Aquifer.

2.3.1.3 Bearing Strength

Prior to actual construction of Units 3 and 4, the Site area was demucked (soils were removed down to bedrock) and then limestone rock was placed and compacted in layers to maximize bearing strength. The bedrock beneath was found competent with respect to foundation conditions for Units 3 and 4.

2.3.2 Subsurface Hydrology

2.3.2.1 Subsurface Hydrologic Data for the Site Aquifers

There are three major components to the subsurface hydrogeologic framework of southern Florida: the unconfined surficial aquifer; the confined FAS; and the sediments of the Hawthorn Group, which separate the two aquifer units (see Figure 2.3.2-1).

The Surficial Aquifer

The surficial aquifer in the Miami-Dade County area is the Biscayne Aquifer that extends from the water table to depths of greater than 200 ft below mean sea level (msl) near the coast. This highly permeable wedge-shaped formation that thins landward is a non-artesian aquifer composed principally of limestone, sandstone, and sand of marine origin with hydraulic conductivities exceeding 10,000 feet per day. The Biscayne Aquifer is the source of potable water in Miami-Dade County and is a single hydrologic unit of permeable materials ranging in age from late Miocene through Quaternary. The lowermost component of the Biscayne Aquifer is a limestone of shelly

calcareous sandstone of the upper part of the Tamiami Formation. The remaining major portion of the Biscayne Aquifer is composed of rocks ranging from Pliocene through late Quaternary in the following ascending sequence: Caloosahatchee Marl, Fort Thompson Formation, Key Largo Limestone, Anastasia Formation, ooltic and burrowed facies of the Miami Limestone, and Pamlico Sand. A description of these units is provided in Table 2.3.1-1.

The limestone of the Biscayne Aquifer is capable of yielding large amounts of water to wells. Wells that tap the thick limestone in the deeper part of the aquifer commonly yield more than 1,500 gallons per minute (gpm) with only 3 to 6 ft of drawdown (Sherwood et al., 1973). Most large capacity wells are developed in the intermediate to deeper part of the aquifer.

In the vicinity of the Turkey Point Plant, during the wet season (May to October) the regional groundwater flow is southeasterly, towards Biscayne Bay and Card Sound. During the dry season, flows change direction from the sea towards the Turkey Point Plant. Locally, the direction of flow may be influenced by the onsite cooling canal system and the two water management canals at the south end of the canal system. Groundwater mounding occurs beneath the cooling canals and radiates outward from the canal system.

The chemical quality of the groundwater in the Biscayne Aquifer varies from place to place. Most differences in quality are related to the nature of the aquifer and local land use. In general, the water is hard calcium bicarbonate type, neutral to slightly alkaline, and contains different amounts of dissolved iron (Klein and Hull, 1978; and Pitt et al., 1975). Dissolved constituents in the groundwater are influenced by rainfall and dry fallout, reaction with soil and aquifer material, application of fertilizers and pesticides, biological processes at the surface and within the aquifer, infiltration of wastes, chemical reactions among constituents, temperature, and pressure.

Saltwater intrusion affects the entire coastal zone of the Biscayne Aquifer. Saltwater extends inland from the coast through tidal streams and man-made canals, which serve as avenues to intrusion. Groundwater pumping can reduce freshwater flow toward coastal discharge areas and cause saltwater to be drawn toward the freshwater zones of the aquifer. Saltwater intrusion along most of the Miami-Dade County coastline extends approximately 4 miles landward from the coast. To prevent further saltwater intrusion, coastal structures along canals in eastern Miami-Dade County are used to maintain higher water levels upstream, preventing saltwater intrusion into the Biscayne Aquifer.

Higher surface-water levels induce higher groundwater levels, which prevent saltwater movement inland through the aquifer. Excess stormwater is also drained through these coastal structures.

The Turkey Point Plant has an Interceptor Ditch along the northwest and west sides of the cooling canals that restricts the inland movement of groundwater by pumping Interceptor Ditch water back into the cooling canals.

The Floridan Aquifer System (FAS)

The FAS underlies all of Florida and southern Georgia. This system consists of a sequence of inter-bedded limestone and dolomite that is approximately 3,000 ft thick in Miami-Dade County. Table 2.3.1-1 shows the stratigraphic units which comprise the FAS. The top of the FAS dips from the northwest to the southeast across Florida, and ranges from −1,000 to −1,300 ft-msl in Miami-Dade County. The FAS is a confined series of aquifer zones separated by aquicludes throughout south Florida (see Figure 2.3.2-2). The permeability of the FAS components is several orders of magnitude greater than the surficial aquifer. These high permeability values are the result of both fractured limestone and extensive secondary porosity derived from dissolution of carbonates. The transmissivity of the upper part of the FAS ranges from 16,000 to 83,000 gallons per day per foot (gpd/ft). At the base of the FAS is the "boulder zone," a highly cavernous zone of saline water utilized for underground injection of industrial and domestic wastes in South Florida. Transmissivity ranges from 374,000 gpd/ft to 748,000 gpd/ft. The water quality in the UFA is brackish with chloride and dissolved solid concentrations greater than 1,000 mg/L. Samples collected in a well, GB-1, constructed to the top of the FAS (USGS, 1994) showed that the water was moderately saline with 1,200 milligrams per liter (mg/L) chlorides and a total dissolved solids concentration of 2,720 mg/L.

The Hawthorn Group

The lithology of the Hawthorn varies greatly and is characterized by complex inter-bedding. The group as a whole has very low permeability and tightly confines the FAS in Miami-Dade County. The top of the Hawthorn Group occurs at approximately −100 to −200 ft-msl in the vicinity of the Site and is approximately 550 to 600 ft thick. In the Site vicinity, the Hawthorn group consists of beds of dark green to white phosphatic clay containing silt and quartz sand. The lower part of the formation varies from thin layers of sandy phosphatic limestone and chert to lenses and thin layers of phosphatic sand and shells.

2.3.2.2 Karst Hydrogeology

There is no documentation of karst development at the Site. In addition, no mention is made in the geologic literature of karst development in this region of south Florida (e.g., Sinclair and Stewart, 1985; Lane, 1986).

FPL has used regional siting criteria to delineate areas of karstic conditions or conditions that may be favorable for karst development and that could have a severe impact on the foundations of major plant facilities. On a regional basis, the development of karstic features in Florida is most common in areas where:

- Pre-Miocene-age carbonate rocks are at or near the ground surface,
- FAS recharge occurs,
- Lakes per unit area are at high density, and
- Sinkhole occurrence reports are persistent.

With respect to the near-surface occurrence of carbonate rocks, local experience generally shows that post-Miocene (Pleistocene) age carbonates do not pose the same potential for karstic development as do older carbonates in Florida, nor do they show the same correlation of occurrence with a high density of lakes, as do the pre-Miocene carbonates. There is no near-surface limestone in south Florida (Lake Okeechobee and south) and the closest limestones of the pre-Miocene age in the near surface are approximately 170 miles northwest of the Site. Major limestone formations that experience solution and cavity development are pre-Miocene in age, occur approximately −850 ft-msl at the Turkey Point Plant, and are overlain by thick, impervious strata. The solutioning of these limestones has allowed the development of the very permeable zones of the FAS.

Recharge to the FAS occurs through sinkholes, sinkhole-related lakes, or precipitation that is transmitted directly to the aquifer where the pre-Miocene limestones are near the surface. The recharge area for the FAS and the areas containing a high density of lakes relative to surrounding areas are generally encountered in north and west-central Florida, approximately 100 to 170 miles northwest of the Certified Site. A correlation of karst-related features based on the criteria described above indicates that the potential of one or more of the above conditions considered favorable for karst formation is low.

2.3.3 Site Water Budget and Area Users

2.3.3.1 Site Water Budget

Climate and Meteorology

The Turkey Point Plant is located in the southeastern most portion of peninsular Florida, which has a climate characterized as subtropical marine. Air dry bulb temperatures in the vicinity of the Plant site (measured at Miami, Florida) range from a normal monthly average of about 67.1 degrees Fahrenheit (°F) in January, to a normal monthly average of about 82.8°F in August, with an annual average of about 75.2°F. The highest and lowest temperatures recorded were 98°F and 30°F, respectively. Monthly and annual average temperatures from Miami International Airport are presented in Table 2.3.3-1.

Normal mean total annual rainfall measured at Miami International Airport (1961–1990) is 57.55 inches, with mean monthly totals ranging from 1.86 in December to 9.13 inches in July. Generally, the period of the year with the heaviest rainfall in southeast Florida is from May to October. Annual and monthly average rainfall data from Miami International Airport are presented in Table 2.3.3-2. Parker et al. (1955) report that the average rainfall at Miami over a 51-year period (1901-1952) was 57.3 inches; the minimum annual rainfall was 28.66 inches in 1944, and the maximum annual rainfall was 85.36 inches in 1908.

Parker et al. (1955) report that in the coastal ridge south of Miami, annual average rainfall was 60 inches, of which 38 inches was recharge to the aquifer and 22 inches was lost to evapotranspiration. There is very little direct runoff of precipitation; however, regional discharge of the surficial aquifer into drainage canals and directly into Biscayne Bay is estimated to be about 15 to 25 inches per year.

2.3.3.2 Area Users

In 1945, pumpage from the Biscayne Aquifer was estimated at 58.4 MGD (Parker et al., 1955); in 2003, the Miami-Dade Water and Sewer Department reports they withdrew approximately 330 MGD from the aquifer to meet the potable needs of the community, and an additional 320 MGD are used for agricultural purposes. SFWMD regulates surface and groundwater usage in the vicinity of the Turkey Point Plant. Figure 2.3.3-1 shows the permitted users within a 5-mile radius of the Site and Table 2.3.3-3 shows details of their permits.

During the wet season a seaward gradient exists and groundwater flow is southeasterly towards Biscayne Bay. This gradient tends to disappear during the dry season, where the groundwater levels are depressed below the sea level, resulting in a reverse flow direction. The groundwater at the Turkey Point Plant is classified by FDEP as Class G-III that has no reasonable potential as a future source of drinking water due to the high dissolved solids.

2.3.4 Surficial Hydrology

2.3.4.1 Hydrological Characterization

Site

The Turkey Point Plant is located on the western shore of Biscayne Bay, about 25 miles south of Miami, Florida. Natural drainage of the area is to the east and south towards Biscayne Bay. Since the shallow tidal creeks and swales are submerged, stream flow is very sluggish. This, together with the permeable limestone bedrock of the area, results in about two thirds of the rainfall percolating directly to the groundwater aquifer. In the absence of well-defined stream channels, heavy precipitation runs off in a slow sheet-like flow towards the bay. Some surface flow is directed away from the Site by off-site drainage and flood control canals.

Biscayne Bay is to the east of the proposed project area, the cooling canal system is to the south and west, and Units 1 and 2 are to the north.

Biscayne Bay

Biscayne Bay is a shallow tropical saline lagoon located on the southeast coast of Florida. The eastern boundary of the Bay is composed of barrier islands which eventually become part of the Florida Keys. The western shore is the Florida mainland. The Bay is connected to the Atlantic Ocean by several channels and cuts, some natural and some man-made. Major tributaries are (north to south) Arch Creek, Biscayne Canal, Little River, Miami River, Coral Gables Waterway, Snapper Creek Canal, Black Creek, Goulds Canal, North Canal, Florida City Canal, and Model Land Canal. The Bay was formed as rising sea level filled a limestone depression. It is not a drowned river valley like most estuaries. Unlike other estuaries, the Bay does not receive a sediment load from major river systems. Biscayne Bay can be divided into three areas: North Bay, Central Bay, and South Bay. The Turkey Point Plant is located on South Bay, which is generally undeveloped and fringed by mangrove wetlands. Benthic habitats are dense seagrass beds, large hard ground areas, and algal communities. The main canals draining into this portion of the bay are Black Creek, Princeton

Canal, Military Canal, Mowery Canal, and Model Land Canal. Ocean exchange is restricted to the tidal creeks between the islands of the northern portion of the Florida Keys.

South Bay (also identified as Lower Biscayne Bay) is about 100 square miles (64,000 acres) in area. The average depth is on the order of 5 feet at Mean Low Water (MLW), with a maximum depth of 13 feet. The volume at MLW is on the order of 1.5×10^{10} cubic feet. Mean tide is 1.65 feet on the mainland shore and 1.55 feet on Elliott Key (eastern side). Salinities vary widely, ranging from a low of 24 parts per thousand (ppt) to a high of 44 ppt, depending on the amount of rainfall and surface drainage reaching the coastal zone. The vertical salinity gradient in the Bay is relatively low, and the water can be considered vertically homogeneous. Natural water temperatures range from 59°F to 92°F at the surface, with little or no stratification.

Studies of the Bay show the principal circulation forces to be tidal, although winds which persist for longer than complete tidal cycles of 12 to 13 hours cause relatively large water movements and represent the principal driving force for the circulation of water from outside the Bay system itself.

Measurements of cyclic tidal flow past discrete points such as Cutter Bank (east of the cooling canal system) average about 50,000 acre-feet per day, or a continuous flow of 60,000 acre-feet per half tidal cycle. Tidal exchange between Biscayne Bay and the ocean is estimated to be less than 10,000 acre-feet per day (5,000 cfs) (FPL, 1972).

SFWMD reports the results of a network of water quality monitoring stations in Biscayne Bay (see Figure 2.3.4-1). Data from several of these stations in the vicinity of the Site have been analyzed; the results are shown in Table 2.3.4-1. In particular, an analysis was performed on salinity levels, which are plotted in Figure 2.3.4-2. Biscayne Bay does not appear on the most recent Florida 305b list of impaired waters, and is described as having "fairly good water quality" (SFWMD, 2003).

Cooling Canal System

The existing Units 1 through 4 utilize a 5,900-acre closed-cycle cooling canal system for condenser cooling (see Figure 2.3.4-3). The cooling canal system is a closed system that carries warm water south of the existing Plant and returns cooled water. The canal system does not directly discharge to fresh or marine surface waters; however, because the canals are not lined, groundwater does interact with water in the canal system. Makeup water for the canal system comes from process water, rainfall, stormwater runoff, and groundwater infiltration to replace evaporative and seepage losses.

Consequently, the water in the canals is hypersaline due to the effects of evaporation, with salinity concentrations approximately twice that of Biscayne Bay. A flow diagram of the inflows and outflows of the cooling canal system is shown in Figure 2.3.4-4.

Plant circulating water for Units 1 through 4 is pumped from a canal, shown on the top right of Figure 2.3.4-3, which draws water northward from the 7 easternmost canals, which are the cool side of the canal system. The water then passes through the condensers, where it picks up heat, and then is discharged to the northern end of the 32 westernmost canals. From there, it flows south in the 32 westernmost canals, is collected and flows east across the southern end of the cooling canal system, and then flows north in the 7 easternmost canals.

The Interceptor Ditch was constructed with the cooling canal system and is located just west of and adjacent to the cooling canal system, and east of the L-31E Canal and levee (see Figure 2.3.4-3). The purpose of the Interceptor Ditch is to keep cooling canal water from influencing groundwater west of the cooling canal system. This is accomplished by pumping water as necessary from the Interceptor Ditch to keep the water level or head in the Interceptor Ditch lower than that in the L-31E Canal. This causes groundwater movement to be seaward in the area between the L-31E Canal and the Interceptor Ditch. This prevents seepage from the cooling canal system from moving landward toward the L-31E Canal and thereby maintains fresh or potable water west of the Interceptor Ditch.

2.3.4.2 Water Quality

Water quality sampling and analysis have been performed in the cooling canal system by FPL. The results are summarized in Table 2.3.4-2.

Analysis of the existing cooling canal system temperatures has been performed utilizing the steady-state energy balance model developed for the Site during the permitting of Unit 5 (FPL, 2003). This analysis used 5 years of data to predict temperatures in the cooling canal system. A description of the model, including the methodology, data used, and a comparison of actual versus predicted temperatures, is contained in Appendix 10.6.

The predicted temperatures of recirculating water over time entering into and returning from the cooling canal system are shown in Figure 2.3.4-5. Depending upon the time of year and Plant capacity factors, the temperature of heated water from the Units entering the cooling canal system ranges from about 85 to 105°F, while cooled water returning to the Units ranges from about 70 to

90°F. The predicted average monthly temperatures in the cooling canal system range from 95.9°F for water entering the system to 82.6°F for water leaving the system. The associated predicted annual average temperature difference (Delta T) across the cooling canal system is 13.4°F over the 5-year period analyzed. To predict the maximum temperatures in the cooling canal system, data from June 1998 were used. The highest monthly temperatures were predicted for this period, as shown in Figure 2.3.4-5. The predicted temperature profile for June 1998 within the cooling canal system is shown in Figure 2.3.4-6. This figure shows that the heated water entering the cooling canal system in the month with the highest temperatures was 106.1°F, which had cooled down to about 94.8°F at the south end of the cooling canals, and then further cooled to about 91.9°F when returning to the Units.

2.3.4.3 Measurement Programs

The water quality data for this section of the application have been obtained from the literature and monitoring under the facility's NPDES permit. This information provided the background for the water quality analyses presented in Section 3.5, and the impact assessments presented in Section 5.1.

2.3.5 Vegetation/Land Use

Characteristic vegetative communities/land uses within the Project area were classified utilizing the Florida Land Use, Cover and Forms Classification System (FLUCFCS) (FDOT, 1999); see Figure 2.3.5-1. Vegetative communities in and adjacent to the Project area are discussed in detail in Subsection 2.3.6.1.

Existing vegetation/land use within the approximately 30-acre Site is wholly contained within the existing perimeter fence which surrounds Turkey Point Units 3 and 4. The entire area was cleared of vegetative communities during the construction of Units 3 and 4, and currently is classified as electrical utility facilities (FLUCFCS 831). The surrounding area includes additional fossil generation (Units 1, 2, and 5) and associated facilities (FLUCFCS 831), mangrove tidal flats (FLUCFCS 612), and transmission lines (FLUCFCS 832). The existing Plant facilities are surrounded by mangroves, which are tidally inundated with waters from Biscayne Bay, a shallow, subtropical bay supporting seagrasses, sponges, coral reefs, and a variety of marine life. A transmission line corridor and associated access road is located along the western boundary of the Turkey Point facility, extending north from the switchyard area.

2.3.6 Ecology

2.3.6.1 Species-Environmental Relationships

The following subsections include descriptions of important flora and fauna at the Site, the Turkey Point Plant, and surrounding areas. This discussion includes information related to the abundance of important species found and the value of the habitats present. The descriptions of the flora and fauna at or near the Site follow the FLUCFCS-Level III codes.

Vegetative Communities of the Site

Electrical Utilities (FLUCFCS 831)

The entire Site comprises the area contained within the perimeter security fence, including Units 3 and 4, the administration building, warehouses, access roads, cafeteria, water treatment area, evaporation ponds, ash ponds, and other associated Plant facilities.

Vegetative Communities Adjacent to the Site

Electrical Utilities (FLUCFCS 831)

Areas adjacent to the Site are classified as FLUCFCS 831 and include the fossil Units 1, 2, and 5, access roads, switchyard, cooling canal system, and ancillary facilities.

The cooling canal system services the existing Turkey Point Units 1, 2, 3, and 4 and comprises approximately 5,900 acres. Vegetation in the cooling canal system includes submerged, rooted marine plants, primarily widgeongrass (*Ruppia maritime*), as well as terrestrial woody vegetation along the berms.

Transmission Line Corridor (FLUCFCS 832)

An existing 330-ft wide transmission line corridor is located along the western boundary of the Turkey Point Plant, traveling to the north over the mangrove swamp. An access road lies adjacent to the transmission line corridor, and individual pole pad structures are located on areas of fill extending into the mangroves to the east of the access road. These small areas of fill are mostly barren, with the perimeter colonized by mangroves, buttonwood (*Conocarpus erectus*), occasional Brazilian pepper (*Schinus terebinthfolius*), and tree seaside oxeye (*Borrichia arborescens*).

Mangrove Tidal Flats (FLUCFCS 612)

Mangrove tidal flats are generally described as a coastal community composed of red mangrove (*Rhizophora mangle*) and/or black mangrove (*Avicennia germinans*), which are present in pure or

predominant stands. Typically, the major associates include white mangrove (*Laguncularia racemosa*), buttonwood, cabbage palm (*Sabal palmetto*), and sea grape (*Coccoloba uvifera*).

The majority of the area within the undeveloped areas and surrounding the existing Turkey Point Plant is classified as dwarf red mangrove flats, established within the shallow, tidally flushed area adjacent to Biscayne Bay and Card Sound. The dwarf mangrove tidal flat community contains mangroves less than 24 inches in height, stunted in response to decreased nutrient availability and increased salinity (McKee, 1996). The majority of the mangrove community north of Turkey Point Units 1 through 5 experiences sheet flow-type flushing of tidal waters, and exhibits more saline conditions with decreased nitrogen and phosphorus available for plant uptake. Where tidal creeks cut through the dwarf mangrove flat, the adjacent mangroves are up to 20 feet in height due to the exposure to nutrient-rich tidal creek water with lower salinities.

Within the red mangrove community at the Turkey Point Plant, buttonwood is a common subdominant canopy component, along with occasional white mangrove and black mangrove. Approximately 90 percent of the red mangroves are characteristic of the dwarf mangrove community, while approximately 10 percent are large individuals located adjacent to tidal creeks. Additional vegetative species observed within the mangrove community include occasional Brazilian pepper, Australian pine (*Casuarina equisetifolia*), tree seaside oxeye, grey nicker (*Caesalpinia bonduc*), groundsel tree (*Baccharis halimifolia*), and cordgrass (*Spartina* sp.).

Vegetative Communities Adjacent to the Turkey Point Plant

Outside of the Turkey Point Plant, dominant features include Biscayne Bay, Card Sound, and the approximately 13,000-acre EMB.

Biscayne Bay is shallow, with an average depth at low tide of 5 feet and maximum depth of approximately 13 feet. Salinity varies from 24 to 44 ppt, depending on rainfall and surface drainage (FPL, 2000). Card Sound is located immediately south of Biscayne Bay, is approximately 24 square miles in size, and has a mean depth of approximately 10 feet. Biscayne Bay and Card Sound support seagrass beds, dominated by turtle-grass (*Thalassia testudinum*) and subdominant species shoal grass (*Halodule wrightii*) and manatee-grass (*Syringodium filiforme*), which extend thousands of feet offshore.

The EMB is situated to the southwest of the Turkey Point Plant adjacent to the Everglades National Park on the west and Biscayne Bay and Card Sound to the east. The EMB contains relatively undisturbed freshwater and estuarine wetlands, including sawgrass marsh, wet prairie, herbaceous flats, dwarf mangrove, scrub mangrove, coastal band mangroves, coastal ridge mangroves, and disturbed areas that support the exotic species Australian pine and Brazilian pepper. The EMB is managed to maintain functioning wetland habitat that may be purchased as mitigation credits to offset wetland impacts within the EMB's service area.

Terrestrial Ecology Systems – Fauna

The Site is a highly developed industrial area devoid of natural wildlife habitat. The areas surrounding Turkey Point Units 1 through 5 provide habitat for a variety of wildlife, primarily wading birds and aquatic species associated with mangrove tidal flats, although the proximity of the existing Turkey Point Plant reduces utilization of the area. The wildlife habitat in the region surrounding the Turkey Point Plant supports a variety of species characteristic of the Biscayne Bay Aquatic Preserve and National Park. Extensive mangrove areas extend to the north and south of the Site, which provide important nursery areas for juvenile fishes as well as habitat for wading birds. To the south of the Site, the 5,900-acre recirculating cooling canal system provides breeding habitat for the American crocodile (*Crocodylus acutus*), as well as foraging area for several species of wading birds.

The existing developed areas for Turkey Point Units 1 through 5 provide poor habitat for wildlife, due to the lack of cover, native vegetative communities, and disturbance. No species of birds, mammals, or reptiles were observed in those areas classified as electrical power facilities, with the exception of common urban avian species along the edges of parking areas and access roads such as mourning dove (*Zenaida macroura*), European starling (*Sturnus vulgaris*), mockingbird (*Mimus polyglottis*), and rock dove (*Columba livia*).

The dwarf red mangrove habitat adjacent to Turkey Point Units 1 through 5 provides suitable habitat for wading birds, as well as habitat for fish, reptiles, and invertebrates. Avian species observed within the mangrove tidal flats include great egret (*Ardea albus*), white ibis (*Eudocimus albus*), tricolor heron (*Egretta tricolor*), snowy egret (*Egretta thula*), roseate spoonbill (*Platalea ajaja*), green heron (*Butorides virescens*), black crowned night heron (*Nycticorax nycticorax*), double-crested cormorant (*Phalacrocorax auritis*), common nighthawk (*Chordeiles minor*), boat tailed

grackle (*Quiscalus major*), red winged blackbird (*Agelaius phoenicius*), great horned owl (*Bubo virginianus*), white pelican (*Pelecanus erythrorhynchos*), mockingbird, and mourning dove. Forage fishes are common within the shallow waters of the mangrove flats, primarily marsh killifish (*Fundulus confluentus*), while areas of deeper water associated with tidal creeks support marsh killifish, mullet (*Mugil* sp.), juvenile gray snapper (*Lutjanus griseus*), and yellowfin mojarra (*Geres cinereus*), as well as blue crab (*Callinectes sapidus*).

Aquatic Ecology Systems – Fauna

The Site does not provide any habitat for aquatic biota, although the surrounding area includes mangrove tidal flats, Biscayne Bay, and the cooling canal system. The mangrove tidal flats are inundated with approximately 1 to 6 inches of hypersaline water in the form of sheet flow. Aquatic biological sampling was not conducted within this mangrove area, but review of surveys conducted in the mangrove areas fringing the nearby Biscayne Bay may be utilized to identify those species that may potentially utilize the mangrove habitat adjacent to the Site.

As part of the Turkey Point Unit 3 and 4 Final Environmental Statement for operations, studies were conducted in Biscayne Bay and Card Sound adjacent to Turkey Point Units 1 through 5. Fish and invertebrate sampling conducted in the red mangrove community along the shoreline of Biscayne Bay resulted in over 50 species of fish, dominated by gray snapper, mullet, and yellowfin mojarra. Five species of invertebrates were collected, with 90 percent represented by the blue crab.

Threatened and Endangered Species – Flora and Fauna

Plant and animal species designated by the U.S. Fish and Wildlife Service (USFWS), the Florida Fish and Wildlife Conservation (FFWCC) and the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened, species of special concern, commercially exploited, or under review, were included in this category.

No listed species occur within the Site, due to lack of natural vegetative communities or aquatic habitat and the highly disturbed industrial nature of the area immediately surrounding Units 3 and 4. There are a number of federally and state listed plants and animals that are associated or potentially associated with the area surrounding the developed portions of the Turkey Point Plant. A number of wetland dependent animal species (e.g., wading birds) use mangrove habitats for foraging, including the little blue heron (*Egretta caerulea*), tricolor heron, snowy egret, and wood stork (*Mycteria americana*). These species are common to the area and use other similar habitats that are found

throughout the surrounding region. The cooling canal system is a highly productive habitat for the threatened (federal) / endangered (State) American crocodile.

Plant and Animal Surveys

Flora – Threatened, endangered, and/or plant species of special concern known to occur in Miami-Dade County are listed in Table 2.3.6-1. The FNAI database review did not result in any occurrences of listed plant species in the vicinity of the Project area. During the preliminary listed species survey, no threatened or endangered plants were observed, although the potential exists for the occurrence of several epiphytic species known to occur outside of the Project area in association with tidal mangrove flats, such as the Giant wild-pine (*Tillandsia utriculata*), banded wild-pine (*Tillandsia flexuosa*), and powdery strap airplant (*Catopsis berteroniana*).

Fauna – Threatened, endangered, and/or animal species of special concern known to occur in Miami-Dade County are listed in Table 2.3.6-1. During the field reconnaissance conducted November 28–30, 2007, no species listed by the FFWCC or the USFWS were observed on the Site. However, during evaluation of the mangrove habitat adjacent to the Site, several wading birds classified by the FFWCC as species of special concern were observed, including the white ibis, snowy egret, little blue heron, roseate spoonbill, and tricolored heron. In addition, several endangered wood storks were observed within mangrove areas approximately 0.5 mile west of the Site, and listed American crocodiles were observed within the southern portion of the cooling canal system and within the Interceptor Ditch, approximately 3-5 miles southwest of the Site.

The cooling canal system and the adjacent canals (the Interceptor Ditch, C-107, the Sea Dade Canal, Model Land Canals North, South, and East, and L 3IE) are within the area designated as critical habitat for the American crocodile. Adult crocodiles were first observed at Turkey Point in 1976 and nesting was first documented upon berms within the cooling canal system in 1978 (Mazzotti and Brandt, 1994). As a result of this, FPL developed a crocodile management plan which focused on the creation and enhancement of habitat for crocodile nesting as well as monitoring the reproductive success, growth, and survival of hatchlings. FPL's efforts have resulted in a significant increase in the number of crocodile nests and hatchlings in the Turkey Point cooling canal system over the past quarter-century, from 1-2 nests and 30 hatchlings in the late 1970s to 17 known nests and over 300 hatchlings in 2003, 316 in 2006. Figure 2.3.6-1 presents the location of crocodile nests from 1978 through 2006. The critical nesting habitat maintained by FPL within the cooling canal system has

been responsible for virtually the entire increase in population of the American crocodile reported in south Florida over the past 25 years (Tucker et al., 2004). There will be no changes of activities within the cooling canal system as a result of the Project.

Additional listed species known to occur in the nearby Biscayne National Park may potentially utilize the mangrove habitats adjacent to the Site, including the peregrine falcon (*Falco peregrinus*), mangrove rivulus (*Rivulus marmoratus*), limpkin (*Aramus guarauna*), American oystercatcher (*Haematopus palliates*), least tern (*Sterna antillarum*), brown pelican (*Pelicanus occidentalis*), and bald eagle (*Haliaeetus leucocephalus*). The FFWCC's bald eagle nest locator database (FFWCC, 2007) was queried and resulted in no known bald eagle nests in the vicinity of the Site.

In addition to the population of American crocodiles that are known to utilize the cooling canal system, review of the FNAI database identified three occurrences of protected species within the Turkey Point Plant boundaries. Eastern indigo snakes (*Drymarchon couperi*), a federally threatened species, have been observed in undeveloped areas of the Turkey Point Plant. Least terns (*Sterna antillarum*), classified as a threatened species by the FFWCC, have been observed within the cooling canal system. The FNAI database also identified a report of an American alligator (*Alligator mississippiensis*) less than 0.5 mile to the west of the Site. The American alligator is listed as a species of special concern by the FFWCC and considered a threatened species by the USFWS due to its similarity in appearance to the threatened (federal) / endangered (State) American crocodile.

2.3.6.2 Pre-Existing Stresses

Terrestrial Systems

The pre-existing stress to terrestrial systems of the Site and surrounding area is the result of past development activity. The natural topography, soils, and hydrology of the Site have been altered as a result of the construction of Units 3 and 4, and the support facilities. The existing Turkey Point Units 3 and 4 were constructed upon mangrove-covered tidal flats. Natural surface water drainage features have been modified through road building and the cooling canal system.

Aquatic Systems

The cooling canal system is a man-made industrial wastewater treatment facility that does not require surface water or groundwater withdrawals for cooling purposes.

2.3.6.3 Measurement Programs

Terrestrial Ecology

Terrestrial ecological resources were evaluated through site reconnaissance, agency review, previous studies, and literature searches. Vegetative communities, wildlife utilization, and potential for threatened and endangered wildlife occurrence were addressed during the site reconnaissance conducted in November 2007.

Threatened and Endangered Species – Methodology

Prior to the field surveys, literature and agency surveys were undertaken to determine the species that could potentially be present in the habitats found on the Project area. Primary sources of information are the Florida Natural Areas Inventory (FNAI) database; Florida Committee on Rare and Endangered Plants and Animals (FCREPA) reports; Preservation of Native Flora of Florida Law, Rule Chapter 5B-40, F.A.C., the Regulated Plant Index (5B-40.0055); and Notes on Florida's Endangered and Threatened Plants, FDACS, Division of Plant Industry, Bureau of Entomology, Nematology and Plant Pathology – Botany Section, Contribution No. 38, Addition 2, Gainesville. In addition, previous reports of surveys conducted in and near the Site were reviewed.

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 Turkey Point Plant. The closest existing meteorological station to the Turkey Point Plant with complete data is the National Weather Service (NWS) station located at the Miami International Airport, situated approximately 46 kilometers (km) (29 miles) north. The NWS has recorded weather observations for more than 50 years at this site. These data are the most complete for, and representative of, the region surrounding the Project. FDEP has approved the use of these meteorological data in previous air permit applications for this area and recommended that these data be used for this Project.

The climate at the Turkey Point Plant is subtropical with a marine influence from the Atlantic Ocean. The monthly and annual average temperatures for this area are presented in Table 2.3.3-1. The annual average temperature is approximately 77°F with daily average temperatures varying from a maximum of 89°F in July to a minimum of 59°F in January. Record extreme temperatures range from a low of 30°F to a record high of 98°F. During the summertime, temperatures rarely exceed

98°F due to the high relative humidifies with subsequent cloud cover formation and the abundant convective-type precipitation (e.g., thunderstorms).

The monthly and annual average precipitation data are presented in Table 2.3.3-2. The average annual precipitation measured at Miami International Airport is approximately 59 inches, but this has varied from as little as 43 inches to as much as 80 inches in the past 59 years. The majority of rain is in the form of short-lived convection showers. Large amounts of rain are also produced during the late summer or fall when tropical storms or hurricanes may pass near the region. These events may result in heavy downpours that reach torrential proportions; 24-hour amounts of about 12 inches have been associated with hurricanes.

Monthly and annual average relative humidities, which indicate the amount of moisture in the air at a given temperature, are presented in Table 2.3.3-2 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.

The Turkey Point Plant lies entirely within the trade wind belt (i.e., below 30°N latitude), resulting in predominant winds from the east. 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 speeds, including calm conditions, is presented in Table 2.3.7-1.

Except during the passage of tropical storms or hurricanes, wind speeds greater than 25 miles per hour (mph) are not common.

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 2.3.7-2.

During the summer months, unstable conditions occur more than 30 percent of the time due to strong solar heating, whereas unstable conditions occur less than 16 percent of the time in the winter months. Neutral stability occurs most frequently during the spring months due to the higher wind speeds that occur in this season. The occurrence of stable conditions is highest during the winter months.

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, a higher mixing height produces a greater potential for pollutants to be dispersed and for ground-level concentrations to be reduced.

The seasonal and annual average morning and afternoon mixing heights for the area for 2001 to 2005 determined using the convective and mechanical methods are listed in Table 2.3.7-3. The highest afternoon mixing heights occur in the spring and the lowest morning mixing heights occur in winter.

Thunderstorms are the most frequent of severe storms, occurring an average of 74 days per year as reported by the NWS at Miami International Airport. These storms occur throughout the year, but about 82 percent occur from May through October.

Hurricanes and tornadoes are other types of severe weather that can occur in the Plant area, but the probability of a hurricane or tornado passing over the Turkey Point Plant is low.

In the 80-km (50-mile) coastal strip from Homestead to Long Key, there is about a 16-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 chance decreases to about 12 percent with a 5-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 (Pautz, 1969) show that 25 tornadoes were spotted within the 1-degree latitude by 1-degree longitude square centered near the Turkey Point Plant from 1955 to 1967. This averages about two tornadoes

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-degree 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-degree square (square miles).

In this analysis, *t* was assumed to be 1.1 based on data collected from 1953 to 1962 and *a* was estimated to be 4,300 square miles (mi^2). Therefore, the mean recurrence interval for a tornado striking a point within this square is more than 1,300 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 2.3.7-4. Primary National AAQS (NAAQS) were promulgated to protect the public health, and secondary NAAQS 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 violation of AAQS are designated as nonattainment areas, and new sources to be located in or near these areas may be subject to more stringent air permitting requirements. 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 (PM_{10}), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), and lead (Pb).

Miami-Dade County has adopted AAQS for SO_2. These SO_2 standards are 25, 110, and 350 micrograms per cubic meter ($\mu g/m^3$) for the annual, 24-hr, and 3-hr averaging times (Miami-Dade Code, 2007).

Miami-Dade County is classified as an attainment area for all criteria pollutants (Rule 62-204.340, F.A.C.).

On July 18, 1997, the U.S. Environmental Protection Agency (EPA) promulgated revisions to the NAAQS for O_3 and particulate matter (PM) (62 Federal Register No. 138). The O_3 standard was

modified to be 0.08 parts per million (ppm) for an 8-hour average concentration. This standard is achieved when the 3-year average concentration of the 4th highest value is 0.08 ppm or less. The 1-hour NAAQS was revoked effective June 15, 2005 for all areas in Florida (40 CFR 81). The Jacksonville, Miami-Fort Lauderdale-West Palm Beach, and Tampa-St. Petersburg-Clearwater areas are maintenance areas for the 1-hour NAAQS for purposes of 40 CFR Part 51, Subpart X.

The revised PM AAQS included two new standards for PM with an aerodynamic diameter of 2.5 μm or less ($PM_{2.5}$); a short-term 24-hour average standard and an annual average standard. In October 2006, EPA promulgated revised AAQS for PM_{10} and $PM_{2.5}$ [Federal Register, October 17, 2006 (71 FR 61144)]. For PM_{10}, the annual standard was revoked and the 24-hour standard was retained. The 24-hour $PM_{2.5}$ standard was revised to 35 $\mu g/m^3$ from 65 $\mu g/m^3$ 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 $\mu g/m^3$ (from population-orientated monitors) and a 3-year average of annual average concentrations that must not exceed 15 $\mu g/m^3$ (from a single or community-orientated monitor). These AAQS are effective December 18, 2006.

The FDEP has not yet adopted the revised O_3 or $PM_{2.5}$ AAQS. Based on evaluations performed by FDEP and EPA, Miami-Dade County has been designated an attainment area for the revised 1997 O_3 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 Miami-Dade 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 SO_2 and PM concentrations would constitute significant deterioration for sources located in attainment areas. The magnitude 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 promulgated areas as either Class I (international 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 allow greater deterioration than Class II areas, were designated. EPA then promulgated 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 2.3.7-4. FDEP has adopted the EPA allowable increments for PM_{10}, SO_2, and NO_2 (Rule 62-272.500, F.A.C.).

Miami-Dade 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 Project Area is the Everglades National Park (NP) located about 21 km (13 miles) to the southeast.

Ambient Air Quality Data

The Turkey Point Plant is located in a rural area of Miami-Dade County. Air monitoring data are collected in the County for SO_2, PM_{10}, O_3, NO_2, and CO. These data are representative of air quality in Miami-Dade County and the Turkey Point Plant.

A summary of the maximum pollutant concentrations measured in Miami-Dade County from 2004 through 2006 is presented in Table 2.3.7-5. These data indicate that the maximum air quality concentrations measured in Miami-Dade County are below applicable standards for all pollutants.

Given the lack of industrial development in the vicinity of the Plant, existing concentrations of other criteria pollutants, i.e., CO and Pb, which are usually associated with an urban environment, are expected to be well below the AAQS.

Existing Air Pollutant Sources

The Turkey Point Plant is located in an area with a minimal number of air pollution sources. The Turkey Point Plant is an existing generating facility originally constructed in the mid to late 1960s, with the commercial in-service for Units 1 and 2 in 1967 and 1968, respectively. Unit 3 and Unit 4 were constructed in the early 1970s with commercial in-service in 1972 and 1973, respectively. Unit 5 was brought into commercial in-service in 2007.

The following emission units exist at the Turkey Point Plant:

- Units 1 and 2 – 400 MW each (nominal capacity) – Steam electric generating units firing residual oil and natural gas.
- Unit 5 – 1,150 MW (nominal capacity) – Combined cycle unit consisting of four General Electric (GE) 7FA combustion turbines (CTs) and associated electric generators, four heat recovery steam generators (HRSGs), and single steam turbine with associated electric generator.
- Units FIC 1 through FIC5 – 2.5 MW (nominal capacity) – Black start diesel generating units associated with steam electric Units 1 and 2.
- Units 3A, 3B, 4A, and 4B – 2.5 MW (nominal capacity) – Emergency diesel generators associated with Units 3 and 4.
- General-purpose diesel engines.

The only air emissions sources associated with Turkey Point Units 3 and 4 and located on the Site are the emergency generators (Units 3A, 3B, 4A, and 4B) and general-purpose diesel engines. There will be no change in these units as a result of the Project.

2.3.7.3 Measurement Programs

Meteorological data were obtained from the NWS surface and upper-air station at the Miami International Airport. These data were obtained for a 5-year period from 2001 through 2005 from which the joint frequency of wind direction, wind speed, atmospheric stability, and a 5-year average of mixing heights were developed. The wind sensors at the Miami International Airport are located 22 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 0700 and 1900 Eastern Standard Time.

All air quality data was compiled from monitoring stations maintained and/or operated by FDEP and the Miami-Dade County Department of Environmental Resource Management (DERM).

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., direct measurements or though predictive calculations), the effects of noise on humans are 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.

The magnitude of noise levels or loudness 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:

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

where:

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

P_o = reference effective pressure of 20 µPa.

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).

There are no State of Florida noise regulations applicable to the construction and operation of the proposed Project. There is only a "nuisance" noise ordinance for Miami-Dade County.

2.3.8.2 Noise Measurement Procedures

An ambient noise-monitoring program was previously performed to assess the existing ambient noise levels within and near the Turkey Point Plant. Baseline noise level data was collected on April 24, 2003 during the daytime and nighttime, and in January and April of 2007 during the daytime. The equipment used to monitor the baseline noise levels operated in the slow response mode to obtain accurate, integrated, A-weighted sound pressure levels. 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 Standards 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 consisting of the following noise parameters were collected at each location:

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_{max} The maximum sound pressure level for the sampling period;

L_{min} The minimum sound pressure level for the sampling period; and

L_{90} The sound level exceeded 90 percent of the time during the monitoring period; this parameter excludes transient short-duration sounds such as traffic, aircraft, etc. and is an indicator of background noise levels.

The SPL data were analyzed and reported in both dB and dBA. The higher the decibel value, the louder the sound.

The noise monitoring equipment used included:

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 1/2″ 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 1.5 meters (m) (5 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. All readings were recorded for a minimum of 15 continuous minutes during each monitoring event, using measurement techniques set forth by ANSI S12.9-1993/Part 3, 1993.

The SPLs and octave band data were collected at the seven monitoring locations during the April 24th, 2003 field effort and at two boundary locations during the January and April 2007 events.

During April 2003 for the Turkey Point Unit 5 Site Certification Application, SPLs and octave band data were collected at seven different locations shown in Figure 2.3.8-1. Five of the seven monitoring locations (Sites 1, 2, 3, 4, and 5) were selected to delineate the near-field noise levels at or near the power block of Units 1 and 2. Additionally, Sites 6 and 7 were selected to delineate the existing far-field noise levels produced by the Turkey Point Plant and other noise sources at the pre-school to the northwest of Units 3 and 4, and at the Homestead Bay front entrance, respectively. Sites 6 and 7 are located about 1.6 miles northwest and 2 miles north, respectively, from the existing Turkey Point Plant. The two monitoring locations sampled in 2007 (Sites A and B) were chosen to delineate the noise levels at or near the Plant property boundaries, which included the nearest receptor to the Plant. During the January 2007 noise survey, Unit 5 (the combined-cycle facility) was not yet operational, but other facility equipment not associated with the combined-cycle facility (e.g., Units 1, 2, 3, and 4) were operating. During the April 2007 noise survey, Turkey Point Units 1, 2, 3, 4, and 5 were operating at base load.

The L_{min}, L_{max}, L_{eq}, and L_{90} SPLs during each monitoring event at each location were recorded and are presented in Table 2.3.8-1. The octave band results for the noise monitoring are presented in Appendix 10.5.2 and the calibration certificates are provided in Appendix 10.5.3. The SPL averages were calculated using the following formula:

$$\text{Average SPL} = 10\,\text{Log}\,\frac{\sum_{i=1}^{N} 10^{(SPL_i/10)}}{N}$$

where: N = number of observations

SPL_i = individual sound pressure level in data set.

2.3.8.3 Existing Ambient Sound Pressure Level Conditions

The daytime and nighttime ambient noise levels, measured as L_{eq}, for each of the monitoring sites are illustrated in Table 2.3.8-1. During the monitoring program on April 24, 2003, the maximum near-field L_{eq} noise levels for daytime and nighttime were 61.2 and 61.5 dBA, at Sites 4 and 3, respectively. The minimum near field L_{eq} noise levels for daytime and nighttime were 50.0 and 53.4 dBA.

The maximum far-field L_{eq} noise level for daytime and nighttime were 60.4 and 44.0 dBA at Sites A and 6, respectively. The minimum far field L_{eq} noise levels for daytime and nighttime were 41.5 and 40.7 dBA, at Sites A and 7, respectively.

TABLE 2.2.7-1

PRIVATE SECTOR EMPLOYMENT BY MAJOR INDUSTRY

FOR MIAMI-DADE COUNTY

Major Industry Group	Employment
Goods Producing	112,045
Natural Resources and Mining	10,457
Agriculture, Forestry, Fishing and Hunting	10,125
Mining	332
Utilities	Not Available
Construction	54,222
Manufacturing	47,366
Durable Goods Manufacturing	27,580
Nondurable Goods Manufacturing	19.786
Service Providing	768,903
Trade, Transportation, and Utilities	258,288
Transportation and Warehousing	55,918
Wholesale Trade	68,282
Retail Trade	130,905
Finance and Insurance	48,157
Financial Activities	72,571
Information	21,720
Real Estate and Rental and Leasing	24,414
Professional and Business Services	141,809
Professional Scientific and Technical Services	64,278
Management Companies and Enterprises	7,660
Administration and Support and Waste Management and Remediation Services	69,871
Education and Health Services	135,026
Educational Services	20,209
Health Care and Social Assistance	114,817
Leisure and Hospitality	101,940
Arts, Entertainment & Recreation	13,438
Accommodation and Food Services	88,502
Other Services (except Public Administration)	35,319
Unclassified	2,230

Source: State of Florida, Labor Market Statistics, 2006. "Quarterly Census of Employment and Wages" (ES-202), Annual NAICS files.

TABLE 2.2.8-1

TRAFFIC RESERVE CAPACITY FOR ROADS IN THE VICINITY OF THE TURKEY POINT PLANT

Station No.	Location	Peak Hour Capacity[1]	Peak Hour Trips[2]	Available Peak Hour Capacity[3] (Level of Service)
9956	SW 344th Street west of SW 137th Avenue	1,360	194	1,166 (B)
9952	SW 328th Street west of SW 137th Avenue	990	294	696 (B)
9944	SE 312th Street east of HEFT[4]	1,390	923	467 (B)

Source: Miami-Dade County (October 31, 2007)

Notes:
1 Maximum LOS capacity
2 Existing traffic volumes plus peak hour trips associated with approved, but not built, developments
3 Total peak hour trips minus peak hour capacity (reserved trips)
4 HEFT = Homestead Extension of Florida's Turnpike

Level of Service (LOS) Descriptions (Florida Department of Transportation, 2006)

LOS A Completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles and operations are constrained only by the geometric feature of the highway and by driver preferences.

LOS B Free flow, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as LOS A, but drivers have slightly less freedom to maneuver. Minor disruptions are easily absorbed, although local deterioration will be more obvious.

LOS C Influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Minor disruptions can cause serious local deterioration on service.

LOS D Ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed.

LOS E Operations at or near capacity, an unstable level. Disruptions cannot be dissipated readily.

LOS F Forced or breakdown flow. Vehicles arrive at a rate greater than the rate at which they are discharged. The demand exceeds the computed capacity of the planned facility.

TABLE 2.3.1-1
STRATIGRAPHIC COLUMN OF ROCK UNITS
IN THE VICINITY OF THE TURKEY POINT PLANT

Age	Formation	Lithologic Description	Thickness (ft)	Water-Bearing Unit
Holocene	Soils	Peat and muck.	0-12	
	Lake Flirt Marl	White to gray calcareous mud, rich with shells of *Helisoma* sp., a fresh-water gastropod. In some places cemented to form dense limestone. Relatively impermeable.	0-6	
Pleistocene (formations are contem-poraneous in part)	Pamlico Sand	Quartz sand, white to black or red, depending upon nature of staining materials, very fine- to coarse-grained, average medium-grained. Mantles large areas underlain by Miami oolite and Anastasia Formation.	0-40	Biscayne Aquifer
	Oolite facies of the Miami Limestone	Limestone, oolitic, soft, white to yellowish containing thin layers of calcite, massive to crossbedded and stratified; generally perforated with vertical solution holes. Fair to good aquifer.	0-40	Biscayne Aquifer
	Anastasia Formation	Coquina, sand, calcareous sandstone, sandy limestone, and shell marl. Probably composed of deposits equivalent in age to marine members of Fort Thompson Formation. Fair to good aquifer.	0-120	Biscayne Aquifer
	Key Largo Limestone	Coralline reef rock, ranging from hard and dense to soft and cavernous. Probably interfingers with the marine members of the Fort Thompson Formation. Crops out along southeastern coastline of Florida from Soldier Key in Biscayne Bay to Bahia Honda. Excellent aquifer.	0-60	Biscayne Aquifer
	Fort Thompson Formation	Alternating marine, brackish-water and fresh-water marls, limestones, and sandstone. A major component of the highly permeable Biscayne Aquifer of coastal Dade and Broward Counties, which yields copious supplies of groundwater.	0-150	Biscayne Aquifer
Pliocene	Caloosahatchee Marl	Sandy marl, clay, silt, sand, and shell beds. Yields groundwater less abundantly than most other parts of the Biscayne Aquifer.	0-25	Biscayne Aquifer

TABLE 2.3.1-1
STRATIGRAPHIC COLUMN OF ROCK UNITS
IN THE VICINITY OF THE TURKEY POINT PLANT

Age	Formation	Lithologic Description	Thickness (ft)	Water-Bearing Unit
Miocene	Tamiami Formation	Cream, white and greenish-gray clayey marl, silty and shelly sands, and shelly marl, locally hardened to limestone. Upper part, where permeability is high, forms the lower part of the Biscayne Aquifer. Lower and major part of formation is low permeability and forms the upper beds of the aquiclude that confines water in the Floridan aquifer below.	0-500	Biscayne Aquifer and confining horizon
	Hawthorn Formation	Sandy, phosphatic marl, interbedded with clay, shell, marl, silt, and sand. Greenish color predominates. Water is generally scarce, of poor quality, and in the permeable beds is confined under low-pressure head. Comprises the major part of aquiclude confining the Floridan aquifer.	50-500	Confining horizon
	Tampa Limestone	White to tan, soft to hard, often partially recrystallized limestone. Yields artesian water, but not as abundantly as lower parts of the Floridan aquifer.	150-250	Floridan Aquifer
Oligocene	Suwannee Limestone	Creamy soft to hard limestone, lithologically similar to underlying Ocala Limestone.	0-450	Floridan Aquifer
Eocene	Ocala Group Avon Park Limestone Lake City Limestone Oldsmar Limestone	Crystalline carbonate rocks; limestone and dolomite, generally yields highly mineralized water.	1,500-3,000	Floridan Aquifer
Paleocene	Absent		–	Not a source of water
Cretaceous	Lawson Limestone Pine Key Formation Austin Age Limestone	Crystalline carbonate rocks; limestone and dolomite, not used as source of water.	>10,000	Not a source of water
Precambrian and Paleozoic		Crystallized igneous and metamorphic rocks.	–	Not a source of water

Sources: Schroeder et al., 1958; Carter, 1984; Sherwood et al., 1973; Vecchioli and Foose, 1984; Florida Bureau of Geology, 1986; and Anderson et al., 1986.

TABLE 2.3.3-1
MONTHLY AND ANNUAL AVERAGE TEMPERATURES
MEASURED AT MIAMI INTERNATIONAL AIRPORT

	Daily Average Temperatures (°F)[a]			Daily Extremes (°F)[b]	
Month	**Average**	**Maximum**	**Minimum**	**Maximum**	**Minimum**
January	68.1	75.5	58.7	88	30
February	69.1	76.6	59.5	89	32
March	72.4	79.5	63.3	92	32
April	75.7	28.6	67.1	96	46
May	79.6	85.4	70.9	96	53
June	82.4	88.0	74.3	98	60
July	83.7	89.3	75.6	98	69
August	83.6	89.7	75.9	98	68
September	82.4	88.2	75.2	97	68
October	78.8	84.7	71.4	95	51
November	74.4	80.2	65.7	89	39
December	69.9	76.8	60.8	82	30
Annual	76.7	83.1	68.2	98	30

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

[b] 64-year period of record, 1943 to 2006.

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

TABLE 2.3.3-2
MONTHLY AND ANNUAL AVERAGE PRECIPITATION AND RELATIVE HUMIDITY
MEASURED AT MIAMI 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	1.88	6.66	0.04	81	85	59	70
February	2.07	8.07	0.01	80	84	57	68
March	2.56	10.57	0.02	78	82	56	66
April	3.36	17.29	0.05	76	79	54	64
May	5.52	18.54	0.44	79	80	58	69
June	8.54	22.36	1.81	83	83	65	74
July	5.79	13.51	1.77	82	83	63	72
August	8.63	16.88	1.65	83	85	65	75
September	8.38	24.40	2.63	84	87	66	77
October	6.19	21.64	0.72	82	85	63	73
November	3.43	13.84	0.09	81	84	63	72
December	2.18	6.39	0.12	80	84	60	71
Annual	58.5	79.56	42.63	81	83	61	71

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

[b] 64-year period of record, 1943 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 2.3.3-3
SFWMD WATER USE PERMITS WITHIN 5-MILE RADIUS OF SITE

Permit Number	Project Name	Land Use[1]	Water Use[2]	X Coord	Y Coord	Source	Section	Township	Range
13-00578-W	KRENG, DAVID	AGR	IRR	855647	414158	Biscayne Aquifer	13	57	39
13-00578-W	KRENG, DAVID	AGR	IRR	855647	414158	Biscayne Aquifer	13	57	39
13-00578-W	KRENG, DAVID	AGR	IRR	855647	414158	Biscayne Aquifer	13	57	39
13-00578-W	KRENG, DAVID	AGR	IRR	855647	414158	Biscayne Aquifer	13	57	39
13-00578-W	KRENG, DAVID	AGR	IRR	855647	414158	Biscayne Aquifer	13	57	39
13-00578-W	KRENG, DAVID	AGR	IRR	855647	414158	Biscayne Aquifer	13	57	39
13-00578-W	KRENG, DAVID	AGR	IRR	855647	414158	Biscayne Aquifer	13	57	39
13-01637-W	DIAZ NURSERY	AGR	IRR	865498	423789	Surficial Aquifer System	6,7	57	40
13-01637-W	DIAZ NURSERY	AGR	IRR	865206	420868	Surficial Aquifer System	6,7	57	40
13-01637-W	DIAZ NURSERY	AGR	IRR	862471	419752	Surficial Aquifer System	6,7	57	40
13-00982-W	BERNECKER TRACT	AGR	IRR	860224	417359	Biscayne Aquifer	12	57	39
13-00328-W	FARSOUTH GROVES	AGR	IRR	861429	418641	Biscayne Aquifer	9,19,20,29-31	56	40
13-00946-W	WILLIAMS FARMS #6	AGR	IRR	854236	413960	Biscayne Aquifer	3,10,14	57	39
13-00946-W	WILLIAMS FARMS #6	AGR	IRR	854236	414560	Biscayne Aquifer	3,10,14	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859188	416602	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859188	416816	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859188	417031	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859188	417245	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859188	417459	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859528	417359	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859528	417131	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859528	416916	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859528	416702	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859528	416502	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859869	416616	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859869	416831	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859869	417031	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859869	417245	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859869	417459	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	860224	417131	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	860224	416916	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	860224	416702	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	860224	416502	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	860551	416616	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	860551	416831	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	860551	417031	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	860551	417245	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	860551	417459	Biscayne Aquifer	12	57	39
13-00300-W	ALGER FARMS	AGR	IRR	864126	419899	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	861803	417244	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	861394	419823	Biscayne Aquifer	3	56	39

TABLE 2.3.3-3
SFWMD WATER USE PERMITS WITHIN 5-MILE RADIUS OF SITE

Permit Number	Project Name	Land Use[1]	Water Use[2]	X Coord	Y Coord	Source	Section	Township	Range
13-00300-W	ALGER FARMS	AGR	IRR	856274	415227	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	857446	415200	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	856118	412806	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	856118	411582	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	854817	414185	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	854817	412832	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	854869	411556	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	853385	412858	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	853385	411556	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	852031	410437	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	853385	410463	Biscayne Aquifer	3	56	39
13-00300-W	ALGER FARMS	AGR	IRR	855089	414551	Biscayne Aquifer	3	56	39
13-00102-W	BOTANICAL GARDENS NURSERY, INC	NUR	IRR	860647	411158	CANAL	13	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859756	417097	Biscayne Aquifer	12	57	39
13-00982-W	BERNECKER TRACT	AGR	IRR	859756	417097	Biscayne Aquifer	12	57	39
13-00168-W	VILLAGES OF HOMESTEAD	GOL	IRR	850913	404664	On-site Lake(s)	16-23,26-30	57	39
13-00168-W	VILLAGES OF HOMESTEAD	GOL	IRR	851220	406514	On-site Lake(s)	16-23,26-30	57	39
13-00300-W	ALGER FARMS	AGR	IRR	856820	415140	Biscayne Aquifer	3	56	39
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866167	422606	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866175	423041	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866167	422830	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866167	422399	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866175	422209	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866163	422014	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866461	422958	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866436	423136	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866457	422726	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866461	422519	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866817	423058	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866469	422109	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866469	422316	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866821	422871	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866821	422648	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866821	422420	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866817	422242	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	866826	422035	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867186	423074	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867182	422871	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867186	422441	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867168	422342	Biscayne Aquifer	5,18	57	40

TABLE 2.3.3-3
SFWMD WATER USE PERMITS WITHIN 5-MILE RADIUS OF SITE

Permit Number	Project Name	Land Use[1]	Water Use[2]	X Coord	Y Coord	Source	Section	Township	Range
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867178	422246	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867186	422047	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867356	422992	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867347	422776	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867360	422569	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867368	422358	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867368	422159	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	863673	414978	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	867364	421973	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	864095	414982	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	864240	414461	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	864236	414813	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	864261	414118	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	863582	414618	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	864161	414614	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	863698	413775	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	863835	414134	Biscayne Aquifer	5,18	57	40
13-02398-W	NATIVE TREE NURSERY INC	NUR	IRR	864054	413783	Biscayne Aquifer	5,18	57	40
13-03487-W	SALAZARS TWO SISTERS NURSERY 312/117, 310/142 AND 294/137	AGR	IRR	860128	415239	Biscayne Aquifer	13	57	39
13-03487-W	SALAZARS TWO SISTERS NURSERY 312/117, 310/142 AND 294/137	AGR	IRR	860140	414098	BISCAYNE AQUIFER	13	57	39
13-03452-W	TARASSU NURSERY	AGR	IRR	857351	413566	Biscayne Aquifer	13	57	39
13-03452-W	TARASSU NURSERY	AGR	IRR	857367	412963	Biscayne Aquifer	13	57	39
13-03497-W	MIAMI-DADE 40 ACRE	AGR	IRR	862159	414746	Biscayne Aquifer	18	57	40
13-03497-W	MIAMI-DADE 40 ACRE	AGR	OTR	862159	414746	Biscayne Aquifer	18	57	40

Source: SFWMD, 2007.

TABLE 2.3.4-1
BISCAYNE BAY WATER QUALITY

Constituent	Overall Max	Overall Avg	Overall Min
Specific Conductivity - µS/cm	68200	51648.29	32
Lab Conductivity - µS/cm	55000	49867.083	38100
Total Coliform - CFU/100ml	7500	14.86	1
Fecal Coliform - CFU/100ml	4600	11.896	1
Total Zinc - µg/L	395	20.718	0.1
Salinity - PPT	354	34.638	0.1
Total Iron - µg/L	61	9.763	0.1
Temperature - °C	34.5	25.565	5.63
Total Lead - µg/L	30	1.042	0.04
Color - PCU	24	5.676	1
Turbidity - NTU	15	1.233	0.1
Chlorophyll A - mg/cubic meter	10.86	0.576	0.03
Total Copper - µg/L	9.4	0.758	0.034
pH	8.8	8.021	6.93
D.O. - mg/L	8.5	5.986	1.9
NH_4 - mg/L	0.9	0.065	0.0079
Total Cadmium - µg/L	0.9	0.083	0.01
NO_x - mg/L	0.54	0.033	0.01
Total Phosphate - mg/L	0.168	0.006	0.0001

Source: FPL, 2003.

TABLE 2.3.4-2
WATER QUALITY DATA FOR THE TURKEY POINT COOLING CANAL SYSTEM

No.	Parameter	Unit	Max	Avg
1	pH	SU	8.21	8.02
2	TSS	mg/L	19	16
3	COD	mg/L	2100	1650
4	BOD (5-day)	mg/L	ND	ND
5	Soluble BOD	mg/L	ND	ND
6	Total Residual Chlorine	mg/L	0.8	0.8
7	Total Dissolved Solids (TDS)	mg/L	56000	54500
8	Ammonia as N	mg/L	0.16	0.16
9	Kjeldahl Nitrogen	mg/L	1.9	1.8
10	Nitrite as N	mg/L	ND	ND
11	Nitrate as N	mg/L	ND	ND
12	Total Phosphorus	mg/L	0.11	0.0965
13	Dissolved Oxygen	mg/L	12.02	8.7
14	Total Hardness	mg/L as $CaCO_3$	10000	10000
15	Total Alkalinity	mg/L as $CaCO_3$	170	165
16	Nitrogen (total)	mg/L	1.9	1.8
17	Fluoride	mg/L	ND	ND
18	Chloride	mg/L	33000	30000
19	Iron Total	mg/L	ND	ND
20	Magnesium	mg/L	2200	2050
21	Calcium	mg/L	760	720
22	Manganese	mg/L	0.0089	0.00855
23	Sulfate	mg/L	4200	3950
24	Temperature	°C	31.5	30.05
25	Antimony	mg/L	ND	ND
26	Arsenic	mg/L	0.042	0.0295
27	Beryllium	mg/L	ND	ND
28	Cadmium	mg/L	ND	ND
29	Chromium	mg/L	ND	ND
30	Copper	mg/L	0.021	0.0175
31	Lead	mg/L	0.0001	0.0001
32	Soluble Lead	mg/L	0.00021	0.000152
33	Mercury	mg/L	ND	ND
34	Molybdenum	mg/L	0.018	0.018
35	Nickel	mg/L	0.05	0.0395
36	Selenium	mg/L	0.67	0.3475
37	Silver	mg/L	ND	ND
38	Thallium	mg/L	0.0018	0.00107
39	Zinc	mg/L	0.019	0.019
40	Cyanide	mg/L	ND	ND
41	Phenols	mg/L	ND	ND
42	Oil & Grease	mg/L	ND	ND
43	Silica	mg/L	0.61	0.52
44	Ortho-Phosphate	mg/L	ND	ND
45	Alkalinity (Bicarbonate)	mg/L	170	165
46	Total- Phosphate	mg/L		
47	Turbidity	NTU	2	1.915
48	Sulfides	mg/L	ND	ND
49	Aluminum	mg/L	0.017	0.014
50	Barium	mg/L	0.08	0.073
51	Iron (Dissolved)	mg/L	ND	ND
52	Potassium	mg/L	690	680
53	Vanadium	mg/L	0.0056	0.004

All tested as total unfiltered.
ND = non-detected.

Source: FPL, 2003.

TABLE 2.3.6-1
THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN
REPORTED FROM MIAMI-DADE COUNTY, FLORIDA

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Scientific Name	Common Name	Federal Status	State Status
FISH			
Pristis pectinata	smalltooth sawfish	E	N
Rivulus marmoratus	mangrove rivulus	C	LS
AMPHIBIANS and REPTILES			
Alligator mississippiensis	American alligator	T(S/A)	LS
Caretta caretta	loggerhead	LT	LT
Chelonia mydas	green turtle	LE	LE
Crocodylus acutus	American crocodile	LT	LE
Dermochelys coriacea	leatherback	LE	LE
Drymarchon couperi	Eastern indigo snake	LT	LT
Eretmochelys imbricata	hawksbill	LE	LE
Gopherus polyphemus	gopher tortoise	N	LT
Pituophis melanoleucus mugitus	Florida pine snake	N	LS
Rana capito	gopher frog	N	LS
Tantilla oolitica	rim rock crowned snake	N	LT
BIRDS			
Ammodramus maritimus mirabilis	Cape Sable seaside sparrow	LE	LE
Ammodramus savannarum floridanus	Florida grasshopper sparrow	LE	LE
Aphelocoma coerulescens	Florida Scrub Jay	LT	LT
Aramus guarauna	limpkin	N	LS
Calidris canutus rufa	Red knot	C	N
Campephilus principalis	Ivory-billed woodpecker	LE	N
Charadrius melodus	piping plover	LT	LT

TABLE 2.3.6-1
THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN
REPORTED FROM MIAMI-DADE COUNTY, FLORIDA

Scientific Name	Common Name	Federal Status	State Status
Athene cunicularia floridana	Florida burrowing owl	N	LS
Columba leucocephala	white-crowned pigeon	N	LT
Egretta caerulea	little blue heron	N	LS
Egretta rufescens	reddish egret	N	LS
Egretta thula	snowy egret	N	LS
Egretta tricolor	tricolored heron	N	LS
Eudocimus albus	white ibis	N	LS
Falco peregrinus	peregrine falcon	N	LE
Falco sparverius paulus	southeastern American kestrel	N	LT
Grus canadensis pratensis	Florida sandhill crane	N	LT
Haematopus palliatus	American oystercatcher	N	LS
Haliaeetus leucocephalus	bald eagle	LT	LT
Mycteria americana	wood stork	LE	LE
Pandion haliaetus	osprey	N	LS
Patagioenas leucocephala	white-crowned pigeon	N	LT
Pelecanus occidentalis	brown pelican	N	LS
Platalea ajaja	roseate spoonbill	N	LS
Polyborus plancus audubonii	Audubon's crested caracara	T	LT
Rostrhamus sociabilis plumbeus	Everglades snail kite	LE	LE
Rynchops niger	black skimmer	N	LS
Sterna antillarum	least tern	N	LT
Vermivora bachmanii	Bachman's sparrow	LE	N

TABLE 2.3.6-1
THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN
REPORTED FROM MIAMI-DADE COUNTY, FLORIDA

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Scientific Name	Common Name	Federal Status	State Status
MAMMALS			
Eumops floridanus	Florida bonneted bat	N	LE
Neovision vison	Southern mink, southern Florida population	N	LT
Podomys floridanus	Florida mouse	N	LS
Puma concolor coryi	Florida panther	LE	LE
Trichechus manatus	manatee	LE	LE
Ursus americanus floridanus	Florida black bear	N	LT
PLANTS			
Acrostichum aureum	golden leather fern	N	LE
Adiantum tenerum	brittle maidenhair fern	N	LE
Aeschynomene pratensis	meadow jointvetch	N	LE
Aletris bracteata	bracted colci-root	N	LE
Alvaradoa amorphoides	Everglades leaf lace	N	LE
Amorpha herbacea var *crenulata*	crenulate lead-plant	LE	LE
Anemia wrightii	Wright's anemia	N	LE
Argusia gnaphalodes	sea lavender	N	LE
Argythamnia blodgettii	Blodgett's wild-mercury	C	LE
Aristolochia pentandra	Dutchman's pipe	N	LE
Asplenium dentatum	American toothed spleenwort	N	LE
Asplenium serratum	bird's nest spleenwort	N	LE
Asplenium verecundrum	Modest spleenwort	N	LE
Basiphyllaea corallicola	rockland orchid	N	LE
Beloglottis costaricensis	Costa Rican lady's-tresses	N	LE

TABLE 2.3.6-1
THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN
REPORTED FROM MIAMI-DADE COUNTY, FLORIDA

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Scientific Name	Common Name	Federal Status	State Status
Bourreria cassinifolia	little strongbark	N	LE
Brassia caudata	spider orchid	N	LE
Brickellia mosieri	Florida brickell-bush	C	LE
Byrsonima lucida	locustberry	N	LE
Calyptranthes zuzygium	myrtle-of-the-river	N	LE
Campyloneurum angustifolium	narrow-leaved strap fern	N	LE
Catopsis berteroniana	powdery catopsis	N	LE
Catopsis floribunda	many-flowered catopsis	N	LE
Chamaecrista lineata var *keyensis*	big pine partridge pea	N	LE
Chamaesyce deltoidea ssp *adhaerens*	hairy deltoid spurge	LE	LE
Chamaesyce deltoidea ssp *deltoidea*	deltoid spurge	LE	LE
Chamaesyce deltoidea ssp *pinetorium*	pinelands spurge	C	LE
Chamaesyce garberi	Garber's spurge	LT	LE
Chamaesyce porteriana var *porteriana*	Porter's broad-leaved spurge	N	LE
Cheilanthes microphylla	southern lip fern	N	LE
Cheiroglossa palmata	hand fern	N	LE
Coccothrinax argentata	silver palm	N	LE
Colubrina cubensis var *floridana*	Cuban snake-bark	N	LE
Crossopetalum ilicifolium	Christmas berry	N	LE
Crossopetalum rhacoma	rhacoma	N	LE

TABLE 2.3.6-1
THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN
REPORTED FROM MIAMI-DADE COUNTY, FLORIDA

Scientific Name	Common Name	Federal Status	State Status
Ctenitis sloanei	Florida tree fern	N	LE
Cucurbita okeechobeensis ssp *okeechobeensis*	Okeechobee gourd	LE	LE
Cyclopogon elatus	tall neottia	N	LE
Cyrtopodium punctatum	cow-horned orchid	N	LE
Dalea carthagenesis var *floridana*	Florida prairie clover	C	LE
Digitaria pauciflora	few-flowered crabgrass	N	LE
Drypetes diversifolia	millbark	N	LE
Eltroplectris calcarata	spurred neottia	N	LE
Encyclia boothiana var *erythronioides*	dollar orchid	N	LE
Encyclia cochleata var *triandra*	clamshell orchid	N	LE
Epidendrum nocturnum	night-scented orchid	N	LE
Ernodea cokeri	Coker's beach creeper	N	LE
Eugenia confusa	tropical ironwood	N	LE
Eugenia rhombea	red stopper	N	LE
Eupatorium villosum	villose fennel	N	LE
Euphorbia pinetorum	rockland painted-leaf	N	LE
Galactia smallii	Small's milk pea	LE	LE
Galeandra bicarinata	Two-keeled helmet orchid	N	LE
Glandularia maritima	coastal vervain	N	LE
Govenia utriculata	sheathing govenia	N	LE
Guaiacum sanctum	lignum-vitae	N	LE
Guzmania monostachia	Fuch's bromeliad	N	LE
Halophila johnsonii	Johnson's seagrass	LT	N

TABLE 2.3.6-1
THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN
REPORTED FROM MIAMI-DADE COUNTY, FLORIDA

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Scientific Name	Common Name	Federal Status	State Status
Harrisia simpsonii	Simpson's prickly apple	N	LE
Hippomane mancinella	manchineel	N	LE
Hypelate trifoliata	white ironwood	N	LE
Ilex krugiana	Krug's holly	N	LE
Indigofera mucronata keyensis	Florida indigo	C	LE
Ipomoea microdactyla	wild potato morning glory	N	LE
Ipomoea tenuissima	rocklands morning glory	N	LE
Jacquemontia curtissii	pineland jacquemontia	N	LE
Jacquemontia pentanthos	skyblue clustervine	N	LE
Jacquemontia reclinata	beach jacquemontia	LE	LE
Jacquinia keyensis	joewood	N	LT
Lantana canescens	small-headed lantana	N	LE
Lantana depressa var *depressa*	Florida lantana	N	LE
Lantana depressa var *floridana*	Atlantic Coast Florida lantana	N	LE
Leiphaimos parasitica	ghost plant	N	LE
Licaria triandra	Gulf licaria	N	LE
Linum arenicola	sand flax	C	LE
Linum carteri var carteri	Carter's small-flowered flax	C	LE
Linum carteri var smallii	Carter's large-flowered flax	N	LE
Matelea floridana	Florida spiny-pod	N	LE
Microgramma heterophylla	climbing vine fern	N	LE
Odontosoria clavata	Wedgelet fern	N	LE

TABLE 2.3.6-1
THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN
REPORTED FROM MIAMI-DADE COUNTY, FLORIDA

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Scientific Name	Common Name	Federal Status	State Status
Okenia hypogaea	burrowing four-o'clock	N	LE
Oncidium floridanum	Florida oncidium	N	LE
Ophioglossum palmatum	hand fern	N	LE
Opuntia corallicola	Florida semaphore cactus	C	LE
Passiflora multiflora	white passionflower	N	LE
Passiflora sexflora	Everglades Key passionflower	N	LE
Pavonia paludicola	mangrove mallow	N	LE
Peperomia humilis	terrestrial peperomia	N	LE
Peperomia obtusifolia	blunt-leaved peperomia	N	LE
Phoradendron rubrum	mahogony mistletoe	N	LE
Picramnia pentandra	Bitter bush	N	LE
Polygala smallii	tiny polygala	LE	LE
Polyrrhiza lindenii	ghost orchid	N	LE
Ponthieva brittoniae	Bahama shadow-witch	N	LE
Prescotia oligantha	small-flowered prescotia	N	LE
Prunus myrtifolia	West Indian cherry	N	LT
Pseudophoenix sargentii	Florida cherry-palm	N	LE
Psidium longpipes	Mangrove berry	N	LT
Psychotria ligustrifolia	Bahama wild coffee	N	LE
Pteris bahamensis	Bahama brake	N	LE
Pteroglossaspis ecristata	wild coco	N	LT
Rhipsalis baccifera	mistletoe cactus	N	LE
Roystonea elata	Florida royal palm	N	LE
Sachsia polycephala	Bahama sachsia	N	LE

TABLE 2.3.6-1
THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN
REPORTED FROM MIAMI-DADE COUNTY, FLORIDA

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Scientific Name	Common Name	Federal Status	State Status
Sacoila lanceolata var *paludicola*	Fahkahatchee ladies'-tresses	N	LT
Schizaea pennula	ray fern	N	LE
Scutellaria havanensis	Havana skullcap	N	LE
Selaginella eatonii	Eaton's spikemoss	N	LE
Sphenomeris clavata	wedgelet fern	N	LE
Spiranthes polyantha	green ladies'-tresses	N	LE
Spiranthes torta	southern ladies'-tresses	N	LE
Stylosanthes calcicola	pineland pencil flower	N	LE
Swietenia mahagoni	West Indies mahogany	N	LE
Tectaria fimbriata	Least halberd fern	N	LE
Tephrosia angustissima var *angustissima*	devil's shoestring	N	LE
Tephrosia angustissima var *corallicola*	rockland hoary-pea	N	LE
Tephrosia angustissima var *curtissi*	coastal hoary-pea	N	LE
Thelypteris reptans	creeping fern	N	LE
Thelypteris sclerophylla	hard-leaved shield fern	N	LE
Thelypteris serrata	toothed maiden fern	N	LE
Thrinax morrisii	brittle thatch palm	N	LE
Thrinax radiata	Florida thatch palm	N	LE
Tillandsia flexuosa	banded wild-pine	N	LE
Tragia saxicola	pineland noseburn	N	LE
Trema lamarckianum	Lamarck's trema	N	LE
Trichomanes krausii	Kraus' bristle fern	N	LE

TABLE 2.3.6-1
THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN
REPORTED FROM MIAMI-DADE COUNTY, FLORIDA

Scientific Name	Common Name	Federal Status	State Status
Trichomanes punctatum ssp *floridanum*	Florida bristle fern	N	LE
Tripsacum floridanum	Florida gama grass	N	LT
Tropidia polystachya	young-palm orchid	N	LE
Vanilla barbellata	worm-vine orchid	N	LE
Vanilla phaeantha	brown-flowered vanilla	N	LE
Warea carteri	Carter's warea	LE	LE
Zanthoxylum coriaceum	Biscayne prickly ash	N	LE
Zephyranthes simpsonii	rain lily	N	LT

LS = Listed as Species of Special Concern
LT = Listed as Threatened
LE = Listed as Endangered
N = Not Listed
T(S/A) = Listed due to Similarity of Appearance

Source: Florida Natural Areas Inventory, 2007 and United States Fish and Wildlife Service, 2007

TABLE 2.3.7-1
SEASONAL AND ANNUAL AVERAGE WIND SPEEDS
AT MIAMI INTERNATIONAL AIRPORT

Season	Wind Speed [a] (knots)	Wind Speed [a] (mph)	Calm [a] (%)
Winter	6.99	8.0	10.1
Spring	7.80	9.0	8.8
Summer	6.23	7.2	16.1
Autumn	7.04	8.1	9.7
Annual	7.02	8.1	11.2

[a] 5-year period of record, 2001 to 2005

Source: NOAA, 2005.

TABLE 2.3.7-2
SEASONAL AND ANNUAL AVERAGE ATMOSPHERIC STABILITY CLASSES
AT MIAMI INTERNATIONAL AIRPORT

Season	Occurrence (%) of Stability Class					
	Very Unstable	Moderately Unstable	Unstable	Neutral	Stable	Slightly Stable
Winter	0.1	4.2	11.4	36.4	18.8	29.0
Spring	1.0	6.4	14.7	40.1	16.7	21.0
Summer	2.0	11.1	20.8	24.6	13.8	27.7
Autumn	0.6	5.7	13.2	34.5	18.0	27.9
Annual	0.9	6.9	15.0	33.9	16.8	26.4

[a] 5-year period of record, 2001 to 2005

Source: NOAA, 2005.

TABLE 2.3.7-3
SEASONAL AND ANNUAL AVERAGE
MORNING AND AFTERNOON MIXING HEIGHTS
AT MIAMI INTERNATIONAL AIRPORT

Season	Mixing Height (m)	
	Morning	Afternoon
Winter	684	1,771
Spring	1,114	2,158
Summer	865	2,098
Autumn	815	1,914
Annual	871	1,986

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

Based on surface and upper air data from the NWS station at Miami International Airport.

Source: NOAA, 2005.

TABLE 2.3.7-4
NATIONAL AND STATE AAQS, ALLOWABLE PSD INCREMENTS, AND SIGNIFICANT IMPACT LEVELS

Pollutant	Averaging Time	National AAQS ($\mu g/m^3$) [a] Primary Standard	National AAQS ($\mu g/m^3$) [a] Secondary Standard	Florida AAQS [a] ($\mu g/m^3$)	PSD Increments ($\mu g/m^3$) [a] Class I	PSD Increments ($\mu g/m^3$) [a] Class II	Significant Impact Levels ($\mu g/m^3$) [b] Class I	Significant Impact Levels ($\mu g/m^3$) [b] ClassII
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 (PM_{10}) = 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 2.5 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 PM_{10}, $PM_{2.5}$, and O_3 AAQS which are based on expected exceedances.

[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 $\mu g/m^3$. Annual PM_{10} 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, 2006.

TABLE 2.3.7-5
SUMMARY OF MAXIMUM MEASURED SO_2, PM_{10}, O_3, NO_2, AND CO CONCENTRATIONS OBSERVED FROM REPRESENTATIVE MONITORING STATIONS
2004 THROUGH 2006

AIRS Site No.	Operator	Location	Measurement Period Year	Measurement Period Months	Concentration 1-Hour Highest	1-Hour 2nd Highest	3-Hour Highest	3-Hour 2nd Highest	8-Hour 3-year Average 4th Highest	24-Hour Highest	24-Hour 2nd Highest	Annual Average
Sulfur dioxide		**Florida AAQS**			**NA**	**NA**	**NA**	**0.5 ppm**	**NA**	**NA**	**0.1 ppm**	**0.02 ppm**
12-086-019	Dade County	FHP Route E US 27	2006	Jan-Dec	NA	NA	0.002	0.001	NA	0.001	0.001	0.001
		Miami	2005	Jan-Dec	NA	NA	0.001	0.001	NA	0.002	0.002	0.001
			2004	Jan-Dec	NA	NA	0.006	0.005	NA	0.002	0.002	0.001
PM_{10}		**Florida AAQS**			**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**150 µg/m³**	**50 µg/m³**
12-089-1016	Dade County	NW 20th St & 12th Ave., Fire Station	2006	Jan-Dec	NA	NA	NA	NA	NA	53	43	26.3
		Miami	2005	Jan-Dec	NA	NA	NA	NA	NA	60	56	26.3
			2004	Jan-Dec	NA	NA	NA	NA	NA	38	31	19
Ozone		**Florida AAQS**			**NA**	**0.12 ppm**	**NA**	**NA**	**0.08 ppm**	**NA**	**NA**	**NA**
12-086-0027	Dade County	Rosentiel School	2006	Jan-Dec	0.076	0.073	NA	NA	0.072	NA	NA	NA
			2005	Jan-Dec	0.092	0.087	NA	NA	0.068	NA	NA	NA
			2004	Jan-Dec	0.094	0.088	NA	NA	0.066	NA	NA	NA
12-086-0029	Dade County	Perdue Medical	2006	Jan-Dec	0.072	0.068	NA	NA	0.068	NA	NA	NA
			2005	Jan-Dec	0.088	0.085	NA	NA	0.066	NA	NA	NA
			2004	Jan-Dec	0.09	0.084	NA	NA	0.065	NA	NA	NA
Nitrogen dioxide		**Florida AAQS**			**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0.053 ppm**
12-086-0027	Dade County	Rosentiel School	2006	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	0.0069
			2005	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	0.0061
			2004	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	0.0058
12-086-4002	Dade County	Metro Annex	2006	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	0.0134
		Miami	2005	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	0.0135
			2004	Jan-Dec	NA	NA	NA	NA	NA	NA	NA	0.0130
Carbon monoxide		**Florida AAQS**			**NA**	**35 ppm**	**NA**	**NA**	**9 ppm**	**NA**	**NA**	**NA**
									2nd Highest			
12-086-0031	Dade County	1600 South Dixie Highway	2006	Jan-Dec	2.9	2.3	NA	NA	1.5	NA	NA	NA
		Miami	2005	Jan-Dec	2.9	2.8	NA	NA	1.8	NA	NA	NA
			2004	Jan-Dec	3.6	3.5	NA	NA	2.5	NA	NA	NA

Note: AAQS = ambient air quality standard.
NA = not applicable.

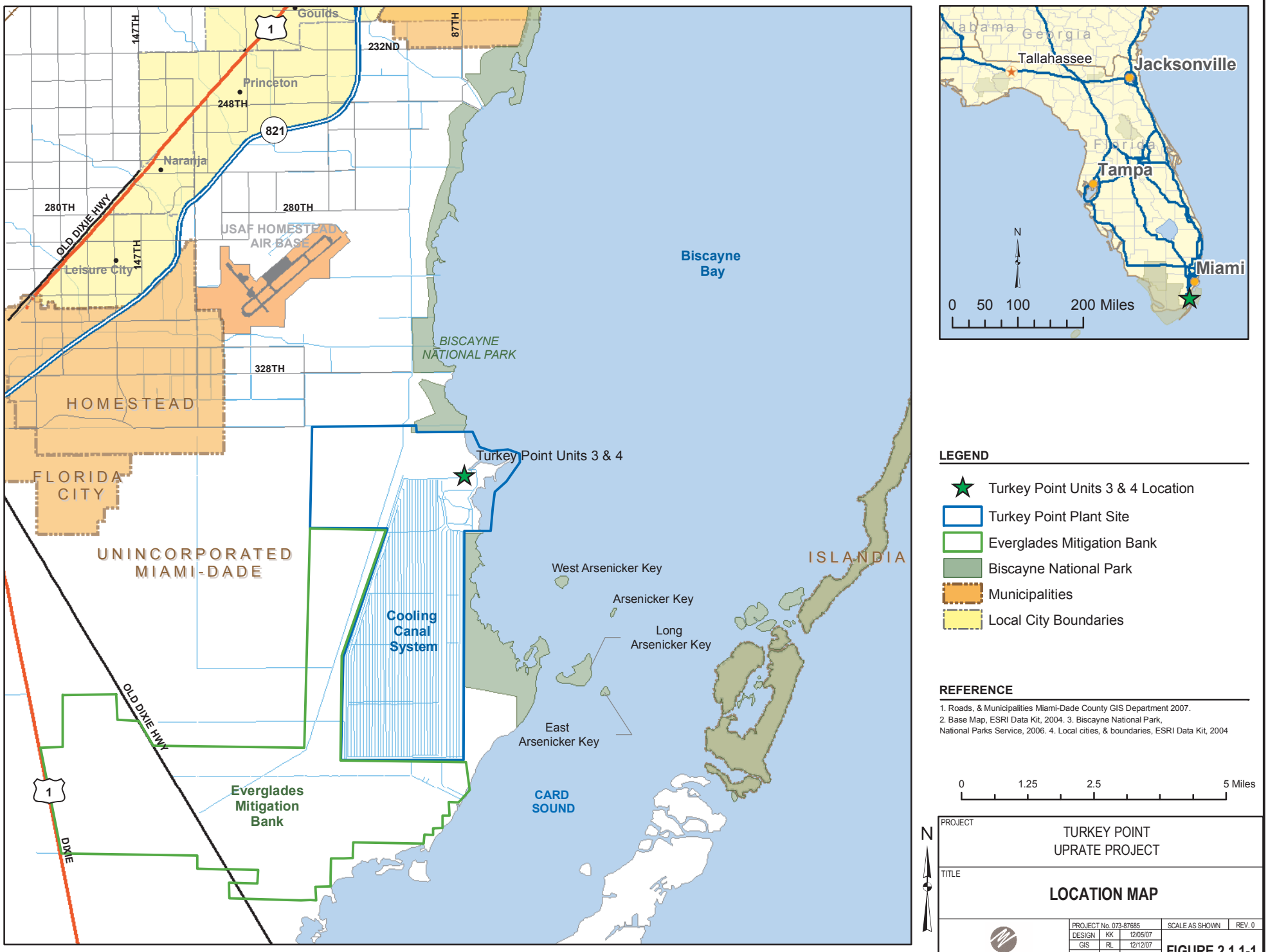
Source: EPA Aerametric Information Retrieval System, Air Quality Subsystem, Quick Look Report, Florida, 2004-2006

TABLE 2.3.8-1
BASELINE AMBIENT SOUND PRESSURE LEVEL DATA FOR FPL TURKEY POINT PLANT

Baseline Site	Location	Date	Time	Wind Speed	Wind Direction	Sound Levels (dBA) L_{min}	L_{max}	L_{90}	L_{eq}	Comments/Notes
1	200 meters east of Unit 5 power block by Red Barn	24-Apr-03	Day	5-7	East	47.1	55.3	48.2	50.0	Plant not noticeable; security drive-by
		24-Apr-03	Night	5-7	NE	50.8	58.1	51.6	53.4	Wind;some insects
2	70 meters southeast of Unit 5 power block	24-Apr-03	Day	8-10	East	55.2	61.3	56.1	57.3	Loudspeaker announcements
		24-Apr-03	Night	Gusty	NE	57.1	62.0	57.7	58.6	Wind
3	35 meters south of Unit 5 power block steam tubine	24-Apr-03	Day	8-10	East	57.8	61.9	58.3	59.2	Turbine whine; steam noise/venting; prop jet
		24-Apr-03	Night	Gusty	NE	59.9	63.9	60.5	61.5	Turbine whine; steam hiss, intermittent
4	165 meters southwest of Unit 5 power block	24-Apr-03	Day	5-7	East	59.3	63.4	60.1	61.2	Palm rustling in wind
		24-Apr-03	Night	8-10	NA	58.6	63.2	59.3	60.2	Low humming noise; not turbine
5	230 meters west of Unit 5 power block on T-line	24-Apr-03	Day	3-5	East	52.6	57.9	54.1	55.2	Turbine noticeable
		24-Apr-03	Night	5-7	NA	53.6	58.8	55.0	56.6	Turbine noticeable
6	Pre-School on Palm Drive	24-Apr-03	Day	3-5	East	42.7	65.3	44.2	49.3	Birds; cars on Palm Dr.; gun range
		24-Apr-03	Night	1-3	NE	40.7	56.7	41.5	44.0	Crickets; distant plant noise
7	Homestead Bayfront Park Entrance[a]	24-Apr-03	Day	5-7	East	47.6	57.7	49.6	52.3	Plant not audible
		24-Apr-03	Night	1-3	NE	39.0	51.2	39.5	40.7	Cars and security passed by
A	Main Entrance	1-Jan-07	Daytime	2-4	NW	46.7	78.6	49.7	60.4	Traffic, airplane, wind
		24-Apr-07	Daytime	4-6	E	46.0	65.6	46.5	49.4	Traffic, airplane, wind
B	Along the Power Lines at the property boundary	1-Jan-07	Daytime	3-5	N	37.0	52.1	37.9	41.5	Powerline hum, wind, traffic, airplane
		24-Apr-07	Daytime	5-7	E	44.4	61.3	48.2	52.9	Powerline hum, wind, traffic, airplane

[a] The entrance to the Biscayne National Park is at the same location. Neither the County Park nor the National Park have camping facilities in this area. There is a marina at the Homestead Bayfront County Park where overnight stay in boats can be obtained.

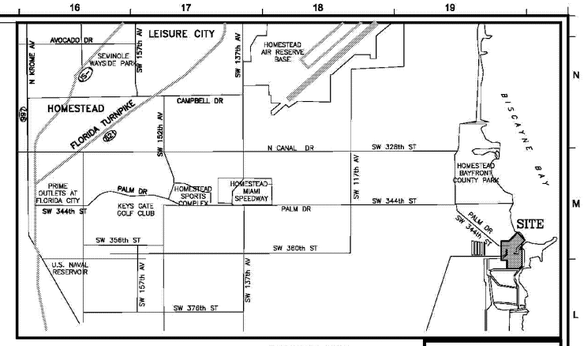
Source: Golder, 2003 and 2007.


Goulds
147TH
1
232ND
87TH
Princeton
248TH
821
Naranja
280TH
280TH
OLD DIXIE HWY
USAF HOMESTEAD AIR BASE
Leisure City
147TH
Biscayne Bay
BISCAYNE NATIONAL PARK
328TH
HOMESTEAD
Turkey Point Units 3 & 4
FLORIDA CITY
UNINCORPORATED MIAMI-DADE
ISLANDIA
West Arsenicker Key
Arsenicker Key
Long Arsenicker Key
Cooling Canal System
East Arsenicker Key
OLD DIXIE HWY
1
Everglades Mitigation Bank
CARD SOUND
DIXIE
Alabama
Georgia
Florida
Tallahassee
Jacksonville
Tampa
Miami
N
0 50 100 200 Miles
LEGEND
Turkey Point Units 3 & 4 Location
Turkey Point Plant Site
Everglades Mitigation Bank
Biscayne National Park
Municipalities
Local City Boundaries
REFERENCE
1. Roads, & Municipalities Miami-Dade County GIS Department 2007.
2. Base Map, ESRI Data Kit, 2004. 3. Biscayne National Park,
National Parks Service, 2006. 4. Local cities, & boundaries, ESRI Data Kit, 2004
0 1.25 2.5 5 Miles
N
PROJECT
TURKEY POINT
UPRATE PROJECT
TITLE
LOCATION MAP
PROJECT No. 073-87685
SCALE AS SHOWN
REV. 0
DESIGN KK 12/05/07
GIS RL 12/12/07
CHECK SM ?? Aug. 2005
REVIEW KK ?? Aug. 2005
FPL
FIGURE 2.1.1-1
P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINT\MapDocuments\073876857PA15_AreaMap

Specific Purpose Survey for:

The Florida Power & Light Company

MIAMI-DADE COUNTY, FLORIDA.
Sections 27, 28, 33 & 34, Township 57 South, Range 40 East



VICINITY MAP
(NOT TO SCALE)

GRAPHIC SCALE
1" = 100
0 50 100 200

DESCRIPTION of PERIMETER

COMMENCING AT A MIAMI-DADE WATER AND SEWER DEPARTMENT GPS/GIS PROJECT CONTROL POINT, STATION LLOYD; THENCE S 57°14'43" E, FOR A DISTANCE OF 18493.52' TO THE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE AROUND THE SUBJECT PROPERTY FOR THE FOLLOWING 24 (TWENTY-FOUR) COURSES:

THENCE NORTH 89°06'52" EAST, A DISTANCE OF 260.20 FEET;
THENCE NORTH 79°24'40" EAST, A DISTANCE OF 277.34 FEET;
THENCE NORTH 48°36'26" EAST, A DISTANCE OF 83.64 FEET;
THENCE NORTH 00°55'33" WEST, A DISTANCE OF 47.35 FEET;
THENCE NORTH 86°54'12" EAST, A DISTANCE OF 290.41 FEET;
THENCE SOUTH 04°49'53" EAST, A DISTANCE OF 300.96 FEET;
THENCE SOUTH 86°40'55" WEST, A DISTANCE OF 241.95 FEET;
THENCE SOUTH 01°08'06" EAST, A DISTANCE OF 154.77 FEET;
THENCE SOUTH 88°20'31" EAST, A DISTANCE OF 278.78 FEET;
THENCE SOUTH 06°58'18" EAST, A DISTANCE OF 622.91 FEET;
THENCE SOUTH 00°58'19" EAST, A DISTANCE OF 352.56 FEET;
THENCE SOUTH 89°09'13" WEST, A DISTANCE OF 950.30 FEET;
THENCE NORTH 00°55'28" WEST, A DISTANCE OF 177.00 FEET;
THENCE NORTH 17°37'16" WEST, A DISTANCE OF 108.40 FEET;
THENCE NORTH 11°53'21" WEST, A DISTANCE OF 144.75 FEET;
THENCE NORTH 03°00'58" WEST, A DISTANCE OF 6.61 FEET;
THENCE SOUTH 89°19'53" WEST, A DISTANCE OF 247.88 FEET;
THENCE NORTH 00°47'58" WEST, A DISTANCE OF 275.73 FEET;
THENCE NORTH 55°53'42" EAST, A DISTANCE OF 212.81 FEET;
THENCE NORTH 75°38'52" EAST, A DISTANCE OF 39.29 FEET;
THENCE NORTH 88°55'32" EAST, A DISTANCE OF 40.42 FEET;
THENCE NORTH 00°52'51" WEST, A DISTANCE OF 330.33 FEET;
THENCE NORTH 27°17'12" WEST, A DISTANCE OF 28.05 FEET;
THENCE NORTH 00°35'36" WEST, A DISTANCE OF 85.71 FEET
TO THE POINT OF BEGINNING OF THIS DESCRIPTION.

SAID LANDS LYING AND BEING IN MIAMI-DADE COUNTY, AND CONTAINING 30.27 ACRES MORE OR LESS

FIGURE 2.1.1-2

CERTIFIED SITE BOUNDARY

LINE TABLE			LINE TABLE		
LINE	LENGTH	BEARING	LINE	LENGTH	BEARING
L1	260.21	S89°06'52"W	L13	177.00	S00°55'28"E
L2	277.34	S79°24'40"W	L14	108.40	S17°37'16"E
L3	83.64	S48°36'26"W	L15	144.75	S11°53'21"E
L4	47.35	S00°55'33"E	L16	6.61	S03°00'58"E
L5	290.41	S86°54'12"W	L17	247.88	N89°19'53"E
L6	300.96	N04°49'53"W	L18	275.73	S00°47'58"E
L7	241.95	N86°40'55"E	L19	212.81	S55°53'42"W
L8	154.77	N01°08'06"W	L20	39.29	S75°38'52"W
L9	278.78	S88°20'31"W	L21	40.42	S88°55'32"W
L10	622.91	N06°58'18"W	L22	330.33	S00°52'51"E
L11	352.56	N00°58'19"W	L23	28.05	S27°17'12"E
L12	950.30	N89°09'13"E	L24	85.71	S00°35'36"E

NOTES:

1.) NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.
2.) BEARINGS SHOWN HEREON ARE RELATIVE TO FLORIDA STATE PLANE COORDINATE SYSTEM EAST ZONE, GRID NORTH, TRANSVERSE MERCATOR PROJECTION, AS ESTABLISHED BY MONUMENTS ESTABLISHED BY MIAMI-DADE WATER AND SEWER DEPARTMENT GPS/GIS PROJECT MONUMENTS F-10-R, AND LLOYD.
3.) THE SPECIFIC PURPOSE OF THIS SURVEY IS TO GRAPHICALLY DEPICT THE "NUCLEAR PERIMETER SITE LIMITS" AT THE TURKEY POINT NUCLEAR POWER PLANT AS DESCRIBED BY THE CLIENT.
4.) ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
5.) FEATURES REPRESENTED BY SYMBOL(S) ARE LOCATED AT THE CENTER OF SYMBOL AND ARE NOT TO SCALE, UNLESS OTHERWISE NOTED.
6.) LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR RIGHTS-OF-WAY, EASEMENTS, OWNERSHIP, OR OTHER INSTRUMENTS OF RECORD.
7.) THE LAST DATE OF FIELD WORK WAS DECEMBER 18, 2007.
8.) THE ORTHO-IMAGE SHOWN HEREON IS FOR GRAPHIC PURPOSES ONLY AND HAS NOT BEEN GEO-RECTIFIED
9.) THIS IS NOT A BOUNDARY SURVEY.

SURVEYORS CERTIFICATE

I HEREBY CERTIFY THAT THE ATTACHED SPECIFIC PURPOSE SURVEY OF THE HEREON DESCRIBED PROPERTY IS DEPICTED TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION AS SURVEYED UNDER MY DIRECTION ON DECEMBER 18, 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 STATUES, SUBJECT TO THE QUALIFICATIONS NOTED HEREON.

KEITH AND SCHNARS, P.A.
ENGINEERS-PLANNERS-SURVEYORS

Robt N Johnson 12/20/2007
BY: Robert N. Johnson Date of Signature
Professional Surveyor & Mapper
Florida Registration No. 6540 (For The Firm)

©2007

Keith & Schnars, P.A.
ENGINEERS • PLANNERS • SURVEYORS
1680 SE Lyngate Drive, Port St. Lucie, FL 34952
Phone: (772) 223-2244
LB 1337

DATE	REVISIONS

DATE	2007 DEC 18
SCALE	1 : 100'
FIELD BOOK	-
DRAWN BY	tm
CHECKED BY	RNJ

SPECIFIC PURPOSE SURVEY
for The Florida Power & Light Company

TURKEY POINT NUCLEAR POWER PLANT
MIAMI-DADE COUNTY, FLORIDA.

SHEET NO.	1
OF	1 SHEETS
PROJECT NO.	17677.05

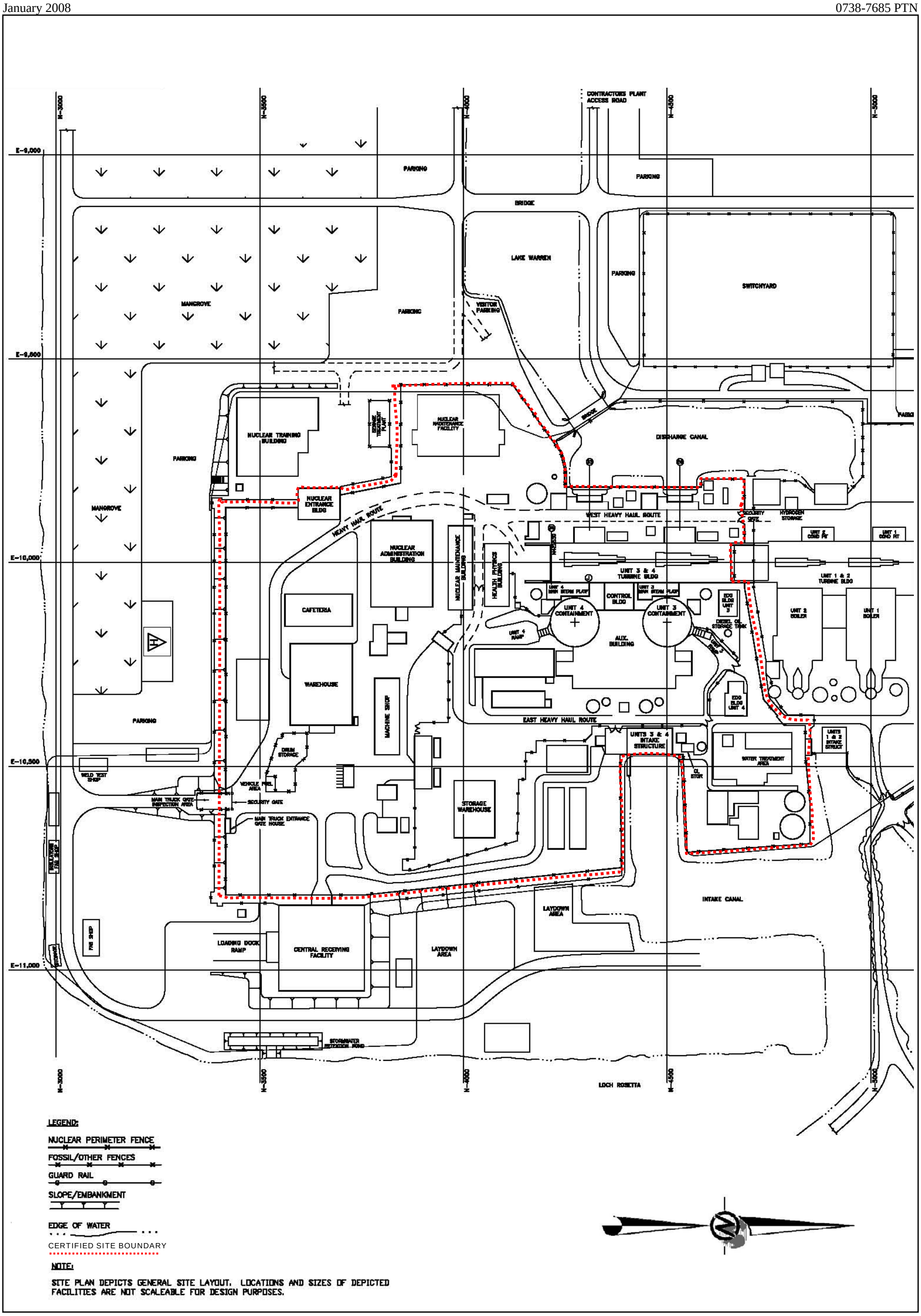


Figure 2.1.4-1
Site Layout
FPL Turkey Point Nuclear Units 3 & 4

Source: FPL, Golder; 2008.

LEGEND

FEMA Flood Zones

- AE
- OPW
- OUT
- VE
- X

FEMA Flood Zone	Description
Inundated by 100-year Flood	
AE	Area of special flood hazard with base flood elevations determined.
OPW	Open water
Out	Water
VE	Area of special flood hazards, with velocity waters associated with storm waves, that is inundated by tidal floods (coastal high hazard area) and where base flood elevations are determined.
Other Flood Areas	
X	Areas of moderate or minimal hazard from the principal source of flooding; outside 100 year flood plain; areas 100-year sheet flow flooding where average depths are less than 1 foot, areas of 100-year stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 100-year flood by levees. Flood insurance is not required by regulation within this zone.

REFERENCE

1. Aerial Imagery, USDA, 2007. 2. Flood zones and descriptions, FEMA, 2006

0 500 1,000 2,000 Feet

N

PROJECT

TURKEY POINT
UPRATE PROJECT

TITLE

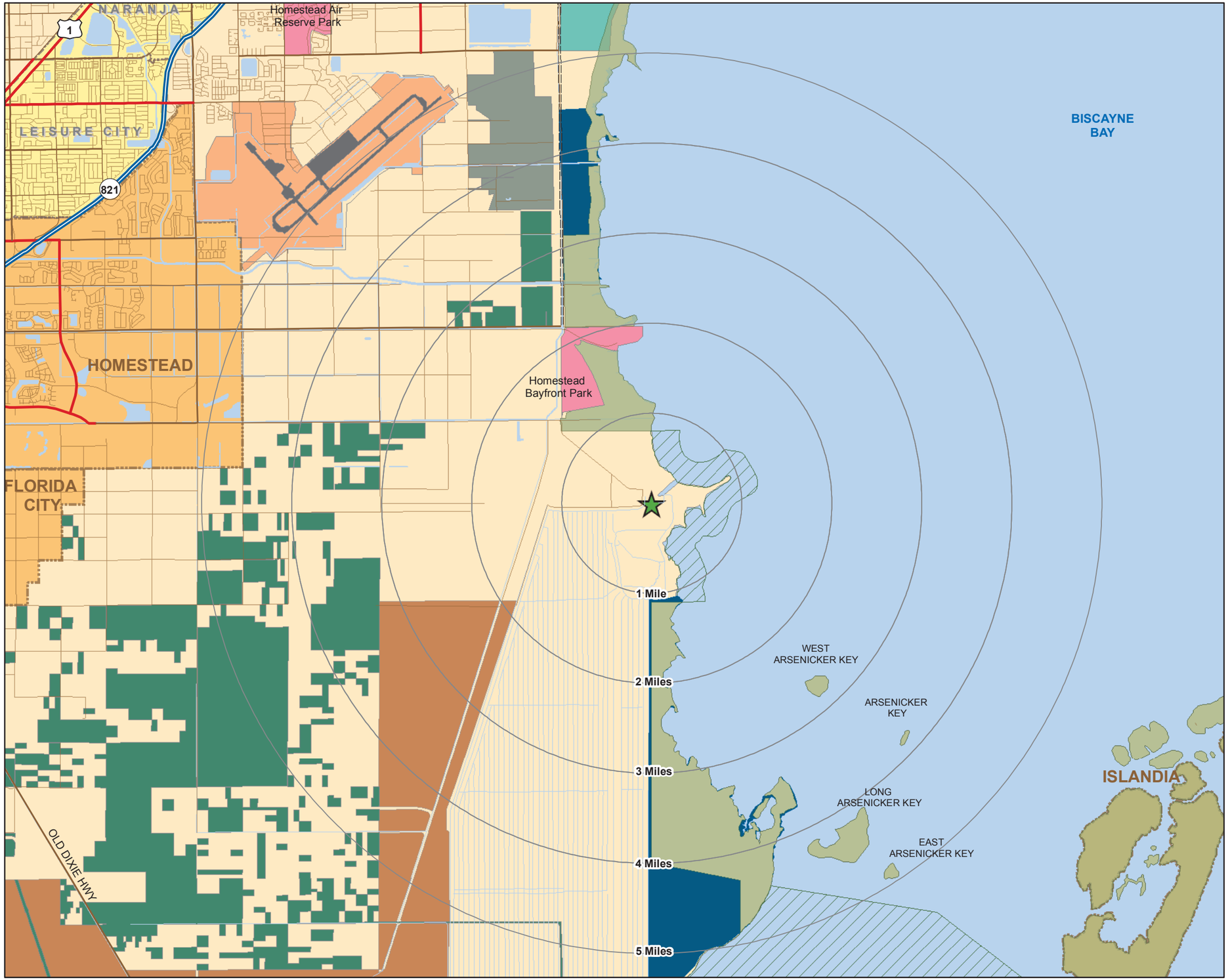
100-YEAR FLOOD ZONE

FPL

PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07		
GIS	RL	12/11/07		
CHECK	SM	?? Aug. 2005		
REVIEW	KK	?? Aug. 2005		

FIGURE 2.1.5-1

P:\GIS\PROJECTS\073787685_FP_Nuclear_Uprates\TURKEY_POINTMapDocuments\073787685TPA03_100_YearFloodZone



LEGEND

- Turkey Point Units 3 & 4 Location

Roads
- Limited Access
- Major Roads
- Minor Roads
- Local Roads
- Biscayne Trail
- Local Cities
- Municipalities
- Miami-Dade County Parks
- Biscayne National Park

Florida Managed Lands
- Biscayne Coastal Wetlands
- Homestead Air Reserve Base
- Mangrove Preserve
- Model Lands Basin
- Everglades Mitigation Bank
- Biscayne Bay Aquatic Preserve
- Turkey Point Wilderness Preserve

NOTE

Radii drawn from Turkey Point Units 3 & 4

REFERENCE

1. City Boundaries, ESRI Media Kit, 2004, & Miami-Dade County GIS Department, 2007.
2. Florida Managed Lands, Florida Natural Areas Inventory, 2007.
3. Biscayne National Park, National Parks Service, 2006.
4. County Parks, & Roads, Miami-Dade County GIS, 2007

0 0.5 1 2 Miles

N

PROJECT
TURKEY POINT
UPRATE PROJECT

TITLE
GOVERNMENTAL JURISDICTIONS;
1, 2, 3, 4, AND 5-MILE RADIUS FROM SITE

FPL

PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07	**FIGURE 2.2.1-1**	
GIS	RL	12/13/07		
CHECK	SM	?? Aug. 2005		
REVIEW	KK	?? Aug. 2005		

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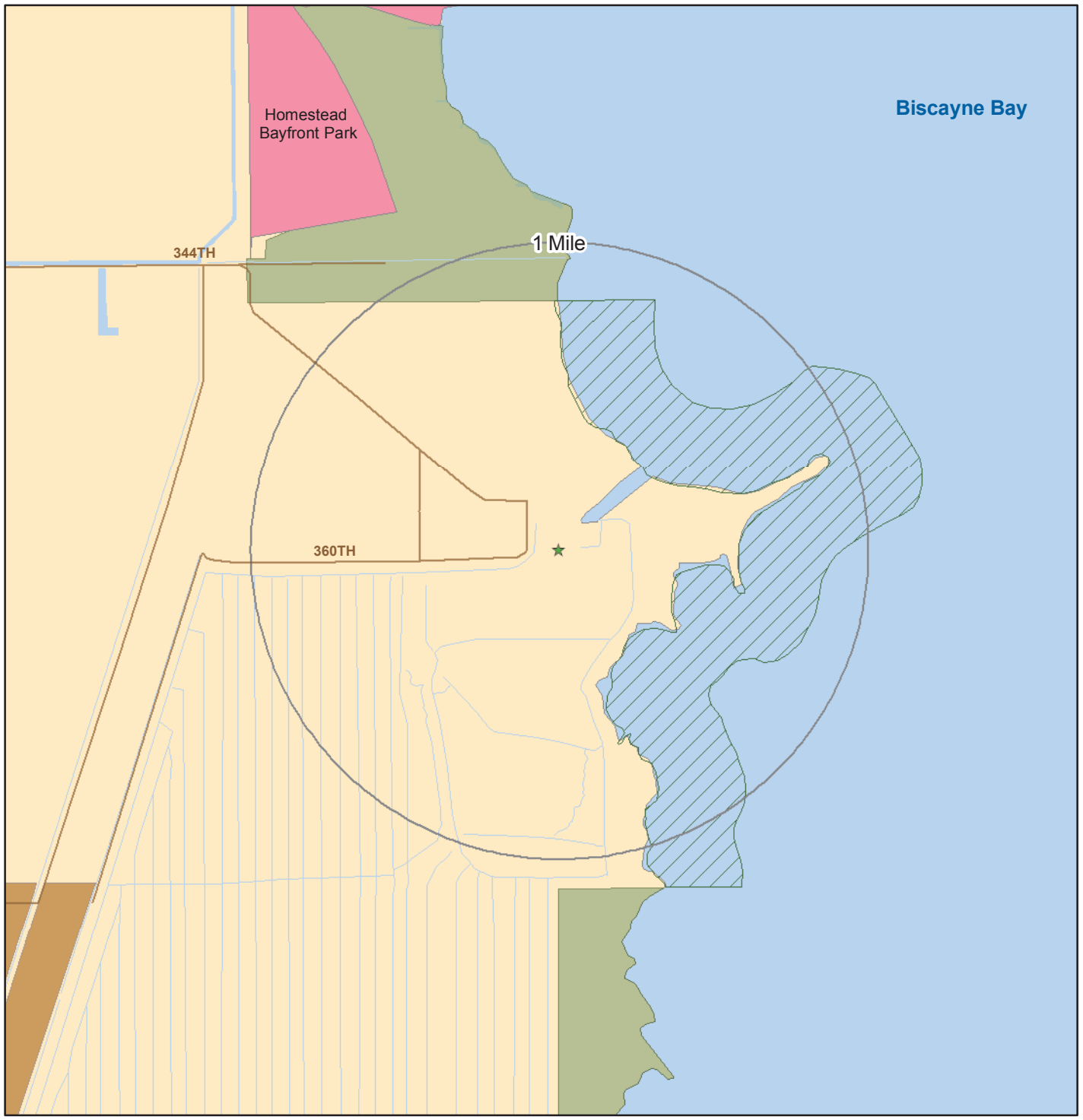


LEGEND

- Turkey Point Units 3 & 4 Location
- Local Streets
- Miami-Dade County Parks
- Biscayne National Park
- Biscayne Bay Aquatic Preserve

NOTE

Radius drawn from Turkey Point Units 3 & 4

REFERENCE

1. Roads, Miami-Dade County GIS Department 2007.
2. Base Map, ESRI Data Kit, 2004. 3. Biscayne National Park, National Parks Service, 2006.
4. Biscayne Aquatic Preserve, Florida Managed Lands, FNAI, 2007.

0 0.25 0.5 1 Miles

N

PROJECT
TURKEY POINT
UPRATE PROJECT

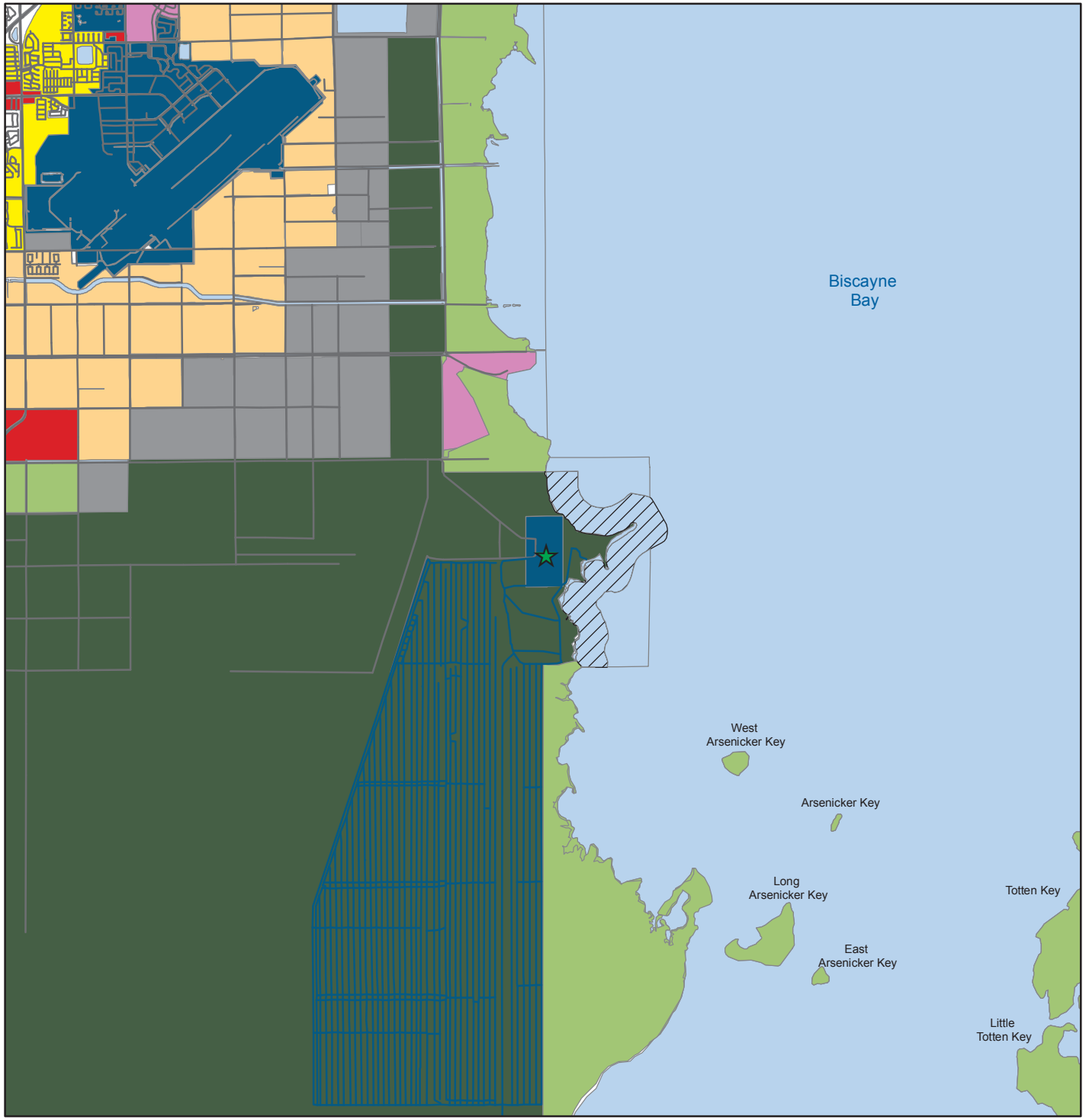
TITLE
GOVERNMENTAL JURISDICTIONS; 1-MILE RADIUS FROM SITE

FPL

PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07		
GIS	RL	12/13/07		
CHECK	SM	?? Aug. 2005		
REVIEW	KK	?? Aug. 2005		

FIGURE 2.2.1-2

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINT\MapDocuments\073876857PA10_GovJur_1Mile



LEGEND

- Turkey Point Units 3 & 4 Location

Future Land Use 2015 - 2025

- Biscayne Bay Aquatic Preserve
- Agriculture
- Business and Office
- Environmental Protection
- Environmentally Protected Parks
- Institutions, Utilities and Communications
- Low Density Residential
- Open Land
- Parks and Recreation
- Streets/Roads, Expressways, Ramps
- Water

REFERENCE

1. Future Landuse, Miami-Dade County Department of Planning and Zoning, 2007.

0 0.5 1 2 Miles

N

PROJECT
TURKEY POINT
UPRATE PROJECT

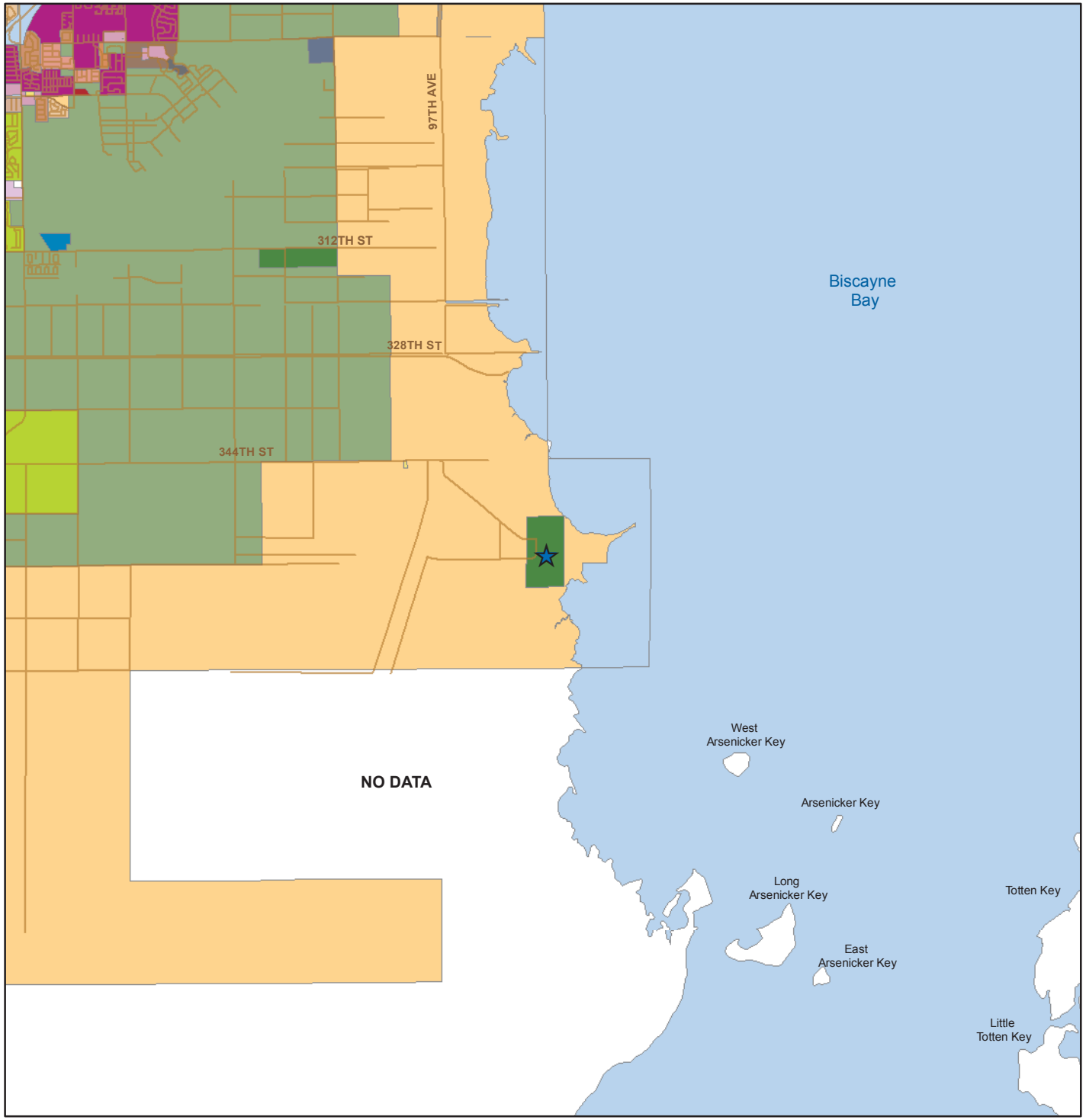
TITLE
FUTURE LAND USE

PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07		
GIS	RL	12/14/07		
CHECK	SM	?? Aug. 2005		
REVIEW	KK	?? Aug. 2005		

FPL

FIGURE 2.2.2-1

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprate\TURKEY_POINT\MapDocuments\07387685TPA12_FLU



LEGEND

Turkey Point Units 3 & 4 Location

Zoning

- AGRICULTURAL DISTRICT
- FOUR UNIT APARTMENT HOUSE DISTRICT
- INDUSTRIAL DISTRICT, CONDITIONAL
- INDUSTRIAL, HEAVY MANUFACTURING DISTRICT
- INDUSTRIAL, LIGHT MANUFACTURING DISTRICT
- INDUSTRIAL, UNLIMITED MANUFACTURING
- INTERIM DISTRICT
- LIBERAL BUSINESS
- LIMITED APARTMENT HOUSE DISTRICT
- LIMITED BUSINESS DISTRICT
- MINIMUM APARTMENT HOUSE DISTRICT
- MODIFIED SINGLE FAMILY RESIDENTIAL
- NEIGHBORHOOD BUSINESS DISTRICT
- NO ZONING DESIGNATED
- ONE FAMILY 556-1
- PLANNED UNIT DEVELOPMENT
- RETAIL COMMERCIAL 500 SF
- SINGLE FAMILY RESIDENTIAL DISTRICT
- SPECIAL BUSINESS DISTRICT
- ZERO LOT LINE DEVELOPMENT SINGLE FAMILY

REFERENCE

1. Zoning, Miami-Dade County GIS department, 2007.

0 0.5 1 2 Miles

PROJECT
TURKEY POINT
UPRATE PROJECT

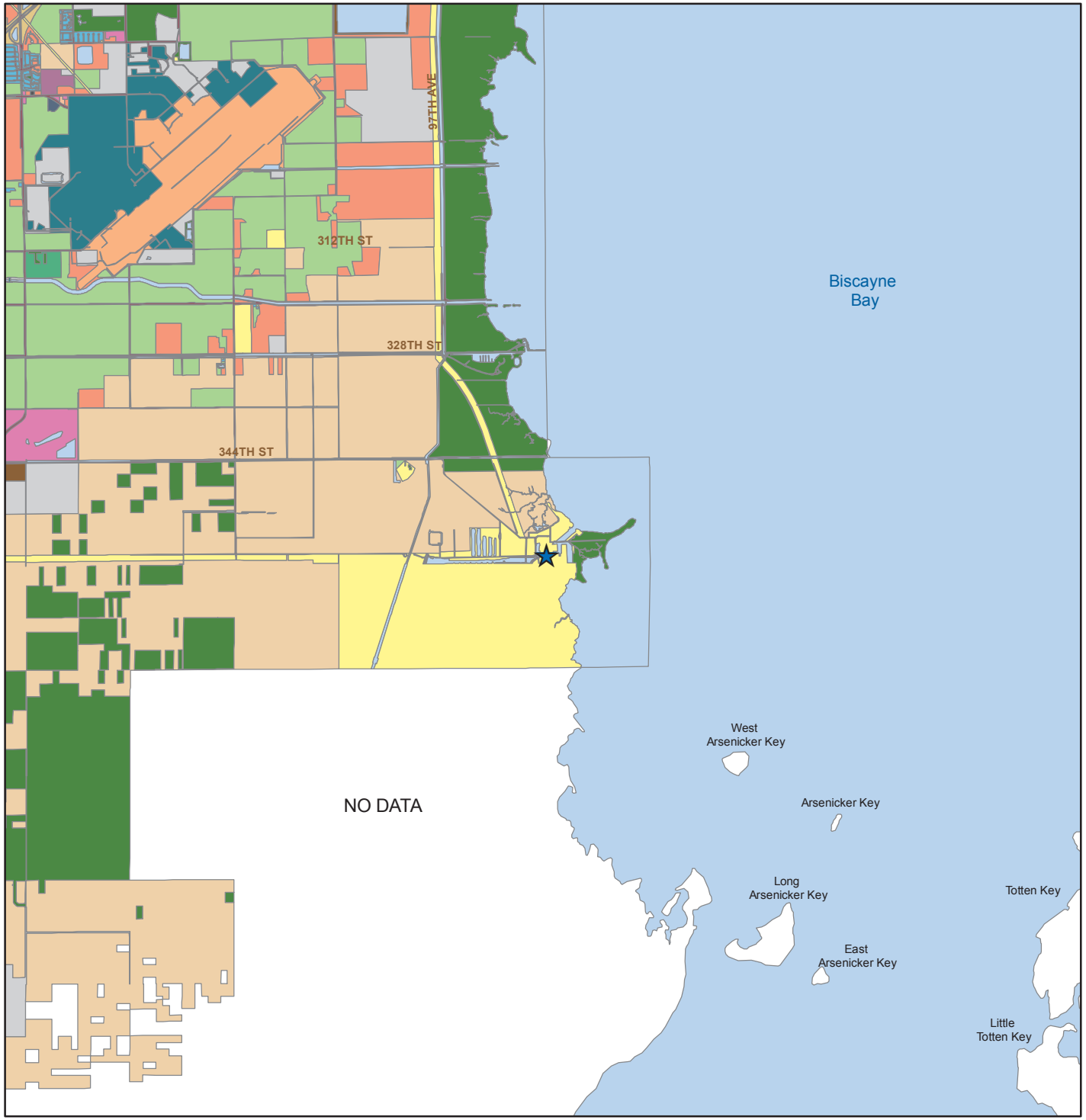
TITLE
ZONING MAP

PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07		
GIS	RL	12/11/07		
CHECK	SM	?? Aug. 2005		
REVIEW	KK	?? Aug. 2005		

FPL

FIGURE 2.2.2-2

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINTMapDocuments\073876857PA04



LEGEND

Turkey Point Units 3 & 4 Location

Existing Land Use

- Agriculture
- Airports/Ports
- Cemeteries
- Communications , Utilities, Terminals , Plants
- Expressway Right of Way Open Areas
- Industrial
- Industrial Extraction
- Institutional
- Low-Density Multi-Family
- Mobile Home Parks
- Office
- Parks (Including Preserves & Conservation)
- Shopping Centers, Commercial, Stadiums, Tracks
- Single-Family
- Streets/Roads, Expressways, Ramps
- Streets/Roads/Canals R/W
- Townhouses
- Transient-Residential (Hotels/Motels)
- Two-Family (Duplexes)
- Vacant Unprotected
- Vacant, Government Owned
- Vacant, Protected, Privately Owned
- Water

REFERENCE

1. Existing Landuse, Miami-Dade County GIS department, 2007.

0 0.5 1 2 Miles

PROJECT
TURKEY POINT
UPRATE PROJECT

TITLE
EXISTING LAND USE

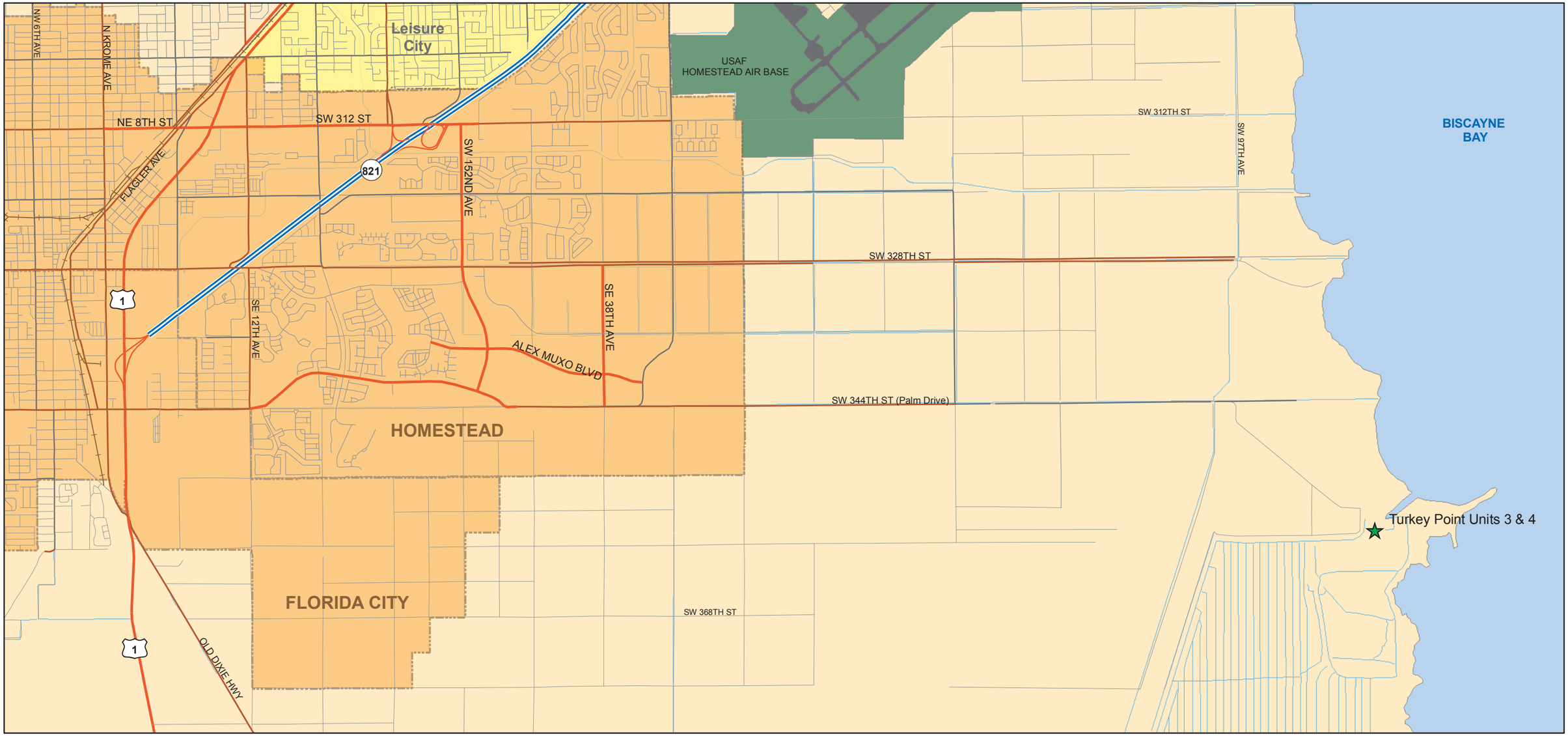
PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07		
GIS	RL	12/12/07		
CHECK	SM	?? Aug. 2005		
REVIEW	KK	?? Aug. 2005		

FPL

FIGURE 2.2.3-1

P:\GIS\PROJECTS\073787685_FP_Nuclear_Uprates\TURKEY_POINT\MapDocuments\073787685TPA05_ExistingLanduse

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINT\MapDocuments\07387685TPA07_MajorRds



LEGEND

- Turkey Point Units 3 & 4 Location
- Railroad
- Local Cities
- Municipalities

Roads

- Limited Access
- Major Road
- Minor Road
- Other Roads
- Local Roads
- Residential Roads

REFERENCE

1. Streets, & Municipalities, Miami-Dade County GIS Department, 2007. 2. Railroads, Florida DOT, 2006.

0 0.5 1 2 Miles

N

PROJECT

TURKEY POINT
UPRATE PROJECT

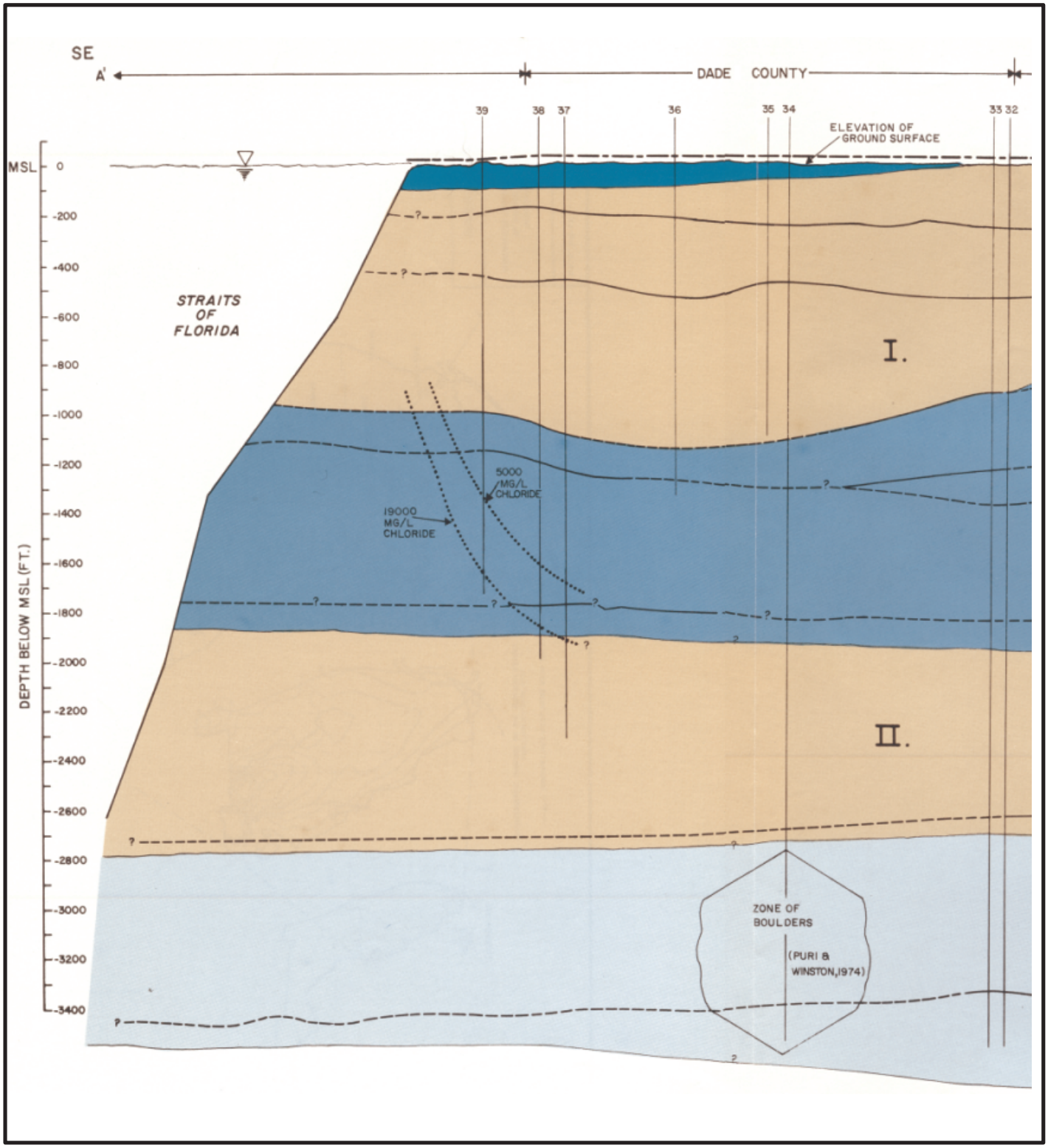
TITLE

MAJOR ROADS

FPL

PROJECT No. 073-87685-1102			SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07		
GIS	RL	12/12/07		
CHECK	SM	?? Aug. 2005		
REVIEW	KK	?? Aug. 2005		

FIGURE 2.2.8-1



LEGEND

- BISCAYNE AQUIFER
- FLORIDAN AQUIFER (PRINCIPAL ARTESIAN WATER BEARING ZONE)
- BOULDER ZONE
- CONFINING BEDS
- ISOCHLORS (APPROX. LOCATION)
- POTENTIOMETRIC SURFACE FLORIDAN AQUIFER
- A' — A LINE OF SECTION SHOWN ON MAP FIGURE 8-2

REFERENCE

1. Modified After: Stringfield, 1966; Chen, 1965; Parker, 1955; Stewart, 1966; Purl & Winston, 1974; Healy, 1962; Klein and others, 1964; Klein, 1971; Vernon, 1973; Bishop, 1956; Uchupi, 1968; Mayer, 1974.

5 0 5 10 15 20 25

HORIZONTAL SCALE IN MILES

PROJECT

TURKEY POINT
UPRATE PROJECT

TITLE

HYDROGEOLOGIC FRAMEWORK MIAMI-DADE COUNTY, FLORIDA

FPL

PROJECT No. 073-87685-1102			SCALE AS SHOWN	REV. 0
DESIGN	KK	01/03/08		
GIS	RL	01/04/08		
CHECK	TZ	01/04/08		
REVIEW	KK	01/04/08		

FIGURE 2.3.2-1

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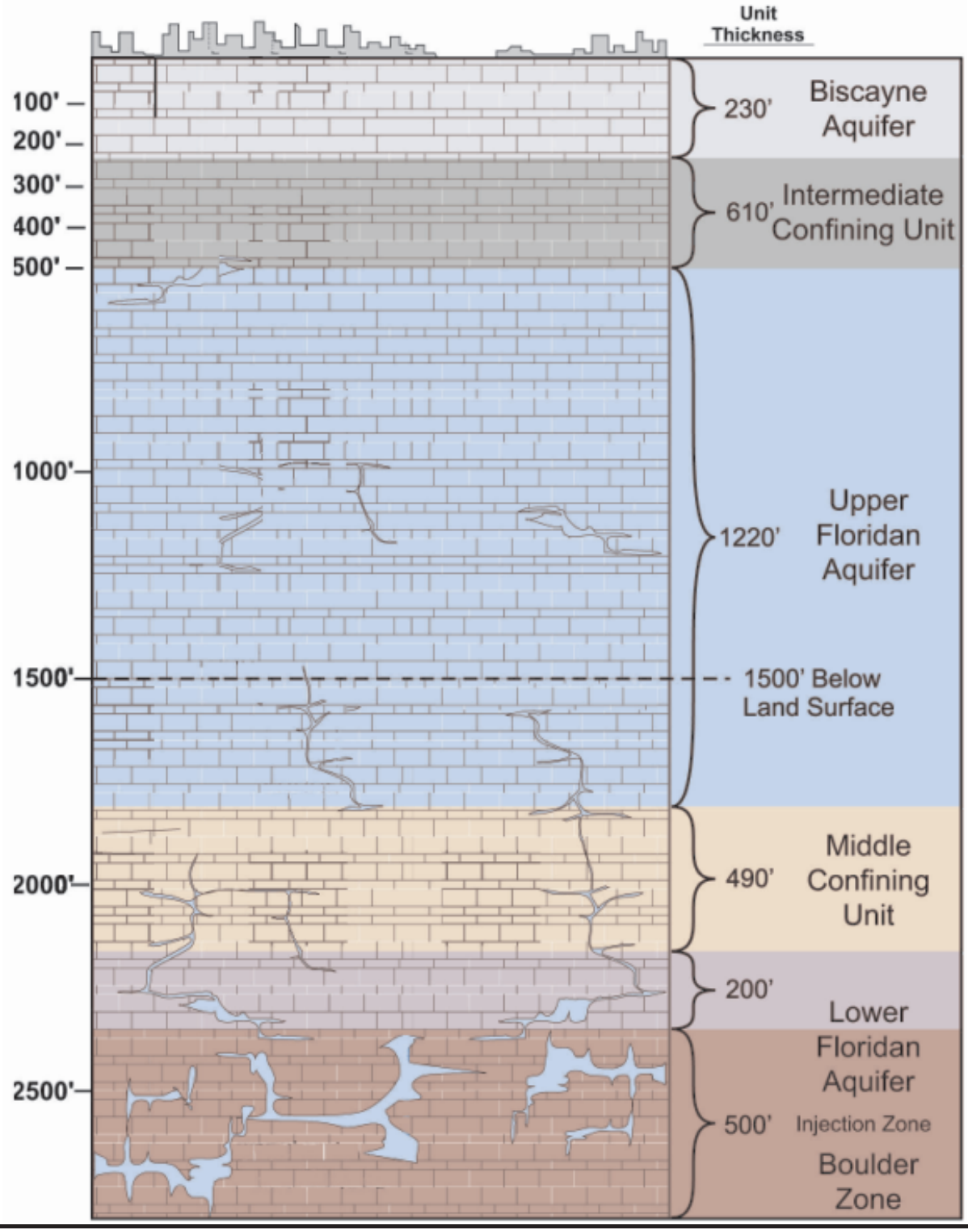


REFERENCE

1. Tetra Tech FW, 2003

PROJECT

TURKEY POINT
UPRATE PROJECT

TITLE

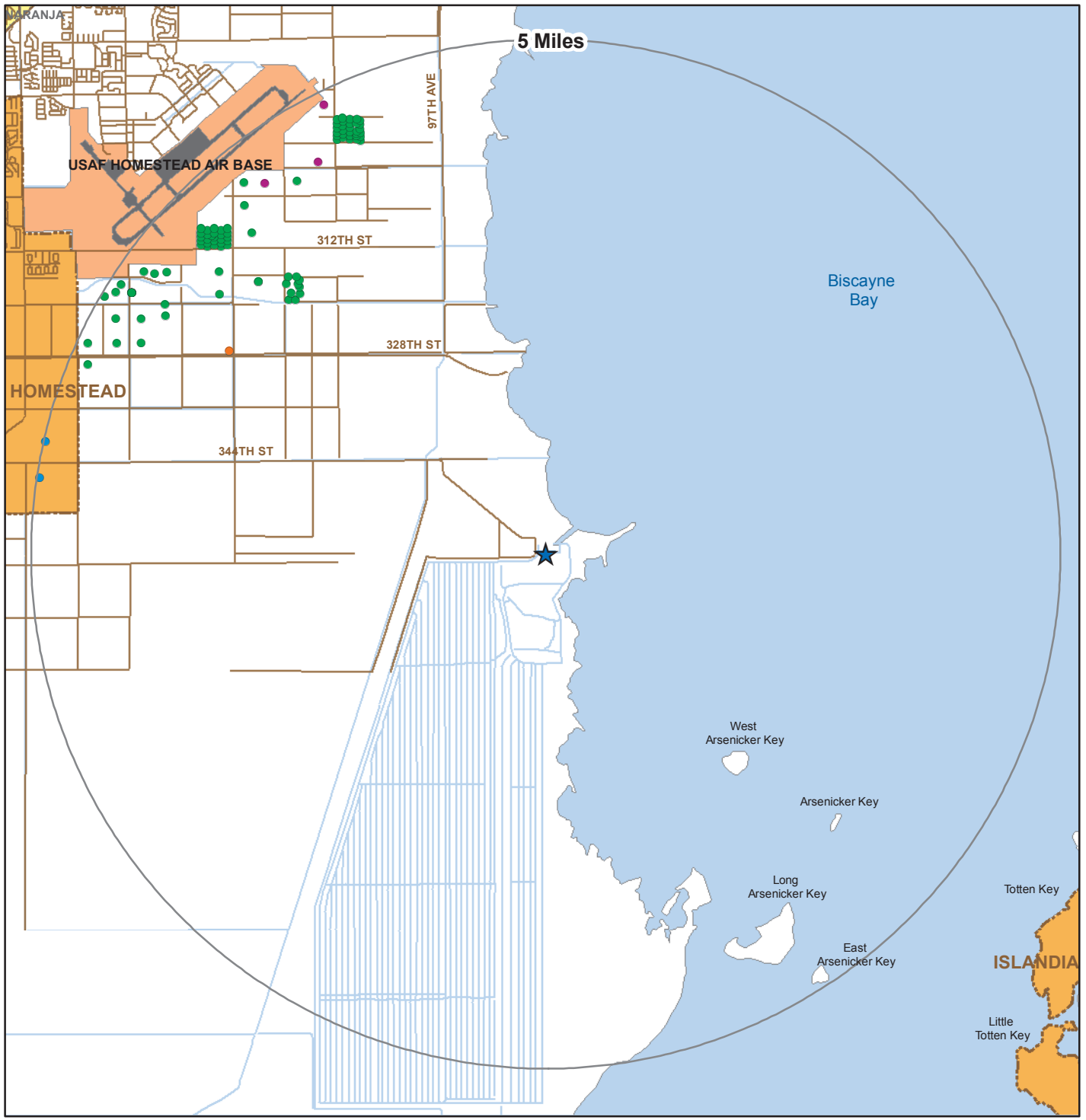
REPRESENTATIVE HYDROGEOLOGIC CROSS SECTIONS MIAMI-DADE COUNTY, FLORIDA

FPL

PROJECT No. 073-87685-1102			SCALE AS SHOWN	REV. 0
DESIGN	KK	01/03/08		
GIS	RL	01/04/08		
CHECK	TZ	01/04/08		
REVIEW	KK	01/04/08		

FIGURE 2.3.2-2

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINT\MapDocuments\07387685A21_HydroCrossSec



LEGEND

- Turkey Point Units 3 & 4 Location
- Local Cities
- Municipalities

Water Use Sources

- Biscayne Aquifer
- Canal
- On-site Lake(s)
- Surficial Aquifer System

NOTE

Radius drawn from Turkey Point Units 3 & 4

REFERENCE

1. Municipalities & Roads, Miami-Dade County GIS department, 2007.
2. Water Use Sources, SFWMD, 2007

0 0.5 1 2 Miles

PROJECT
TURKEY POINT
UPRATE PROJECT

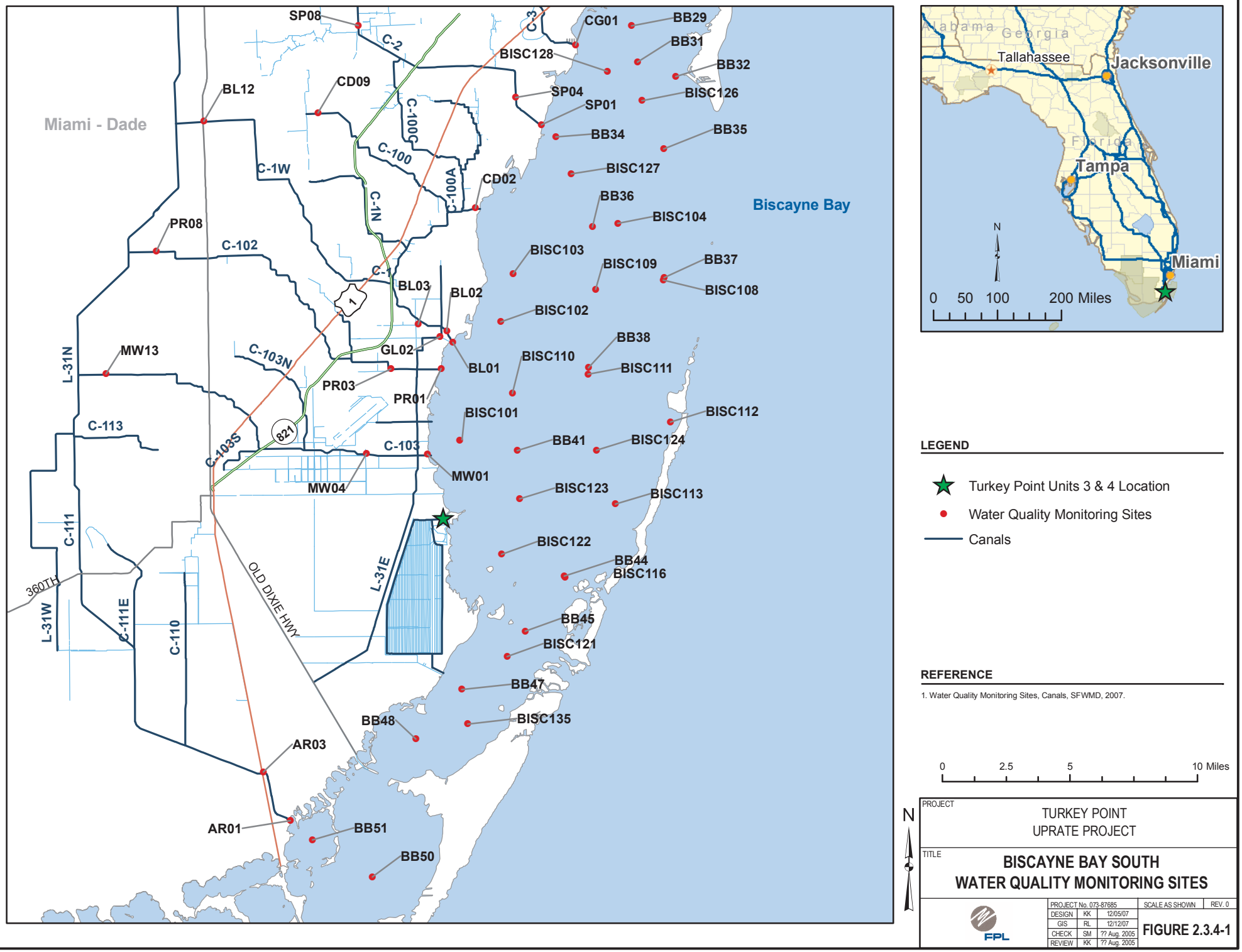
TITLE
PERMITTED WATER USES WITHIN 5-MILE RADIUS

PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07		
GIS	RL	12/14/07		
CHECK	SM	?? Aug. 2005		
REVIEW	KK	?? Aug. 2005		

FPL

FIGURE 2.3.3-1

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINT\MapDocuments\07387685TPA13_WaterUse


Miami - Dade
Biscayne Bay
SP08
C-2
C-3
CG01
BB29
BB31
BISC128
BB32
BL12
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C-100C
SP04
BISC126
SP01
C-100
BB34
BB35
C-1W
C-100A
BISC127
CD02
C-1N
BB36
BISC104
PR08
C-102
BISC103
BISC109
BB37
C-1
BL03
BL02
BISC108
1
BISC102
BB38
MW13
GL02
BISC110
L-31N
C-103N
BL01
BISC111
PR03
PR01
BISC101
BISC112
C-113
821
BB41
BISC124
C-103S
C-103
MW01
MW04
BISC123
BISC113
C-111
BISC122
BB44
BISC116
360TH
OLD DIXIE HWY
L-31E
L-31W
C-111E
C-110
BB45
BISC121
BB47
BB48
BISC135
AR03
AR01
BB51
BB50
Alabama
Georgia
Tallahassee
Jacksonville
Florida
Tampa
Miami
N
0 50 100 200 Miles
LEGEND
Turkey Point Units 3 & 4 Location
Water Quality Monitoring Sites
Canals
REFERENCE
1. Water Quality Monitoring Sites, Canals, SFWMD, 2007.
0 2.5 5 10 Miles
N
PROJECT
TURKEY POINT
UPRATE PROJECT
TITLE
BISCAYNE BAY SOUTH
WATER QUALITY MONITORING SITES
PROJECT No. 073-87685
SCALE AS SHOWN
REV. 0
DESIGN KK 12/05/07
GIS RL 12/12/07
CHECK SM ?? Aug. 2005
REVIEW KK ?? Aug. 2005
FPL
FIGURE 2.3.4-1
P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINTMapDocuments\07387685TPA17_WtrQltyMonitoring

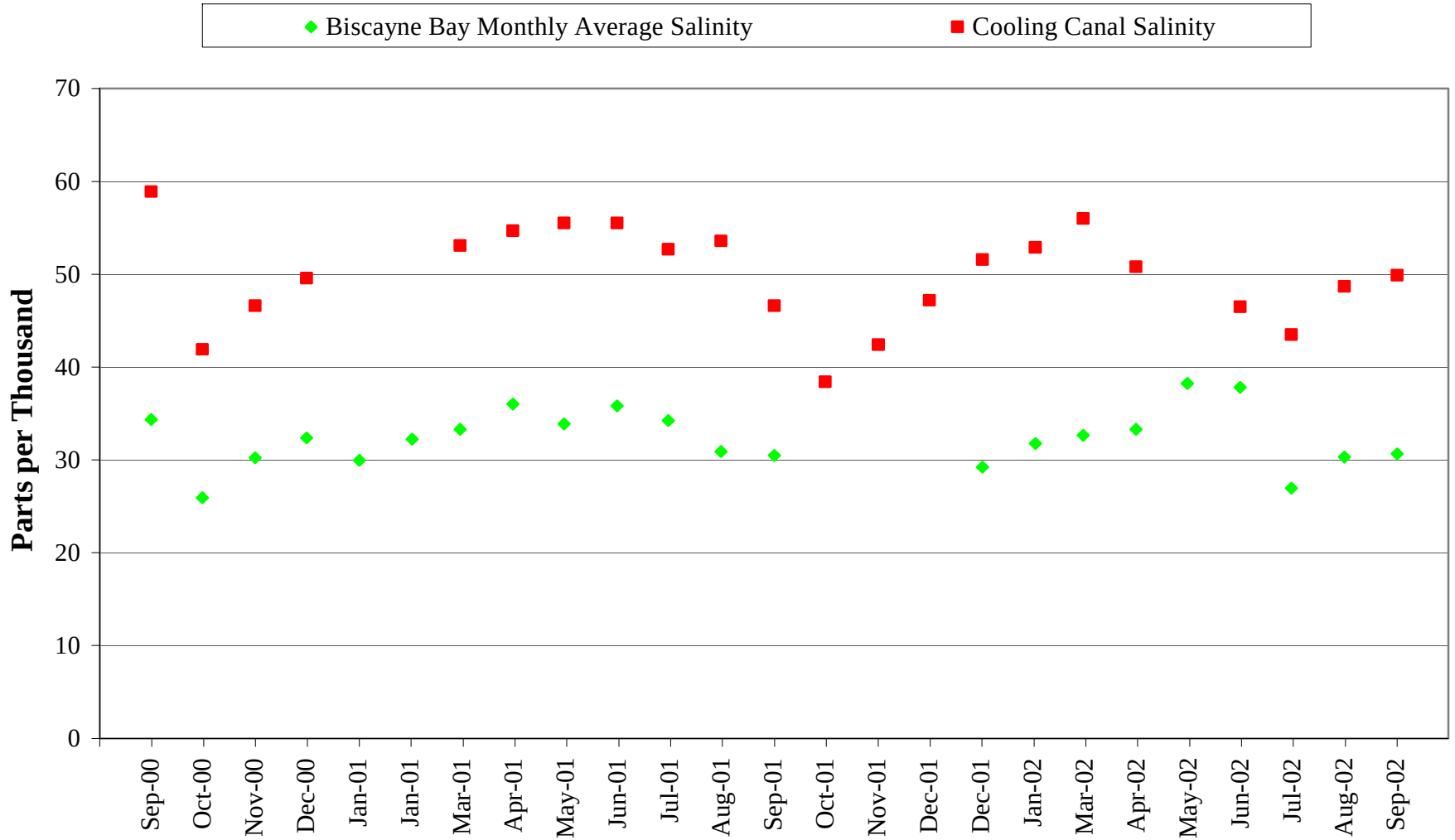
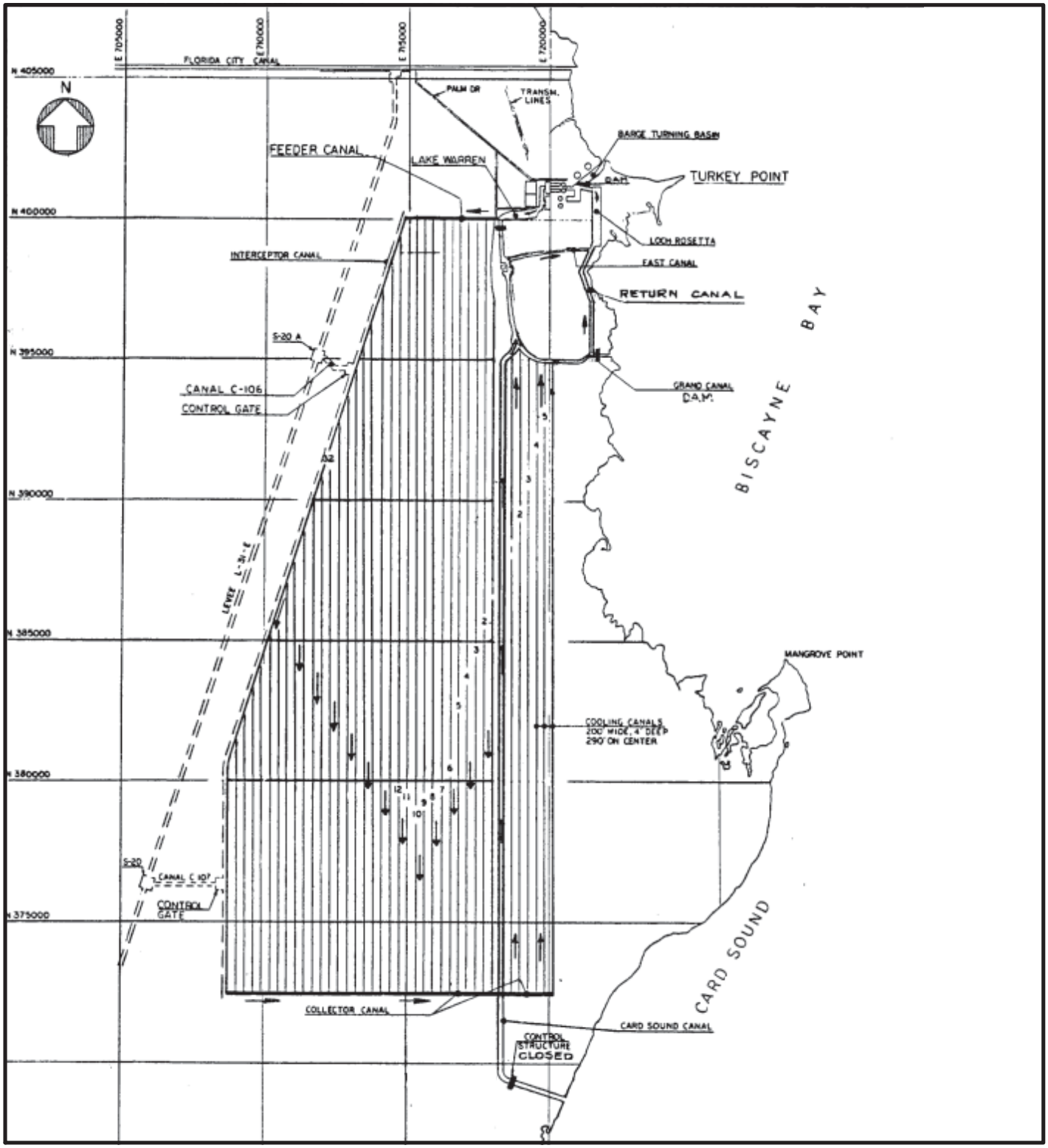


Figure 2.3.4-2
Comparison of Salinity in Biscayne Bay and Cooling Canal System, September 2000 through September 2002

07387685\Ch2\Figures\Figure 2.3.4-2 Salinity Comparison.doc

Source: Golder, 2008.



REFERENCE

1. FPL, 1972; Golder, 2007

PROJECT	TURKEY POINT UPRATE PROJECT
TITLE	**TURKEY POINT COOLING CANAL SYSTEM**

FPL	PROJECT No. 073-87685-1102			SCALE AS SHOWN	REV. 0
	DESIGN	KK	01/03/08	**FIGURE 2.3.4-3**	
	GIS	RL	01/04/08		
	CHECK	TZ	01/04/08		
	REVIEW	KK	01/04/08		

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINT\MapDocuments\07387685A20_CoolingCanal

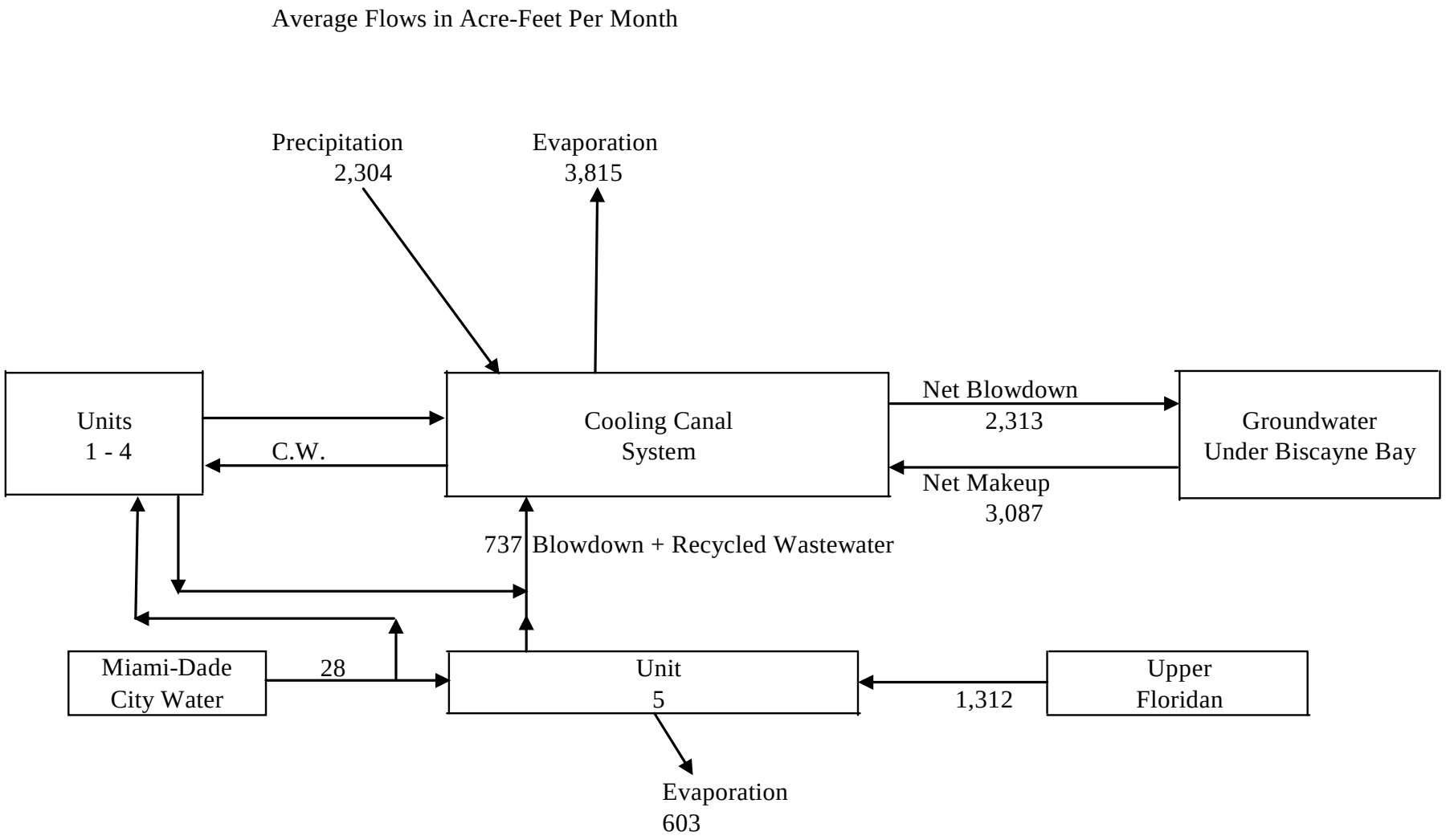


Figure 2.3.4-4
Existing Water Use Diagram

07387685\Ch2\Figures\Figure 2.3.4-4 Existing Water Use.doc

Source: Golder, 2008.

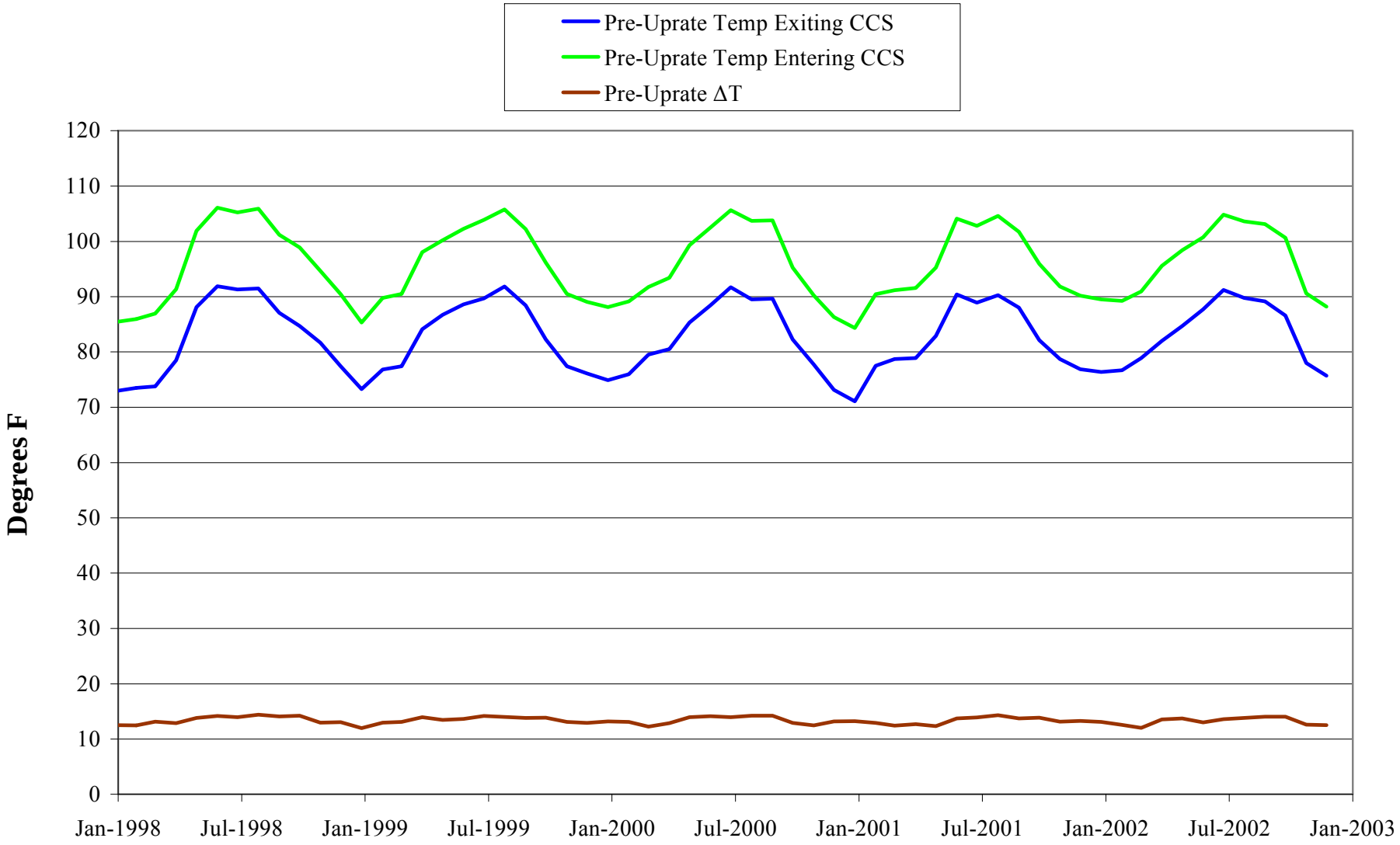


Figure 2.3.4-5
Pre-Uprate Predicted Monthly Average Water Temperatures Entering and Exiting Cooling Canal System (CCS), 1/98 – 12/02

07387685\Ch2\Figures\Figure 2.3.4-5 Water Temps 98-02.doc

Source: Golder, 2008.

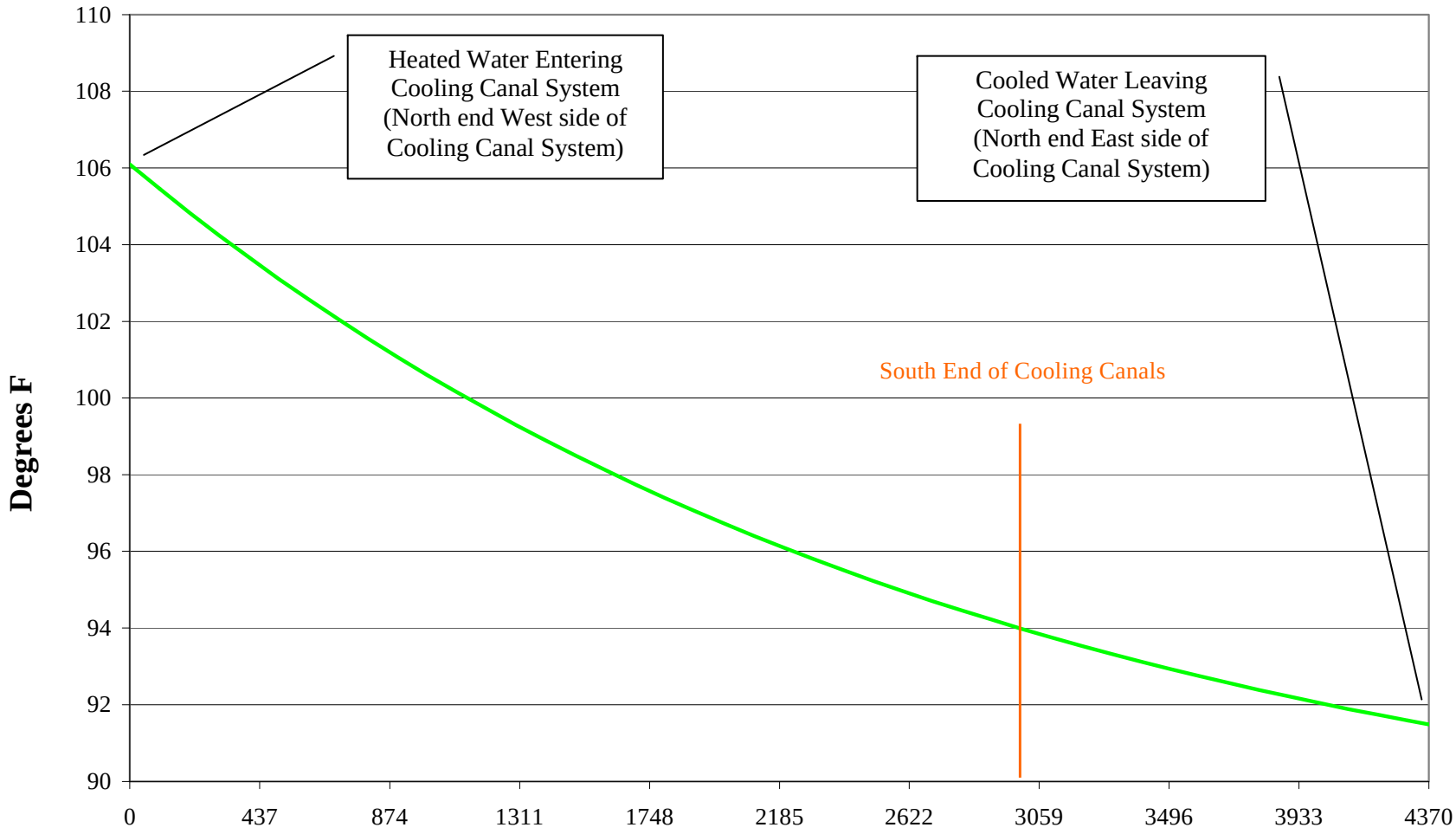


Figure 2.3.4-6
Pre-Uprate Predicted Water Temperatures within Cooling Canal System, June 1998

07387685\Ch2\Figures\Figure 2.3.4-6 Water Temps June 98.doc

Source: Golder, 2008.

LEGEND

Habitat Classification

- 512 - Canals (Cooling Canal System)
- 541 - Embayments Opening into the Atlantic Ocean
- 612 - Mangrove Swamp
- 651 - Tidal Flats
- 744 - Fill Areas
- 831 - Electric Power Facilities
- 832 - Electrical Power Transmission Lines

REFERENCE

1. Imagery, USDA, 2007. 2. Habitat Classification, SFWMD, 2004.

0 250 500 1,000 Feet

N

PROJECT

TURKEY POINT
UPRATE PROJECT

TITLE

HABITAT CLASSIFICATION MAP

PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0	
DESIGN	KK	12/05/07	FIGURE 2.3.5-1		
GIS	RL	12/13/07			
CHECK	SM	?? Aug. 2005			
REVIEW	KK	?? Aug. 2005			

FPL

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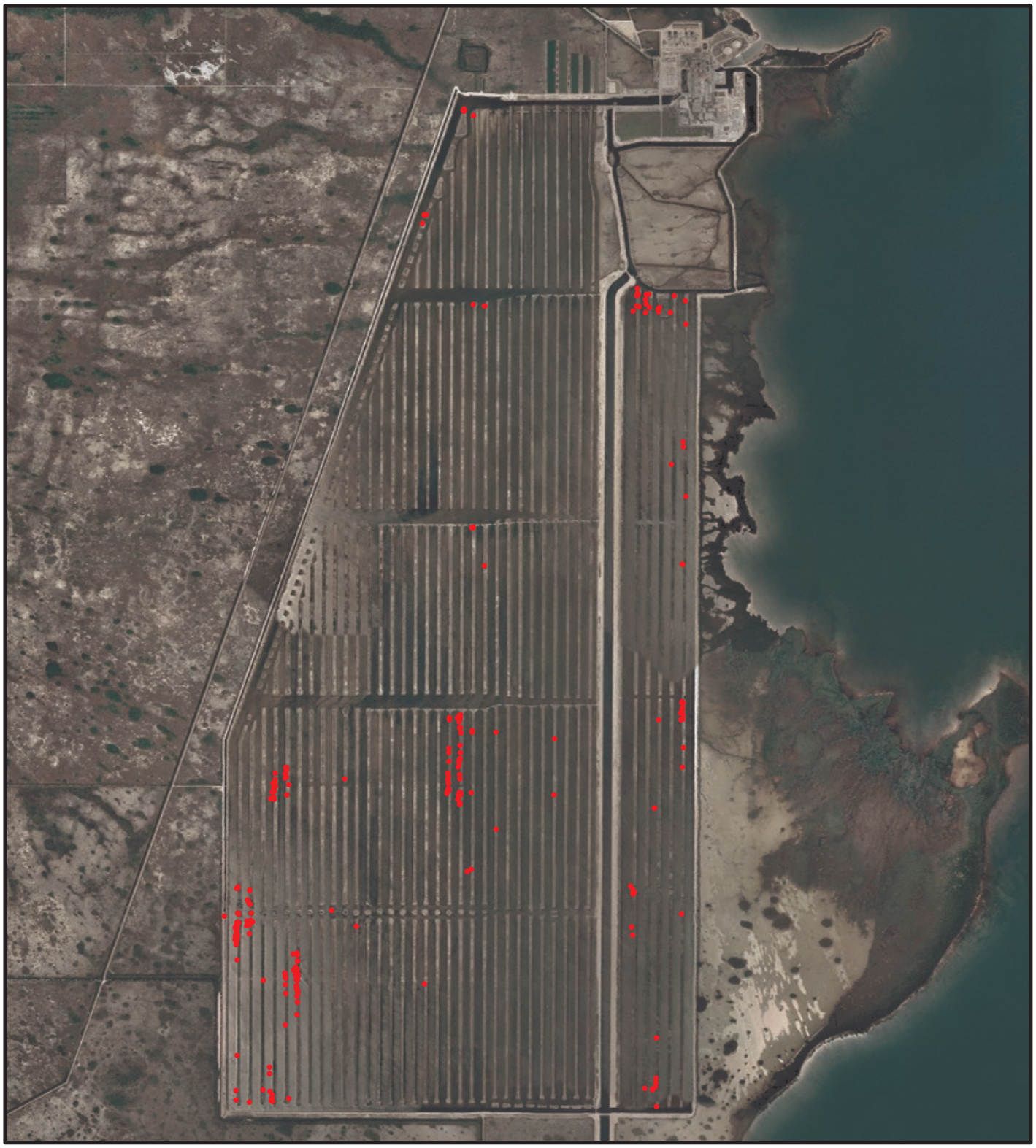


LEGEND

- Crocodile Nest Locations

0 0.375 0.75 1.5 Miles

N

PROJECT

TURKEY POINT
UPRATE PROJECT

TITLE

LOCATIONS OF CROCODILE NESTS FROM 1978 THROUGH 2006

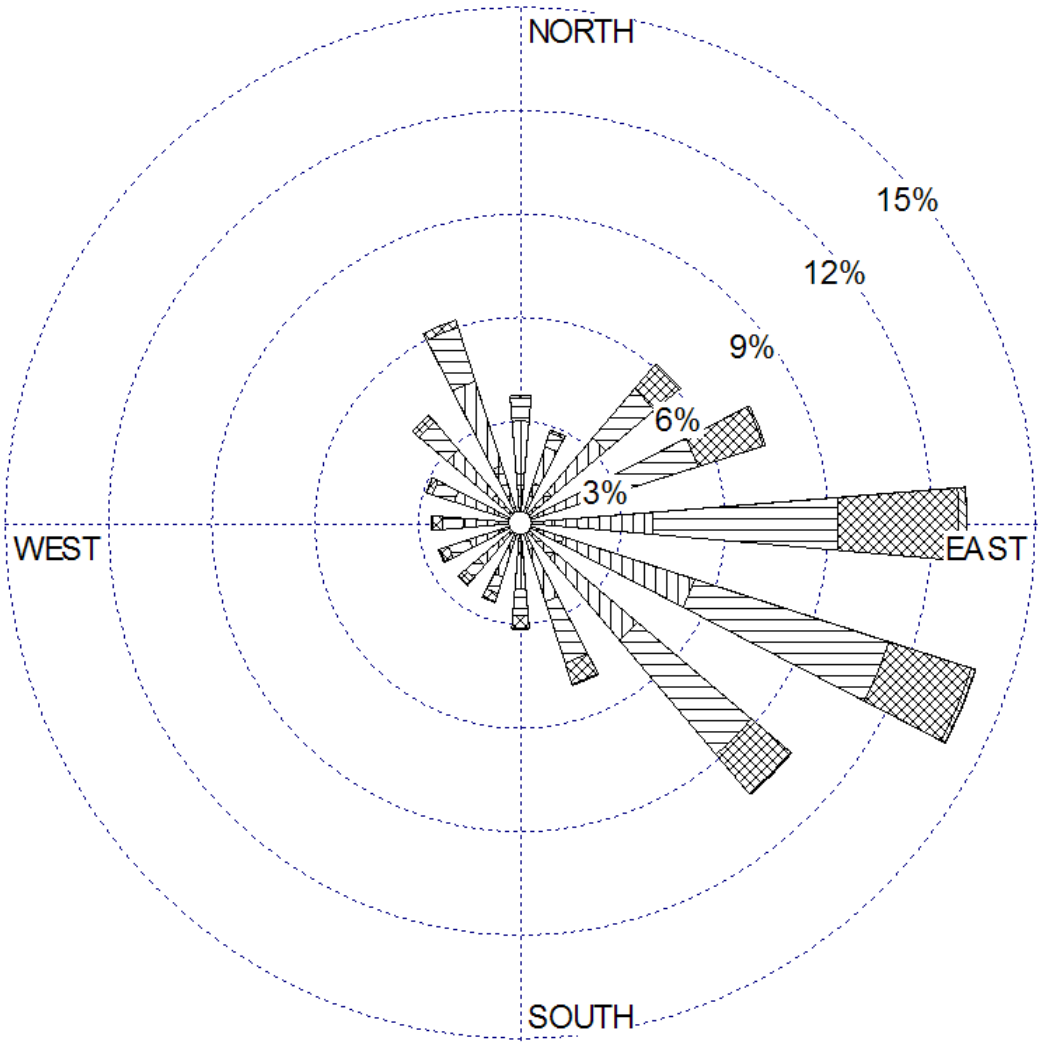
PROJECT No. 073-87685-1102			SCALE AS SHOWN	REV. 0
DESIGN	KK	01/03/08		
GIS	RL	01/09/08		
CHECK	KB	01/009/08	**FIGURE 2.3.6-1**	
REVIEW	KK	01/09/08		

FPL

REFERENCE

1. Crocodile Nests Locations, FPL, 1978-2006. Turkey Point Plant Annual Crocodile Report, Permit # TE092945-1. 2. Imagery, ESRI, 2006

P:\GIS\PROJECTS\073887685_FP_Nuclear_Uprates\TURKEY_POINTMapDocuments\073887685TPA18_CrocNests



WIND SPEED
(Knots)

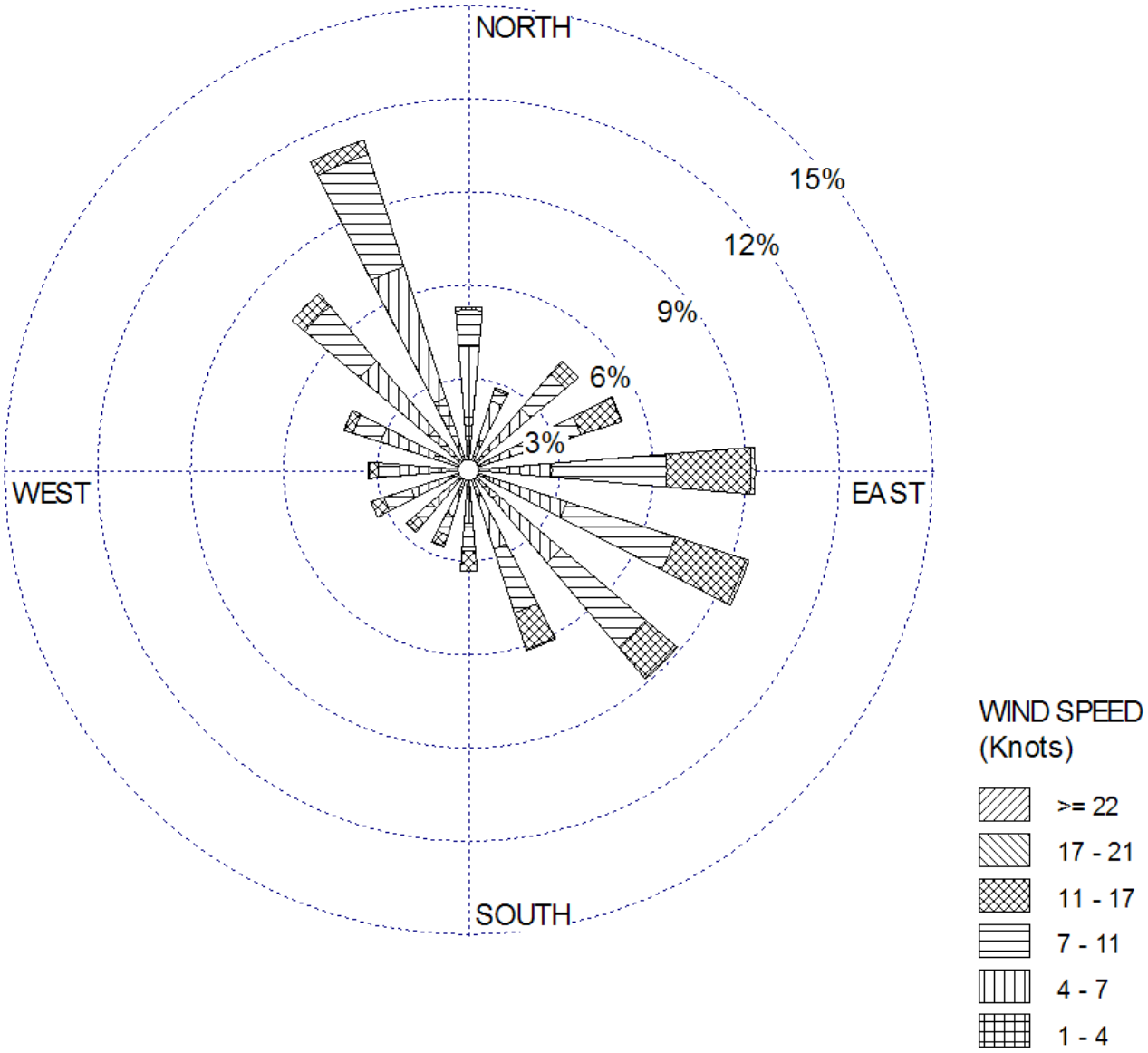
- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Average Wind Speed	7.02 Knots
Calm Winds	11.18%

Note: 1 knot = 1.151 miles per hour.

Figure 2.3.7-1
Annual Wind Rose for 2001 to 2005
At Miami International Airport, Florida
FPL Turkey Point Uprate Project, Miami-Dade County, Florida

Source: National Climatic Data Center, 2001–2005; Golder, 2007.

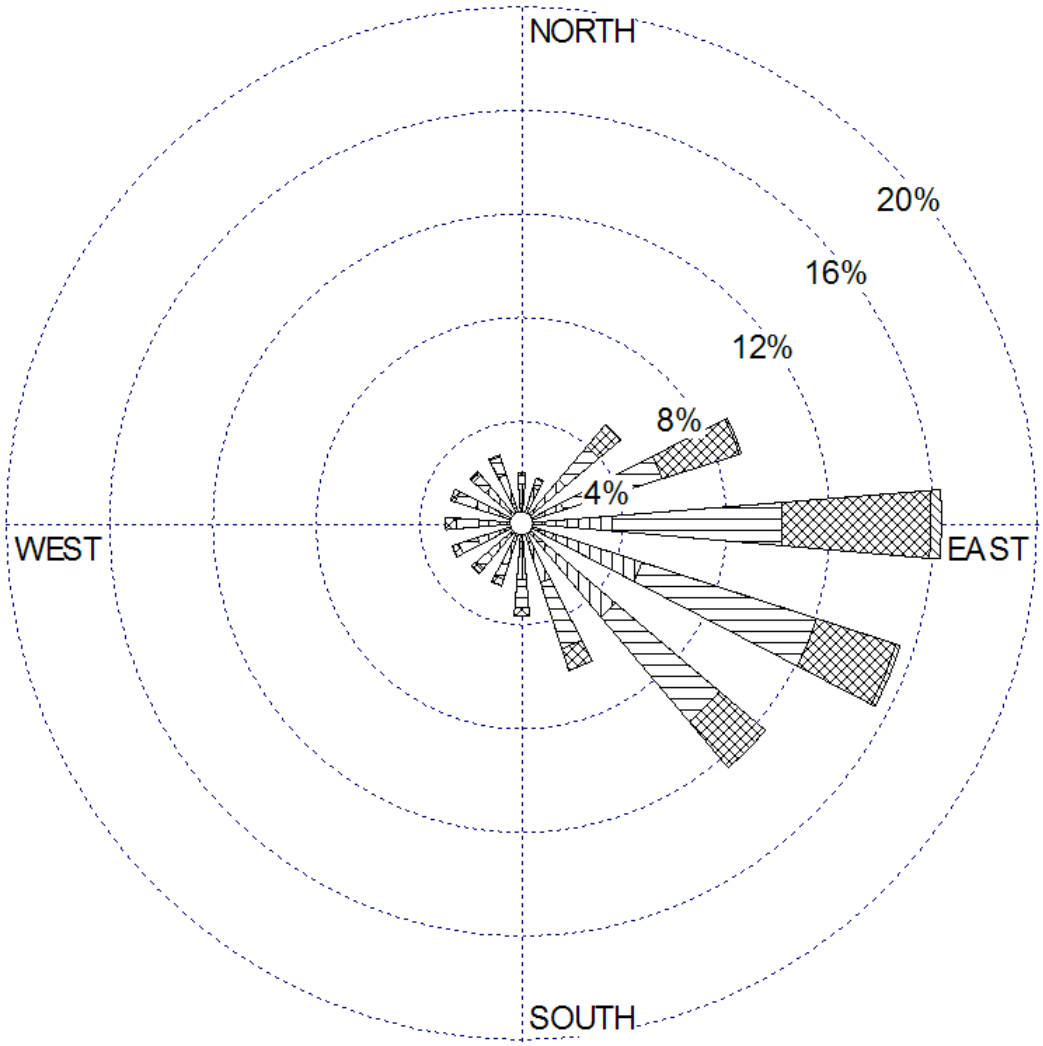


Average Wind Speed	6.99 Knots
Calm Winds	10.13%

Note: 1 knot = 1.151 miles per hour.

Figure 2.3.7-2a
Winter Wind Rose for 2001 to 2005
At Miami International Airport, Florida
FPL Turkey Point Uprate Project, Miami-Dade County, Florida

Source: National Climatic Data Center, 2001–2005; Golder, 2007.



WIND SPEED
(Knots)

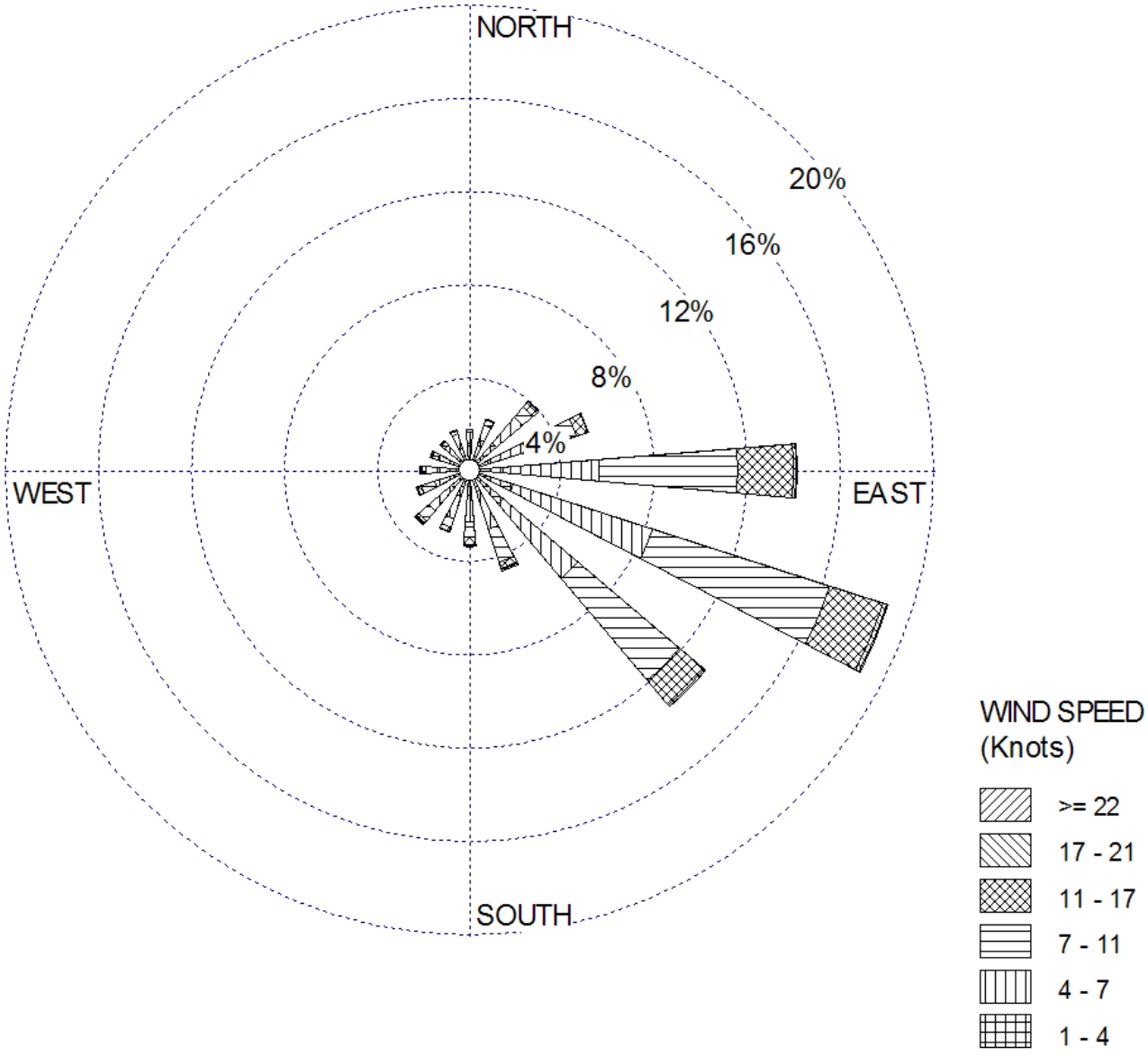
- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Average Wind Speed	7.80 Knots
Calm Winds	8.79%

Note: 1 knot = 1.151 miles per hour.

Figure 2.3.7-2b
Spring Wind Rose for 2001 to 2005
At Miami International Airport, Florida
FPL Turkey Point Uprate Project, Miami-Dade County, Florida

Source: National Climatic Data Center, 2001–2005; Golder, 2007.

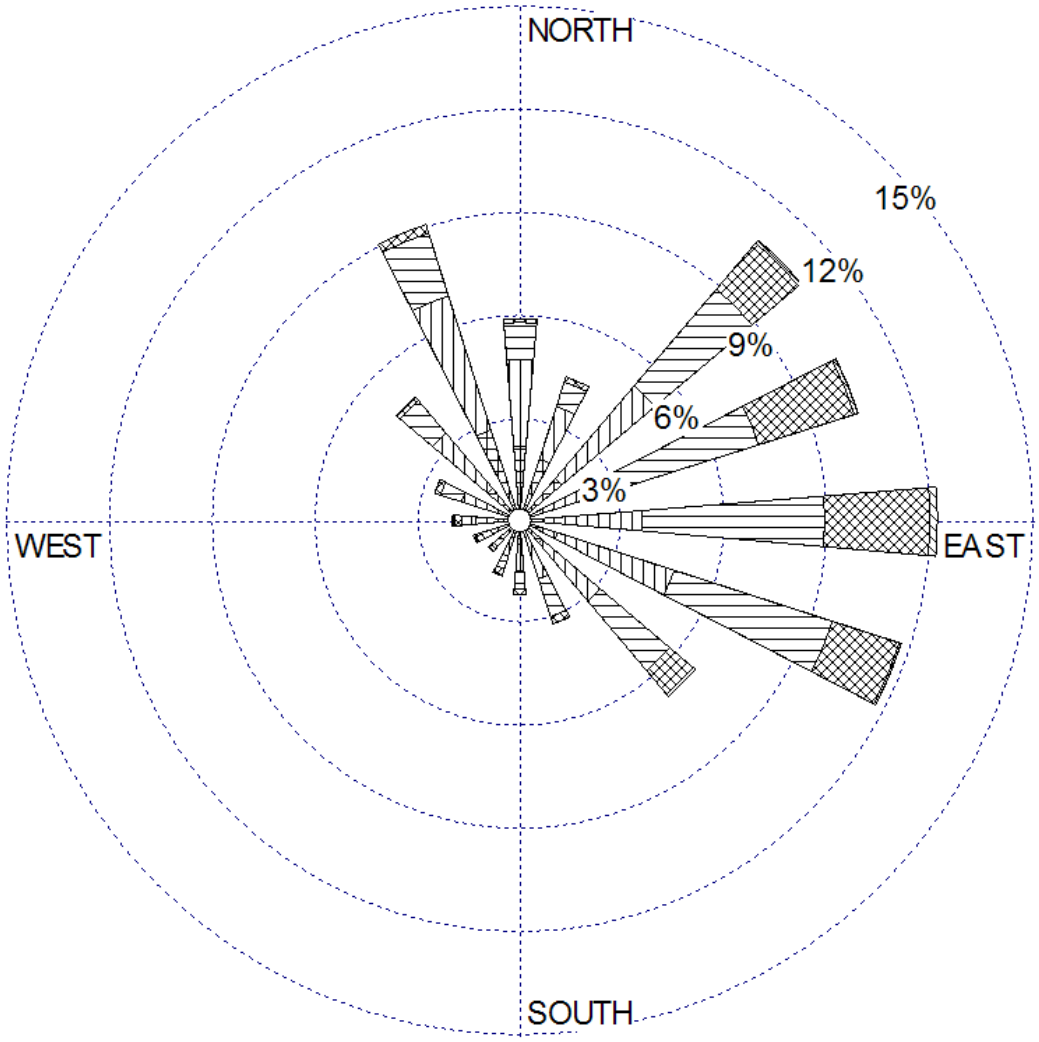


Average Wind Speed	6.23 Knots
Calm Winds	16.11%

Note: 1 knot = 1.151 miles per hour.

Figure 2.3.7-2c
Summer Wind Rose for 2001 to 2005
At Miami International Airport, Florida
FPL Turkey Point Uprate Project, Miami-Dade County, Florida

Source: National Climatic Data Center, 2001–2005; Golder, 2007.



WIND SPEED
(Knots)

- >= 22
- 17 - 21
- 11 - 17
- 7 - 11
- 4 - 7
- 1 - 4

Average Wind Speed	7.04 Knots
Calm Winds	9.67%

Note: 1 knot = 1.151 miles per hour.

Figure 2.3.7-2d
Autumn Wind Rose for 2001 to 2005
At Miami International Airport, Florida
FPL Turkey Point Uprate Project, Miami-Dade County, Florida

Source: National Climatic Data Center, 2001–2005; Golder, 2007.

LEGEND

- 2007 Noise Monitoring Locations
- 2003 Noise Monitoring Locations
- Biscayne National Park Boundary

REFERENCE

1. Imagery, ESRI Online, 2006 & USDA, 2007.
2. 2003, 2007 Noise Monitoring Locations , Golder Associates.
3. Biscayne National Park Boundary, National Parks Service, 2006.

0 750 1,500 3,000 Feet

N

PROJECT
TURKEY POINT
UPRATE PROJECT

TITLE
NOISE MONITORING LOCATIONS

FPL

PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07		
GIS	RL	12/14/07		
CHECK	SM	?? Aug. 2005		
REVIEW	KK	?? Aug. 2005		

FIGURE 2.3.8-1

P:\GIS\PROJECTS\073787685_FP_Nuclear_Uprates\TURKEY_POINTMapDocuments\073787685TPA14_NoiseMonitoring

3.0 THE PLANT AND DIRECTLY ASSOCIATED FACILITIES

Turkey Point Units 3 and 4 are currently authorized to operate under various federal, state, and local environmental permits (see Appendices 10.1 and 10.4). This Chapter provides information on the existing Turkey Point Units 3 and 4 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 Turkey Point Units 3 and 4. The nuclear power units 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. Because of onsite electrical power usage, each reactor unit has a current net capability of about 700 megawatts (electric) [MW(e)], for a combined net plant capability of about 1,400 MW(e). After the project is complete, the net electrical output of each Unit will be about 804 MW.

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 generators, 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 60 days each. Construction activities associated with Unit 3 uprates are expected to begin during the fall outage of 2010 and be completed during the spring outage of 2012, while Unit 4 uprates are expected to begin during the spring outage of 2011 and be completed during the fall outage of 2012. Certain improvements will also be made while the units are operating. All refurbishment and improvement activities will occur within the existing buildings and structures associated with Units 3 and 4. No new or expanded facilities are required as a result of this Project.

Water use associated with operation of Turkey Point Units 3 and 4 consists of saltwater withdrawn from the 5,900-acre cooling canal system, for non-contact cooling purposes, and freshwater from the Miami-Dade County public water supply system, a municipal water source, for potable and service water use. No changes to these water uses are required for the Project.

Sanitary wastewater is sent to an onsite treatment facility and disposed of through an underground injection well.

The Turkey Point Plant is interconnected to FPL's transmission system through a common switchyard and 230-kV (nominal) transmission lines. No changes or expansion in the transmission lines are required for the Project.

3.2 Site Layout

The existing site layout of the major structures and equipment in the power block for Turkey Point Units 3 and 4 is shown in Figure 3.2.0-1. The prominent structures and enclosed facilities and equipment associated with Units 3 and 4 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 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, cooling canal system, switchyard, spent fuel storage facilities, and technical and administrative support facilities. The taller structures on the Turkey Point Plant include the 400-foot stacks associated with Units 1 and 2, and the Units 3 and 4 containment buildings (approximately 210 feet high). No changes to the existing layout of Units 3 and 4 will be made for the Project.

3.3 Fuel

Turkey Point Units 3 and 4 utilize 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.

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 45,000 megawatt-days per metric ton of uranium. Following completion of the

Project, more nuclear fuel will be used to increase the capacity of each unit. No changes in the fuel-handling facilities are required.

Diesel fuel with a sulfur content of 0.05 percent is used in a number of emergency generators that include four main emergency generators, five smaller emergency generators and various general purpose diesel engines. The emergency generators will not be changed as a result of the Project. These emergency generators are for stand-by use only and only operated for testing purposes to assure reliability and for maintenance. Diesel fuel for the emergency generators is delivered to the Turkey Point Plant by truck as needed, and stored in tanks with secondary containment.

3.4 Air Emissions Controls

3.4.1 Air Emission Types and Sources

The normal operation of Turkey Point Units 3 and 4 does not create fossil fuel-related air emissions. However, there are nine emergency generators associated with Units 3 and 4. Four main plant emergency generators are rated at 2.5 MW. Five smaller emergency generators are associated with the security system. The maximum heat input for the four diesel engines is 24.98 million British thermal units per hour (MMBtu/hr) and the maximum heat input of the smaller emergency generators is 4.08 MMBtu/hr. The general purpose diesel engines have a maximum heat input of 5.85 MMBtu/hr. The emergency generators normally operate only several hours per month for maintenance and reliability, although there are no operating limits on the emergency generators. 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 CO_2 or other greenhouse gas emissions.

3.4.2 Air Emission Controls

The Turkey Point Plant Units 3 and 4 and associated emergency generators and diesel engines, together with Units 1, 2, and 5, are classified as a major source of air pollution. FDEP has issued a separate Title V Air Operating Permit for the Turkey Point Nuclear Plant (Permit Number 0250003-004-AV; see Appendix 10.4). There are no operating limits for the emergency generators or diesel engines. NO_x emissions are regulated under Reasonably Available Control Technology (RACT) requirements in Rule 62-296.570(4)(b)7 F.A.C., that limit NO_x emissions to 4.75 lb/MMBtu. The sulfur content of the diesel fuel is limited to 0.5 percent by the FDEP Title V Permit.

3.4.3 Control Technology Description and Best Available Control Technology

The air emission units associated with Turkey Point Units 3 and 4 consist of four large main plant diesel engines, smaller emergency generators and various general purpose diesel engines. The air emissions from these engines are limited by the use of 0.5 percent sulfur diesel fuel and good combustion practices to limit NO_x emissions to 4.75 lb/MMBtu. 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, sulfur dioxide (SO_2), NO_x, carbon monoxide (CO), and volatile organic compounds (VOC). In addition, about 0.6 million tons per year of CO_2 will be avoided by the Project that would otherwise be emitted if equivalent fossil-fuel fired (i.e., natural gas) generation were used.

3.5 Plant Water Use

The source of cooling water for Turkey Point Units 3 and 4 is the cooling canal system. There will be no increase in the amount of water withdrawn as a result of the project.

General plant service water, fire protection water, process water, and potable water are obtained from Miami-Dade County. Process water uses include demineralizer regeneration, steam cycle makeup, and general service water use for washdowns. The water use diagram for the uprated facility is shown as Figure 3.5.0-1.

3.5.1 Heat Dissipation System

Turkey Point Units 3 and 4 use cooling water from a closed-cycle cooling canal system to remove heat from the main (turbine) condensers, and to remove heat from other auxiliary equipment. At present, each nuclear unit produces about 5.35 Billion Btu per hour at full load. After the uprate, that quantity will increase to about 6.10 Billion Btu per hour. The estimated water temperatures in the cooling canal system that were described in Subsection 2.3.4.2 for the existing station are shown in Figures 3.5.1-1 and 3.5.1-2, along with the corresponding estimated temperatures after the uprate. As

shown in these figures, the predicted temperatures before and after the uprate are similar and the existing cooling canals will accommodate the increase in heat load. After the uprate, the predicted monthly temperature of heated water from the Units entering the cooling canal system ranges from 87.3 to 108.6°F, while cooled water returning to the Units ranges from 72.5 to 92.8°F. The predicted monthly temperatures in the cooling canal system, averaged over the period from 1998 to 2002, range from 98.5°F for water entering the system to 83.5°F for water leaving the system. The associated predicted temperature difference (Delta T) across the cooling canal system is predicted to average 15°F after the Project is completed. The maximum predicted increase in water temperature entering the cooling canal system resulting from the Project is predicted to be about 2.5°F, from 106.1 to 108.6°F. The associated maximum increase in water temperature returning to the Units is about 0.9°F, from 91.9 to 92.8°F.

3.5.2 Domestic/Sanitary Wastewater

The sanitary wastewater associated with Turkey Point Units 3 and 4 is treated using contact stabilization. The facility consists of a sewage lift station, two flow equalization tanks, two aerobic digesters, two aeration tanks, a secondary clarifier system, two tertiary filters, a filter backwash system, a flow meter, two air blowers, a chlorine contact tank, a gas chlorine disinfection system, and an anoxic denitrification chamber. Treatment consists of anoxic/denitrification flow equalization, biological treatment using activated sludge, tertiary filtration, and chlorination. Treated wastewater is routed to a 8-inch diameter, 50-foot (ft) deep underground injection well located adjacent to the treatment facility. Average daily flow, carbonaceous biological oxygen demand (5-day), total suspended solids, fecal coliform bacteria, pH, total residual chlorine, and nitrate (as N) are reported to the Florida Department of Environmental Protection (FDEP). The facility is located outside the area being certified and handles sanitary wastewater for the other units. Treatment plant residuals (wet sludge) are disposed to the Miami-Dade Water and Sewer Department's South District Wastewater Treatment Facility. 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 Miami-Dade County with no increase in usage as a result of the Project.

3.5.4 Process Water Systems

Turkey Point Units 3 and 4 utilize 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 and electrodeionization (EDI) reject is recycled to the cooling canal system while regeneration of the mixed bed systems is offsite. This process water system will not change due to the uprate.

3.5.4.1 Demineralized Water

Turkey Point Units 3 and 4 use demineralized water [i.e., conductivity < 0.1 microsiemens per centimeter (µS/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 Miami-Dade County is used as process water treatment system influent and service water. There will be no change in demineralized water use as a result of the Project.

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. There will be no change in general service water use as a result of the Project.

3.6 Chemical and Biocide Waste

The wastewaters generated by Turkey Point Units 3 and 4 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 cooling canal system. The type and amount of wastewaters will not change as a result of the Project.

3.6.1 Cooling System Water Chemical Treatment

Traveling screens and strainers remove debris from the cooling water intake flow and plastic foam (Amertap) balls minimize biological growth and other fouling inside the condenser tubes. No bio-fouling chemicals are used in the circulating water system or in any systems that discharge to offsite surface waters.

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 Makeup Water Demineralization

As discussed in Section 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 the cooling canal system.

3.6.4 Chemical Cleaning

Turkey Point Units 3 and 4 do not discharge chemical cleaning wastewaters to the environment. All such wastewaters are collected and disposed of off-site by the licensed contractors performing the work.

3.6.5 Miscellaneous Drains

Wastewater from cleaning and maintenance operations such as washdown of storage areas are treated as necessary and routed to cooling canal system. These flows are intermittent.

3.7 Solid and Hazardous Waste

All non-hazardous and hazardous wastes associated with Turkey Point Units 3 and 4 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 Turkey Point Units 3 and 4. 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 Turkey Point Units 3 and 4 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 Turkey Point Units 3 and 4 is considered as industrial wastewater (Low Volume Waste). Contact stormwater runoff is routed through an oil/water separator prior to release to the cooling canal system. 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 cooling canal system. 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 SW 344th Street (Palm Drive) is the primary access for the Turkey Point 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 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 Turkey Point Plant using SW 344th Street (Palm Drive) 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.

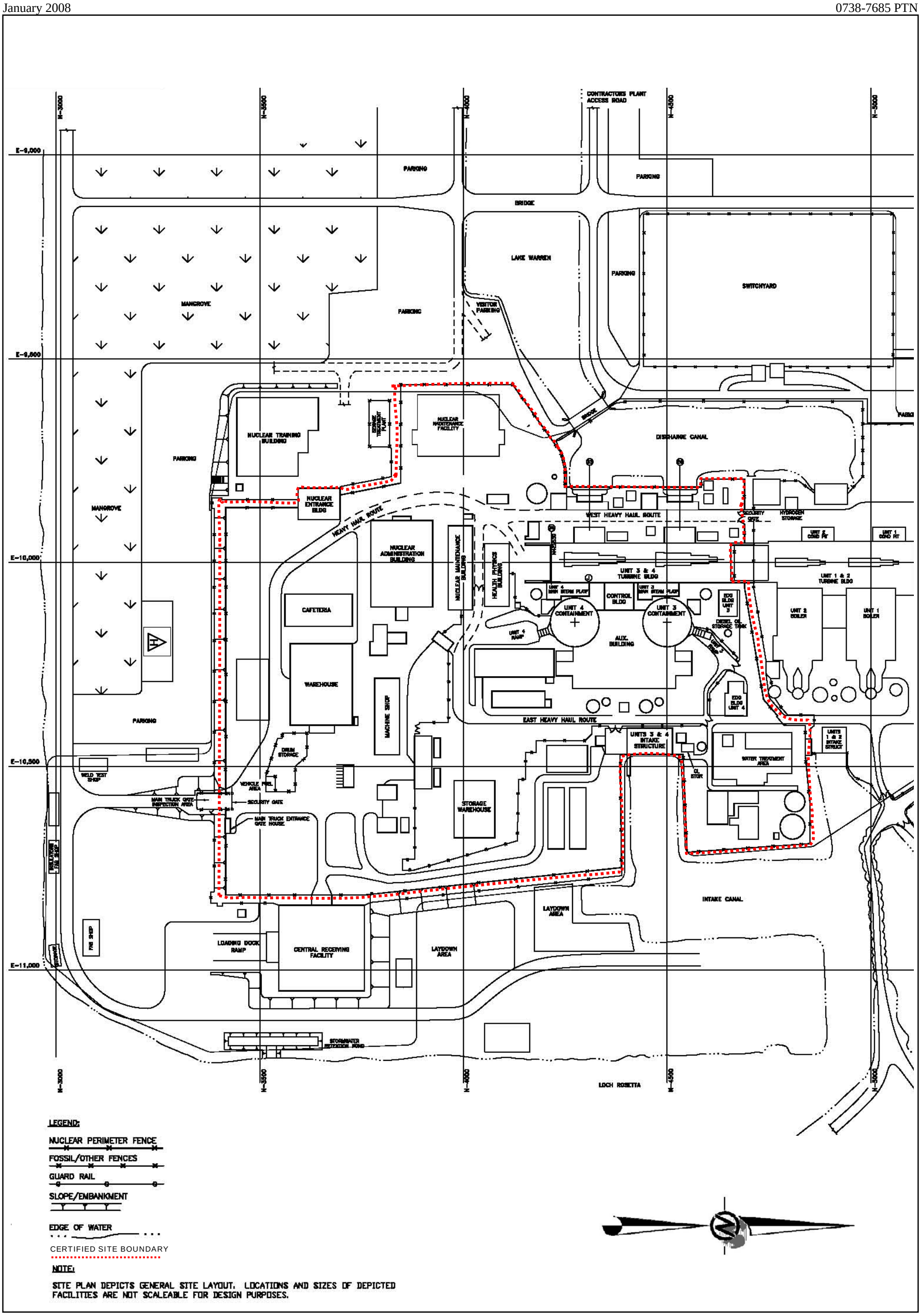


Figure 3.2.0-1
Site Layout
FPL Turkey Point Nuclear Units 3 & 4

Source: FPL, Golder; 2008.

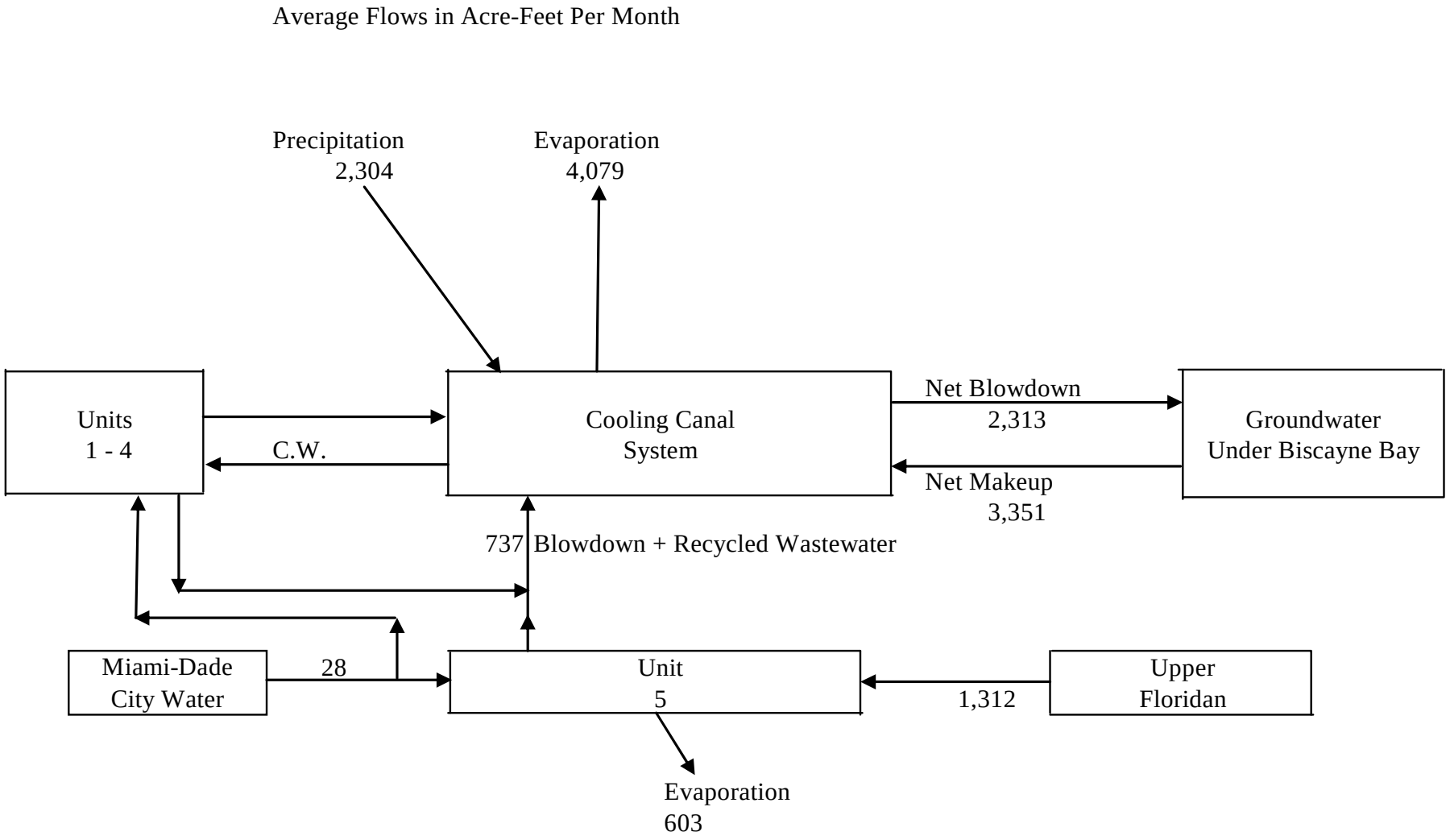


Figure 3.5.0-1
Water Use Diagram after Project is Completed

07387685\Ch3\Figures\Figure 3.5.0-1 Water Use after Uprate.doc

Source: Golder, 2008.

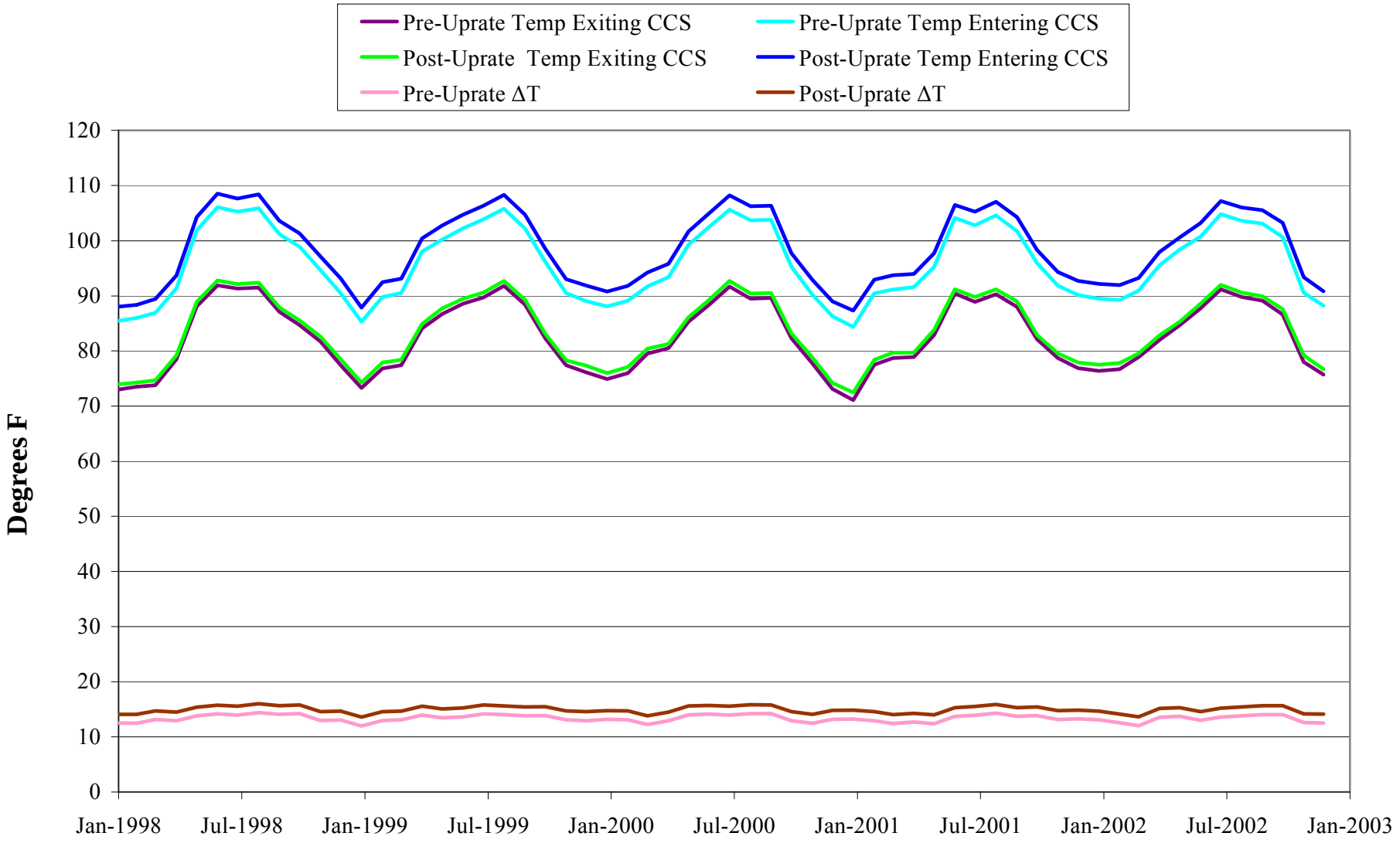


Figure 3.5.1-1
Pre- and Post-Uprate Predicted Monthly Average Water Temperatures Entering and Exiting Cooling Canal System (CCS), Based on 1/98 – 12/02 Data

07387685\Ch3\Figures\Figure 3.5.1-1 Water Temps 98-02.doc

Source: Golder, 2008.

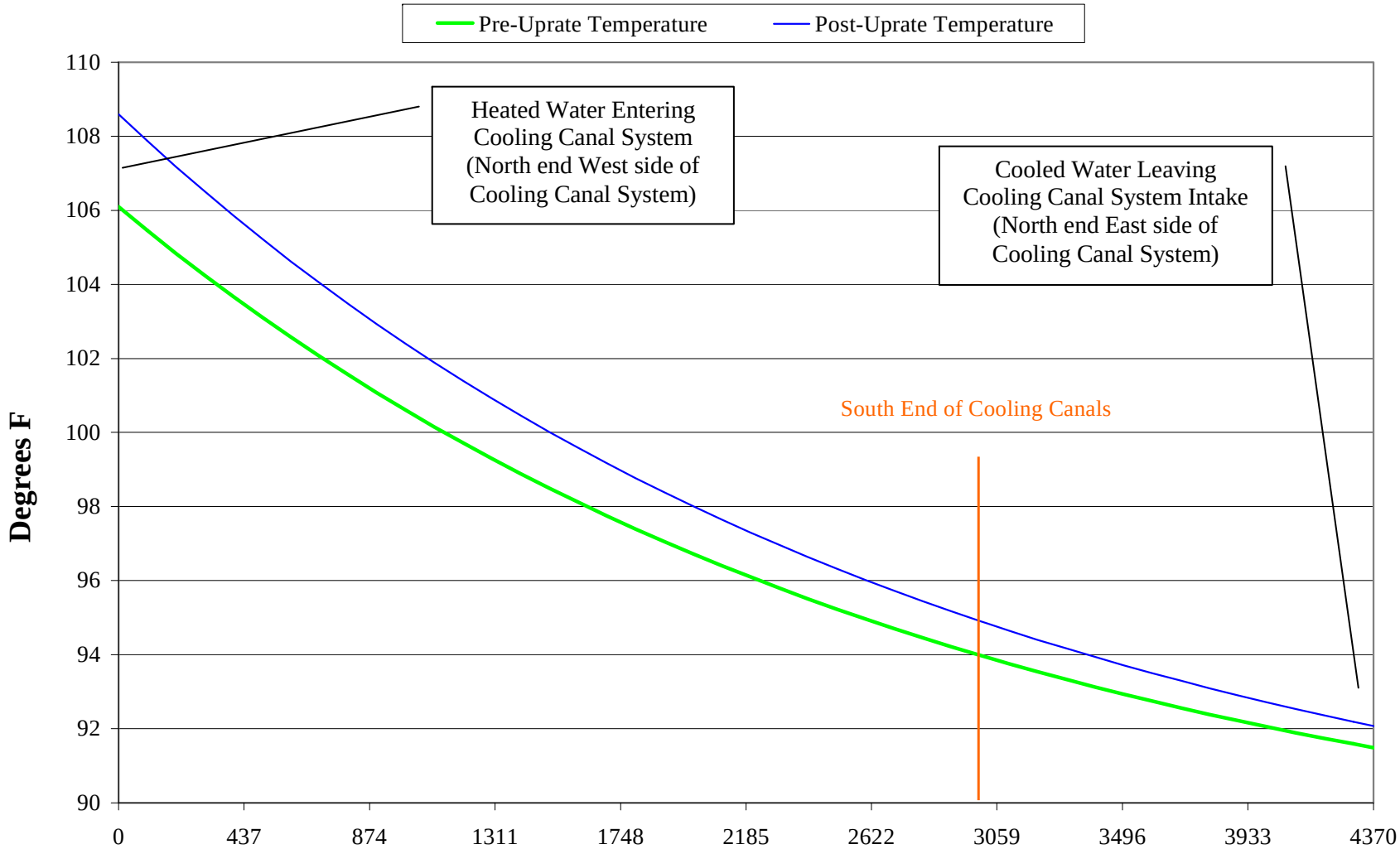


Figure 3.5.1-2
Pre- and Post-Uprate Predicted Water Temperatures within Cooling Canal System, Based on June 1998 Data

07387685\Ch3\Figures\Figure 3.5.1-2 Water Temps June 98.doc

Source: Golder, 2008.

4.0 ENVIRONMENTAL EFFECTS OF SITE PREPARATION CONSTRUCTION

The purpose of this Chapter 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 60 days. Construction activities associated with Unit 3 upgrades are expected to begin during the fall outage of 2010 and conclude during the spring outage of 2012, while Unit 4 upgrades are expected to begin during the spring outage of 2011 and conclude during the fall 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 3 and 4. No external construction activities are required.

The outages at Turkey Point Units 3 and 4 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 facilities associated with Turkey Point Units 3 and 4 include the reactor buildings, turbine buildings, access/security building, auxiliary building, maintenance facilities and miscellaneous warehouses and other buildings associated with the operation of Units 3 and 4. The Site boundary comprises approximately 30 acres of developed land within the Turkey Point Plant boundary. During the construction phases associated with the Project, existing Turkey Point Plant parking and laydown areas will be utilized to support construction activities (Figure 4.1.1-1). These existing construction laydown and parking areas will 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 Turkey Point 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 Turkey Point Plant is provided via SW 344th Street (Palm Drive), which connects the Plant with SW 117th Avenue and U.S. Highway 1. 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 above 18 ft msl. As a result, construction activities associated with the Project will not adversely impact 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 Turkey Point Units 3 and 4 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 Turkey Point Units 3 and 4, 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 Turkey Point Units 3 and 4, 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 Turkey Point Units 3 and 4, 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 Turkey Point Plant. Construction personnel and equipment will enter the Turkey Point Plant exclusively via SW 344th Street (Palm Drive) 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 PM_{10}. Fugitive PM_{10} 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 Turkey Point 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 PM_{10}, NO_x, SO_2, CO, and VOC. 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 Turkey Point Plant.

4.5.2 Control Measures

A number of control measures will be implemented, as necessary, per Rule 62-296.320(4)(c), F.A.C. 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 Turkey Point Plant.

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 60 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 Turkey Point 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 which stagger construction workers and/or stage truck trips in order to prevent congestion within the Turkey Point 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 Turkey Point Plant is designed to accommodate, on an annual basis, operational staff combined with employees associated with refueling/maintenance outages with Turkey Point Units 3 and 4. Previous combined workforces have exceeded 2,000 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 2,000 workers for each outage. This includes about 800 operational staff and up to 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.

4.6.2.1 Trip Generation

The trip generation associated with the construction workforce of 1,400 workers associated with the Project was based on the following assumptions:

- The total workforce is not present at the same time (multiple shifts in work force). It was assumed that 30 percent of the workforce traffic occurs during the typical PM peak hour.
- The work force arrives via private automobile, buses, and vanpool/carpool. The occupancy assumed for these three modes of transportation is one person per automobile, 20 people per bus, and six people per vanpool/carpool. Furthermore, approximately 25 percent of the work force is anticipated to arrive via private automobile, 25 percent will use buses, and 50 percent will arrive/depart using the vanpool/carpool option.
- Approximately 5 percent of the workforce trip generation will include off-site vehicle-trips.

Based on the assumed workforce trip generation, the afternoon (i.e., p.m.) peak hour trip generation associated with the 1,400 workforce scenario was estimated to be approximately 153 vehicles per hour.

4.6.2.2 Trip Distribution

The trip distribution for the Project was based on Miami-Dade County's Cardinal Distribution information for Traffic Analysis Zone (TAZ) 1401, which is applicable to the location of the Turkey Point Plant. Since the Project is anticipated to be completed in the year 2012, Miami-Dade Interim 2015 directional distribution summary report for TAZ 1401 was used for trip distribution from the Turkey Point Plant. Table 4.6.2-1 summarizes the trip distribution for the Project using Miami-Dade Transportation Plan, Directional Trip Distribution Report (Gannett Fleming, 2005).

The traffic distribution for the Project shown in Table 4.6.2-1 was assigned to the existing roadway network as follows:

- 100 percent will impact SW 344th Street (Palm Drive) east of SW 137th Avenue.
- 65 percent will continue towards US 1, west of SW 137th Avenue, via Palm Drive.
- 25 percent will impact SW 328th Street, west of SW 137th Avenue.
- 10 percent will impact Campbell Drive, west of SW 137th Avenue.

Figure 4.6.2-1 depicts graphically the traffic assignment documented above.

The construction traffic associated with the Project was combined with the existing traffic concurrency information to develop future conditions analysis. The resulting future conditions analysis is summarized in Table 4.6.2-2. As shown in Table 4.6.2-2, the transportation network located in the vicinity of the Turkey Point Plant has more than sufficient capacity to absorb the traffic impacts generated during the construction activities associated with the Project. Increasing the trip generation by assuming lower levels of bus or carpool use would not change the conclusion, since the available peak hour capacity is about ten times higher than the number of assumed trips due to construction. Based on the analysis, the traffic generated by the construction of the Project remains within Miami-Dade County's Traffic Concurrency Standards.

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 Miami-Dade County, which is over 200,000 units (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 in-migration 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 Turkey Point 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 1.6 miles (pre-school) to 2 miles (Homestead Bayfront Park) from the Units 3 and 4 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 3 and 4 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 3 and 4 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.

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 impact from construction at the FPL pre-school is estimated to be 49 dBA and the maximum impact at the Homestead Bayfront Park is estimated to be 47 dBA. These maximum estimated impacts are very conservative, since no attenuation from nearby buildings was considered and such sources operate intermittently. Because the maximum impact is less than or equal to existing ambient conditions, the construction activities associated with the Project will not change the character of observed noise levels in the vicinity of the Turkey Point 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 or 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 Turkey Point 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 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.

TABLE 4.6.2-1

PROJECT TRIP DISTRIBUTION

TURKEY POINT PLANT

Direction		**Percentage of Total Trips**
North:	Northwest	24.29%
	Northeast	10.54%
South:	Southwest	0.99%
	Southeast	0.00%
East:	Northeast	0.00%
	Southeast	0.00%
West:	Northwest	51.49%
	Southwest	12.68%
Total		**100.00%**

Source: Miami-Dade Transportation Plan, 2005.

TABLE 4.6.2-2

FUTURE CONDITIONS ANALYSIS WITH CONSTRUCTION

Turkey Point Units 3 and 4 Uprate Project

Station No.	Location	Peak Hour Capacity, Existing Conditions / (LOS)	Construction Trips	Available Peak Hour Capacity
9956	SW 344 St. West of SW 137th Ave.	1,166 / (B)	100	1,066
9952	SW 328th St. West of SW 137th Ave	696 / (B)	38	658
9944	SW 312th St. East of HEFT[1]	467 / (B)	15	452

Source: Miami-Dade County, 2007; and Traf Tech Engineering, Inc., 2007.

[1] HEFT = Homestead Extension of Florida's Turnpike

Level of Service (LOS) Descriptions (Florida Department of Transportation, 2006)

LOS A Completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles and operations are constrained only by the geometric feature of the highway and by driver preferences.

LOS B Free flow, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as LOS A, but drivers have slightly less freedom to maneuver. Minor disruptions are easily absorbed, although local deterioration will be more obvious.

LOS C Influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Minor disruptions can cause serious local deterioration on service.

LOS D Ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed.

LOS E Operations at or near capacity, an unstable level. Disruptions cannot be dissipated readily.

LOS F Forced or breakdown flow. Vehicles arrive at a rate greater than the rate at which they are discharged. The demand exceeds the computed capacity of the planned facility.

LEGEND

- Certified Site Boundary
- Construction Laydown / Parking Areas

REFERENCE

1. Imagery, USDA, 2007. 2. Construction laydown / parking areas, FPL, 2007

0 200 400 800 Feet

N

PROJECT
TURKEY POINT
UPRATE PROJECT

TITLE
CONSTRUCTION LAYDOWN AND PARKING AREAS

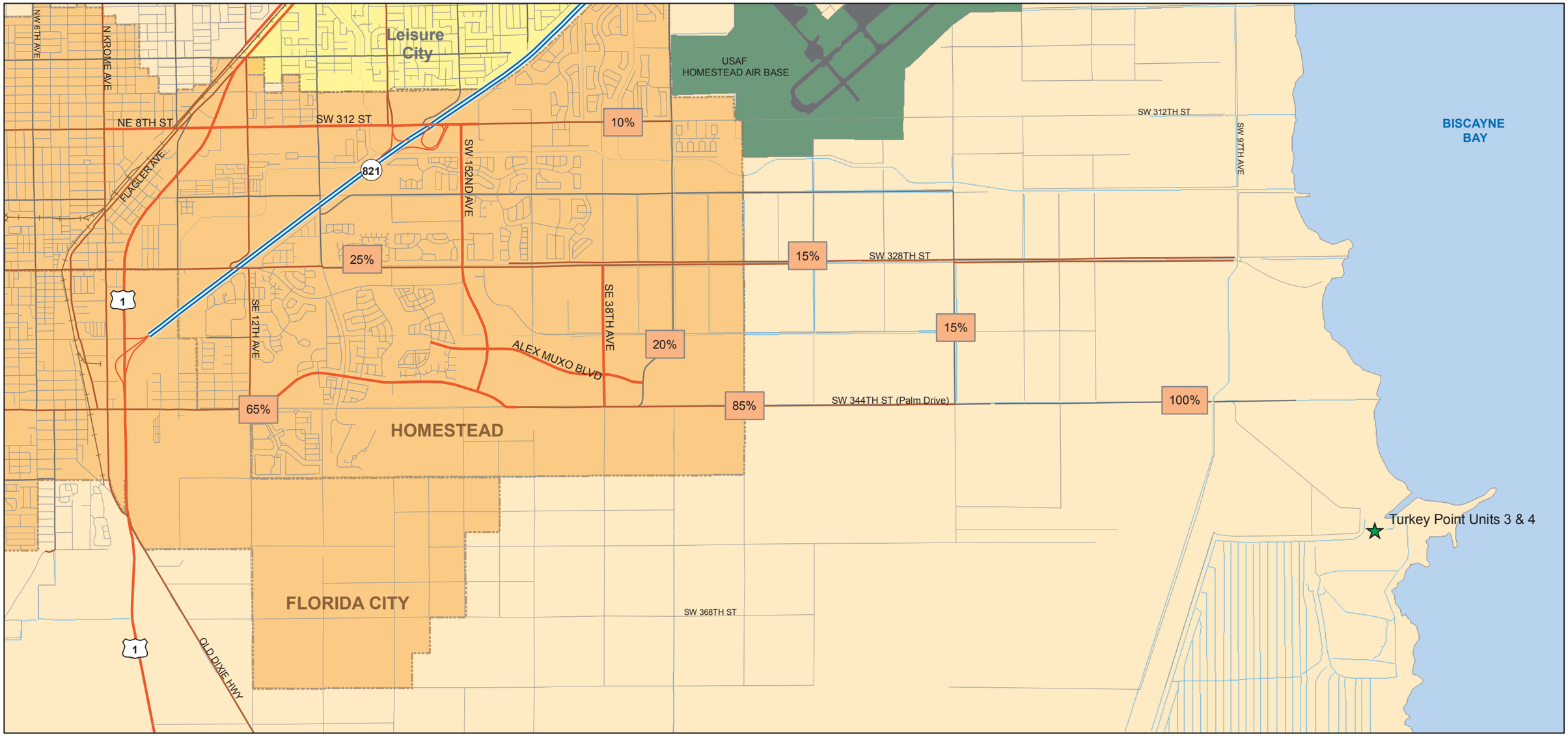
PROJECT No. 073-87685			SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07		
GIS	RL	12/05/07		
CHECK	SM	?? Aug. 2005		
REVIEW	KK	?? Aug. 2005		

FPL

FIGURE 4.1.1-1

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINTMapDocuments\07387685TPA16_ConstructionLaydown

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINT\MapDocuments\07387685TPA08_TrafficAssignment



LEGEND

- Turkey Point Units 3 & 4 Location
- Local Cities
- Municipalities
- Railroad
- 65% 9956 Currency Count Station

Roads

- Limited Access
- Major Road
- Minor Road
- Other Roads
- Local Roads
- Residential Roads

0 0.5 1 2 Miles

N

PROJECT

TURKEY POINT
UPRATE PROJECT

TITLE

TRAFFIC ASSIGNMENT

FPL

PROJECT No. 073-87685-1102		SCALE AS SHOWN	REV. 0
DESIGN	KK	12/05/07	
GIS	RL	12/12/07	
CHECK	SM	?? Aug. 2005	
REVIEW	KK	?? Aug. 2005	

FIGURE 4.6.2-1

REFERENCE

1. Streets, & Municipalities, Miami-Dade County GIS Department, 2007. 2. Railroads, Florida DOT, 2006. 3. Currency Count Stations, Traf Tech Engineering Inc., 2007

5.0 EFFECTS OF PLANT OPERATION

The purpose of this chapter is to describe the environmental effects of operation of Turkey Point Units 3 and 4 following completion of the Project.

5.1 Effects of the Operation of the Heat Dissipation System

The Turkey Point Plant (Units 1-5) does not have an intake that withdraws from, nor a discharge into, surface waters of the U.S. or waters of the state. Therefore, no 316 demonstrations were required historically, and none are required for the uprated facility.

5.1.1 Temperature Effect on Receiving Body of Water

The Turkey Point cooling canal system is a permitted wastewater treatment facility (see the FDEP Industrial Wastewater Facility Permit (NPDES/IWWF Permit) in Appendix 10.4); therefore state and federal water quality standards do not apply within it. Although the cooling canal system is not a "receiving body of water" in a regulatory sense, temperature effects within the system are described in this section because it is a refuge for the threatened (federal) / endangered (State) American Crocodile.

The expected changes in water temperatures within the cooling canal system are described in Subsection 3.5.1, and portrayed in Figures 3.5.1-1 and 3.5.1-2. Details of the analysis performed to predict these temperature changes are presented in Appendix 10.6. The maximum predicted monthly water temperature increase due to the uprate is about 2.5°F, an increase from 106.1 to 108.6°F, for heated water entering the cooling canal system. The associated maximum increase in the temperature of cooled water leaving the cooling canal system to return to the units is about 0.9°F, from 91.9 to 92.8°F. These changes are insignificant relative to the existing seasonal changes of up to 20°F between seasons at any given location in the system.

5.1.2 Effects on Aquatic Life

5.1.2.1 Impingement and Entrainment Effects

The cooling canal system has no intake in waters of the U.S.; therefore, withdrawals of cooling water from the system will continue to have no impingement or entrainment effects. The Project will not result in increased effects on aquatic life.

5.1.2.2 Effects of Increased Water Temperature on Marine Biota

Effects of operation of the Project upon aquatic biota in the closed cooling canal system are expected to be negligible. The maximum predicted water temperature increase of approximately 2.5°F (1.4°C) for water entering the canal system and 0.9°F (0.5°C) for water exiting the system is not anticipated to result in any adverse impacts to the listed American crocodile.

At the Turkey Point Plant, cooling water is discharged into the northeast corner of the cooling canal system and flows south in the 38 westernmost cooling canals, resulting in a north-south temperature gradient in that portion of the system (Gaby et al., 1985). Cooling water is then routed northward through the seven eastern cooling canals and returned to the Units (see Figure 2.3.4-3).

The growth rate of crocodiles varies with food availability and temperature, and digestion is only efficient within a certain range of body temperatures. In ectothermic vertebrates, such as crocodiles, digestion is accelerated as temperature increases. Increased digestive efficiency results in greater energy assimilation for expenditure on maintenance, growth, and reproduction (Lang, 1979).

Crocodiles are able to regulate body temperature through basking on the edge of canals or on berms, resting within burrows, or alternating location within cooler/warmer canals. The maximum temperature increase resulting from the Project (2.5°C) is unlikely to result in any significant impact to crocodiles' ability to thermoregulate.

Laboratory experiments indicate that prolonged high temperatures may be potentially stressful to hatchling crocodiles. Laboratory studies conducted by Mazzotti et al. (1986) showed that hatchling crocodiles showed signs of acute thermal stress (panting, pupil dilation, rapid eye blinking, jerky body movements, and attempts to climb out of aquaria) when cloacal temperatures exceeded 100.4°F (38°C) and water bath temperatures exceeded 104°F (40°C). Mass gain trials were also conducted and results indicated that hatchling crocodiles could not maintain mass at elevated temperatures (104.0°F / 40°C). Predicted temperatures above 104°F only occur in a portion of the cooling canal system, only during the months of June, July, or August for the pre-uprate case, and May through September for the post-uprate case (see Figure 3.5.1.1). During other months, temperatures within the cooling canal system are predicted to be lower. The maximum predicted temperatures occur at the inlet to the cooling canal system and decrease as water moves through the system (Figure 3.5.1-2).

Crocodile nests and hatchlings typically occur in the cooler parts of the system, the southern portion of the 38 western canals and the seven eastern canals (see Figure 5.1.2-1). Within the southern portion of the cooling canal system, the modeled increase in temperature ranges from 0.9°F (0.5°C) to 1.7°F (1.0°C) (Figure 3.5.1-2). Berms approximately 25-30 meters wide separate the cooling canals; these berms are used by female crocodiles for nesting. The most important requirements for crocodile nesting success are the presence of elevated, well-drained nesting substrate adjacent to relatively deep (> 1 m), intermediate salinity (10 to 20 ppt) water, protected from the effects of wind and wave action and free from human disturbance (ESE, 2000). Operation of the Project will result in a slight increase in salinity, approximately 6 percent or 2.5 to 3.6 ppt. The berms contain constructed freshwater ponds which provide important freshwater refugia for hatchling crocodiles. The slight increase in cooling canal temperature and salinity will not affect the conditions within these freshwater refugia areas; therefore no adverse impacts upon breeding success or hatchling growth is anticipated as a result of the slight increase in cooling water temperature and salinity.

The Turkey Point cooling canal system provides ideal crocodile nesting conditions. FPL's crocodile management plan, including the creation of freshwater refugia upon berms, protection of nesting sites, prevention of human disturbance, and the availability of lower salinity canals nearby, have allowed the crocodile population within the cooling canal system to increase dramatically, with an average of 0.7 additional successful nests per year from 1978 to 1999 (Tucker et al., 2004). Additionally, the number of hatchlings has increased at a rate of 13 (±2) per year at the Turkey Point Site (Tucker et al., 2004). The uprate Project will not significantly impact water temperature or salinity, therefore no adverse impact to the thriving crocodile population within the cooling canal system is anticipated.

5.1.3 Biological Effects of Modified Circulation

The Project will not result in any change in flow rates in the plant cooling water systems. Circulation in the cooling canal system will not be modified.

5.1.4 Effects of Offstream Cooling

The Turkey Point Plant, after the Project is completed, will continue to utilize offstream cooling in the cooling canal system. The cooling canal system does not produce fog or drift, and the Project will not change that condition.

5.1.5 Measurement Program

FPL performs field monitoring activities related to the cooling canal system in accordance with the Agreement between FPL and the South Florida Water Management District (SFWMD) dated July 15, 1983. A copy of this agreement is presented in Appendix 10.4

5.2 Effects of Chemical and Biocide Discharge

Plant wastewaters are recycled to the cooling canal system. The existing cooling canal system is a permitted wastewater treatment facility (see the NPDES/IWWF Permit in Appendix 10.4). The Plant has a "no discharge" National Pollutant Discharge Elimination System (NPDES) permit and is thus a zero-discharge facility relative to the NPDES program. The NPDES/IWWF Permit states that the groundwater is classified as Class G-III and requires that any discharges to groundwater shall not cause a violation of the minimum criteria for groundwater in Rule 62-520.400 F.A.C and Rule 62-520.430 F.A.C. Miami-Dade County Water Quality Standards are codified in Chapter 24, Section 24-11(4), of the county code. Since the groundwater in the vicinity of the cooling canals is non-potable and is above 500 ppm chlorides, the Miami-Dade criteria for tidal salt water have been used for comparison purposes (see Table 5.2.0-1).

5.2.1 Industrial Wastewater Discharges

There are no state or federal discharge regulations or surface water quality standards applicable to the Turkey Point Plant because it has no NPDES discharge. The Project will not cause any changes in the quantity or characteristics of industrial wastewaters generated by the facility; therefore, no change in that status due to the Project is expected.

5.2.2 Cooling Tower Blowdown

The uprated units will have no cooling towers; therefore, they will produce no cooling tower blowdown.

5.2.3 Measurement Programs

5.2.3.1 Surface Water

FPL's existing monitoring programs are adequate to ascertain compliance of surface water discharges with State of Florida surface water criteria. No additional monitoring is proposed.

The facility's NPDES/IWWF Permit requires monitoring of internal outfalls I-001, comprising once-through cooling water, non-contact auxiliary equipment water, and other recycled wastewaters, and I-002, comprising process wastewaters and stormwater. Both outfalls discharge to the on-site closed loop cooling canal system.

Samples from I-001 are tested monthly for temperature; quarterly for total suspended solids (TSS), pH, and Specific Conductance; and semiannually for total recoverable copper, iron, and zinc. Samples from I-002 are tested monthly for pH; quarterly for Specific Conductance; and semiannually for TSS, total recoverable lead, copper, zinc, oil, and grease.

5.2.3.2 Groundwater

FPL's existing monitoring programs are adequate to ascertain compliance of groundwater discharges with State of Florida surface water criteria. No additional monitoring is recommended.

5.3 Impacts on Water Supplies

The consumptive water use after the Project is completed will remain unchanged, and the Turkey Point 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 Turkey Point Plant does not directly withdraw groundwater under its current operations and it will not do so as a part of this Project. Locally, groundwater is present beneath the Site in the surficial or Biscayne Aquifer and in deeper aquifer zones that are part of the FAS. The Project will have no effects on those deeper aquifer zones.

The Biscayne Aquifer is unconfined and occurs from just a few ft-bgs to a depth of nearly 200 ft-bgs in the Site vicinity. In the vicinity of the Site, saline water is found within this aquifer from depths of approximately 40 feet downward. FPL does not withdraw water for Plant use from this aquifer. There are limited impacts to this aquifer from the Plant, such as seepage from the cooling canal system, surface water infiltration resulting from rainfall runoff, and the Plant Interceptor Ditch

system, which is designed to restrict the inland movement of seepage from the Plant's cooling water canal system.

There is currently a net inflow to the cooling canal system from the saline Biscayne Aquifer beneath that system, and a body of hyper-saline groundwater extending about 15 feet below that system. The increase in evaporation from the cooling canal system will cause an increase in the net inflow of that saline water; however, that effect is confined to the non-potable portion of the aquifer. The depth of the hyper-saline groundwater directly below the cooling canal system is not expected to change as a result of the Project. Therefore, the Project is not expected to impact groundwater supplies.

5.3.3 Drinking Water

The Uprate Project will not cause any change in the quantity of potable water used by the Plant. Therefore, the Project will have no impacts on the local potable water supply system.

5.3.4 Leachate and Runoff

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

5.3.5 Measurement Programs

No new or modified measurement or monitoring programs are proposed for 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 Turkey Point 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 on-site 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 normal operation of Turkey Point Units 3 and 4 does not create fossil fuel-related air emissions. As described in Section 3.4, there are nine emergency generators associated with Units 3 and 4 that are authorized to operate under FDEP Title V Air Operation Permit Number 0250003-004-AV (see Appendix 10.4.1.4). While there are no operating limits for the emergency generators or diesel engines, the emergency generators normally operate only several hours per month for maintenance and reliability. NO_x emissions are regulated under Reasonably Available Control Technology (RACT) requirements in Rule 62-296.570(4)(b)7 F.A.C., that limit NO_x emissions to 4.75 lb/MMBtu. The sulfur content of the diesel fuel is limited to 0.5 percent; 0.05-percent sulfur diesel fuel is used. There are also recordkeeping and reporting requirements in the FDEP Title V Permit The air emission sources associated with Units 3 and 4 will continue to meet the applicable permit limits and there will be no change in the operation or emissions of the diesel engines resulting from the Project.

5.6.2 Monitoring Programs

Monitoring and reporting under the FDEP-issued Title V Permit will continue to be performed.

5.7 Noise Impacts

5.7.1 Impacts

The Project will not result in an increase of noise levels at the Turkey Point Plant. As discussed in Subsection 2.3.8, the daytime and nighttime noise levels that excluded short-term transient noise sources such as traffic (i.e., the L_{90}, see discussion in Subsection 2.3.8) at monitoring sites near the Turkey Point Plant boundary were less than 50 dBA. The observed noise levels were obtained with all units operating. The Project will not change the noise profile of the Plant since all changes are being made within the existing buildings and structures. Noise levels of 50 dBA during the nighttime are generally recognized in many community ordinances as acceptable nighttime noise values for

residential communities. Since the nearest residential communities are many miles farther than the noise monitoring locations, the noise levels from the Turkey Point Plant will not be discernable over the normal background noise levels in these communities. As a result, the noise impacts associated with the Project are expected to fully comply with the Miami-Dade County nuisance 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 Turkey Point Plant following completion of the Project. All of the facilities being uprated 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 Site does not provide critical habitat for wildlife; therefore, the operation of Turkey Point Units 3 and 4 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 Turkey Point Units 3 and 4.

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 Turkey Point 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

No increase in operational personnel will occur as a result of the Project when completed in 2012. The traffic analysis for the current traffic at three existing Miami-Dade County concurrency stations determined that there was sufficient road capacity to meet Miami-Dade County Concurrency Standards. Since operational traffic for Turkey Point Units 3 and 4 utilizes the traffic corridors evaluated and there will be no increase in operational staff, the Miami-Dade County Concurrency Standards will continue to be met after the Project is completed.

5.10 Archaeological Sites

No sites of historic or archaeological significance will be impacted due to the operation of the Turkey Point 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 Turkey Point Plant.

5.11 Resources Committed

There are no irreversible and irretrievable commitments of national, State, or 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.

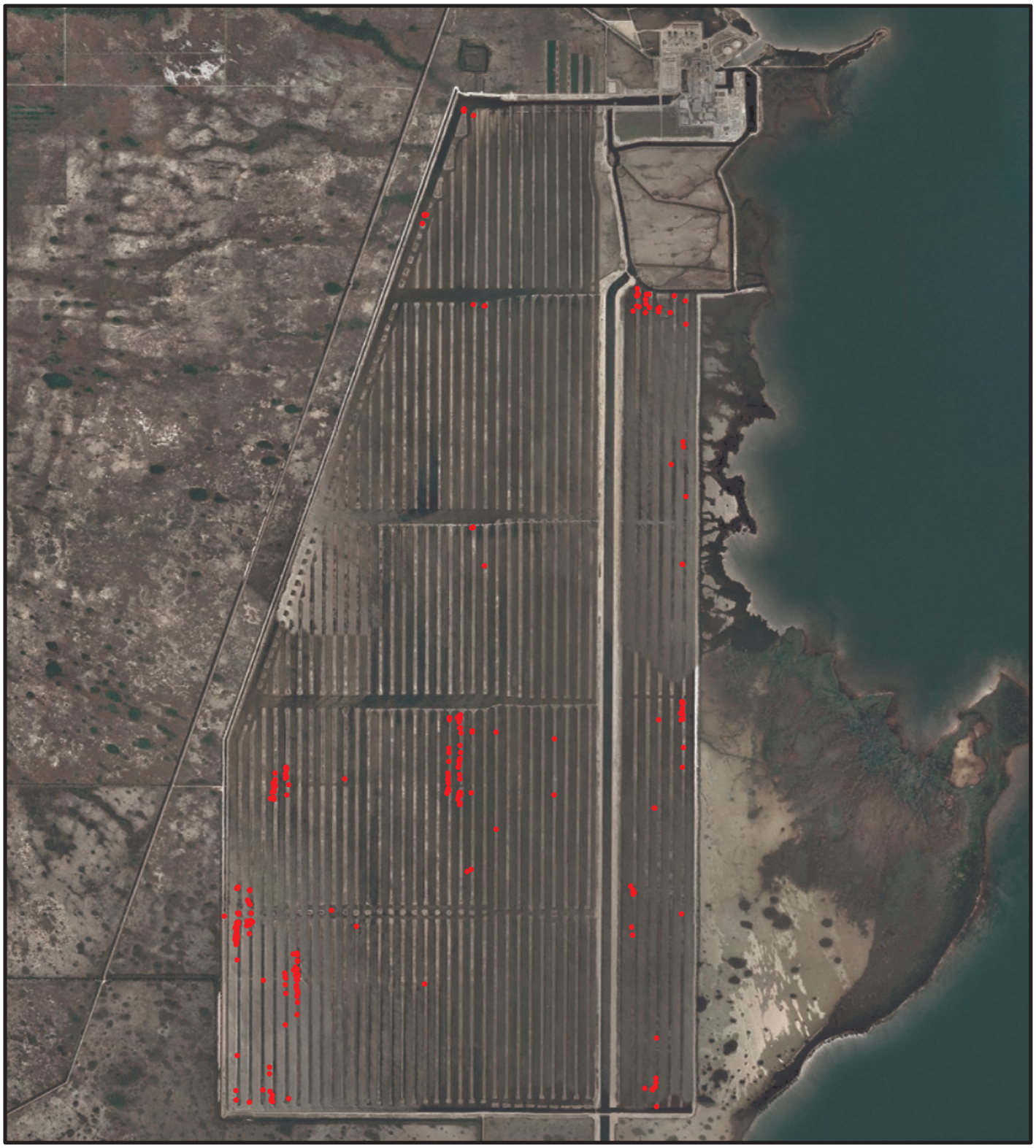
TABLE 5.2.0-1
PREDICTED WATER QUALITY WITH NEW UNIT

All tested as total unfiltered. *ND indicates never detected*			Existing Cooling Canal		Proposed Cooling Canal		Miami-Dade County Standards Ch. 24-11 Tidal Salt Water (more than 500 ppm chlorides)	
			Max	Avg	Max	Avg	Max	Min
No.	***Parameter***	***Unit***						
1	pH	SU	8.21	8.02	8.21	8.02	6.00	8.50
2	TSS	mg/L	19	16	20	17		
3	COD	mg/L	2,100	1,650	2,245	1,764		
4	BOD (5-day)	mg/L	ND	ND	ND	ND	not to cause DO non-compliance	
5	Soluble BOD	mg/L	ND	ND	ND	ND		
6	Total Residual Chlorine	mg/L	0.80	0.80	0.86	0.86		
7	Total Dissolved Solids (TDS)	mg/L	56,000	54,500	59,862	58,259	500 average, 1000 peak (Note 1)	
8	Ammonia as N	mg/L	0.16	0.16	0	0	0.50	
9	Kjeldahl Nitrogen	mg/L	1.90	1.80	2	2		
10	Nitrite as N	mg/L	ND	ND	ND	ND		
11	Nitrate as N	mg/L	ND	ND	ND	ND		
12	Total Phosphorus	mg/L	0.110	0.097	0	0		
13	Dissolved Oxygen	mg/L	12.0	8.7	12.8	9.3		4.0
14	Total Hardness	mg/L as $CaCO_3$	10,000	10,000	10,690	10,690		
15	Total Alkalinity	mg/L as $CaCO_3$	170	165	182	176		
16	Nitrogen (total)	mg/L	1.90	1.80	2	2		
17	Fluoride	mg/L	ND	ND	ND	ND	10	
18	Chloride (Note 2)	mg/L	33,000	30,000	35,276	32,069	10% above background	
19	Iron Total	mg/L	ND	ND	ND	ND	0.3	
20	Magnesium	mg/L	2,200	2,050	2,352	2,191		
21	Calcium	mg/L	760	720	812	770		
22	Manganese	mg/L	0.0089	0.0086	0.0095	0.0091		
23	Sulfate	mg/L	4,200	3,950	4,490	4,222		
24	Temperature	°C	31.5	30.05	34	32	Shall cause no environmental damage	
25	Antimony	mg/L	ND	ND	ND	ND		
26	Arsenic	mg/L	0.0420	0.0295	0.0449	0.0315	0.0500	
27	Beryllium	mg/L	ND	ND	ND	ND		
28	Cadmium	mg/L	ND	ND	ND	ND		
29	Chromium	mg/L	ND	ND	ND	ND	0.05	
30	Copper	mg/L	0.0210	0.0175	0.0224	0.0187	0.4000	
31	Lead	mg/L	0.0001	0.0001	0.0001	0.0001	0.3500	
32	Soluble Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.3500	
33	Mercury	mg/L	ND	ND	ND	ND	ND	
34	Molybdenum	mg/L	0.0180	0.0180	0.0192	0.0192		
35	Nickel	mg/L	0.0500	0.0395	0.0534	0.0422		
36	Selenium	mg/L	0.6700	0.3475	0.7162	0.3715		
37	Silver	mg/L	ND	ND	ND	ND		
38	Thallium	mg/L	0.0018	0.0011	0.0019	0.0011		
39	Zinc	mg/L	0.0190	0.0190	0.0203	0.0203	1.0000	
40	Cyanide	mg/L	ND	ND	ND	ND	ND	
41	Phenols	mg/L	ND	ND	ND	ND	0.0050	
42	Oil & Grease	mg/L	ND	ND	ND	ND	15	
43	Silica	mg/L	0.61	0.52	0.65	0.56		
44	Ortho-Phosphate	mg/L	ND	ND	ND	ND		
45	Alkalinity(Bicarbonate)	mg/L	170	165	182	176		
46	Total- Phosphate	mg/L						
47	Turbidity	NTU	2.00	1.92	2	2	29 above background	
48	Sulfides	mg/L	ND	ND	ND	ND	1.0	
49	Aluminum	mg/L	0.017	0.014	0.018	0.015		
50	Barium	mg/L	0.080	0.073	0.086	0.078		
51	Iron(Dissolved)	mg/L	ND	ND	ND	ND	0.3	
52	Potassium	mg/L	690	680	738	727		
53	Vanadium	mg/L	0.0056	0.0040	0.0060	0.0043		
54	Specific Conductance	umhos per cm					100% above background	

Notes:

1 TDS limit of 500 ppm average is physically impossible in water with at least 500 mg/L of chloride
2 Existing canal is background

Source: Golder, 2008.



LEGEND

- Crocodile Nest Locations

0 0.375 0.75 1.5 Miles

N

PROJECT

TURKEY POINT
UPRATE PROJECT

TITLE

LOCATIONS OF CROCODILE NESTS FROM 1978 THROUGH 2006

PROJECT No. 073-87685-1102			SCALE AS SHOWN	REV. 0
DESIGN	KK	01/03/08		
GIS	RL	01/09/08		
CHECK	KB	01/009/08	**FIGURE 5.1.2-1**	
REVIEW	KK	01/09/08		

FPL

REFERENCE

1. Crocodile Nests Locations, FPL, 1978-2006. Turkey Point Plant Annual Crocodile Report, Permit # TE092945-1. 2. Imagery, ESRI, 2006

P:\GIS\PROJECTS\07387685_FP_Nuclear_Uprates\TURKEY_POINTMapDocuments\07387685TPA22_CrocNests_Fig5.1.2-1

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 construction and operational personnel's use of private and public services in the vicinity of the Turkey Point Plant. 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 Uprate 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 Miami-Dade 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 Project, 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 Miami-Dade County and surrounding areas. Direct benefits from the Project include employment opportunities created by the construction and continued operation of Turkey Point Units 3 and 4. 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 about 1,400 people per outage, with an average construction workforce estimated at 1,000 employees per outage. Previous outages at the Turkey Point Plant have ranged from 600 to 900 construction employees. 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 operational staff is about 790 employees for Units 3 and 4 and no additional staff will be required once the Project is complete. Population and housing impacts from construction are 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 $655 million. The major cost associated with construction will be equipment and materials (about $347 million) and labor (about $308 million). The remaining $95 million of the Project costs will be predominantly engineering and licensing expenses.

Among the primary direct benefits of the Project will be the increase in skilled job opportunities within the region associated with 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 operation of Turkey Point Units 3 and 4 with approximately 790 employees represents a payroll of about $64 million annually, which will continue when the Project is complete.

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 $308 million in construction wages paid by for the Project will be spent within Miami-Dade 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. 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 directly 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 Turkey Point Plant 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 and holding, will occur within the existing structures. Aesthetic and visual impact to nearby recreational facilities is 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. When complete, there will be no additional visual or 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 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 Miami-Dade County and surrounding counties.

Population and housing impacts associated with the Project will be slight due to minimal in-migration 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 70,000 construction workers reside within the region, with the majority of these workers located in Miami-Dade County (UF/BEBR, 2006). 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 from within the region, or come from farther distances for 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, 4.6, 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 will not impact the natural resources surrounding the Turkey Point Plant.

Project construction will occur over a 3-year period with construction employment primarily occurring during four outages lasting about 60 days per outage. The roadways utilized for the construction traffic associated with the Project will continue to operate at an acceptable Level of

Service (LOS), as they have 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 lowest-cost fuel source. The modifications will occur inside existing buildings located within the Site. 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).

TABLE 7.1.1-1

FPL TURKEY POINT UNITS 3 AND 4 EMPLOYEE DATA

(Permanent and Temporary)

	2007	2008	2009	2010	2011	2012	2013
Existing							
Operational	790	790	790	790	790	790	790
Refueling Outages[1]	600-900	600-900	600-900	600-900	600-900	600-900	600-900
Turkey Point Uprate Project							
Unit 1				500-800	500-800		
Unit 2				500-800		500-800	

[1]Employees for refueling.

Unit 3 – Anticipated to occur Fall 2010 and Spring 2012.

Unit 4 – Anticipated to occur Spring 2011 and Fall 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 Turkey Point 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)

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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

Miami-Dade County

Subrata Basu
Carlos Espinosa
Lee Hefty
Craig Grossenbacher

REFERENCES

American National Standard Institute (ANSI). S1.26-1995 (R1999). Method for the Calculation of Absorption of Sound by the Atmosphere.

American National Standard Institute (ANSI). S12.9-1993 (Part 3) (1993 and Revised 1998). Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-Term Measurements with an Observer Present.

Anderson, P.F., White, H.O., Mercer, J.W. and Huyakorn, P.S., 1986. Numerical Modeling of Groundwater Flow and Saltwater Transport in the Vicinity of Hallandale, Florida. Geotrans, Inc.

Bolt Beranek and Newman (BBN), 1977. Report No. 3321, Power Plant Construction Noise Guide.

Carter, J.G., 1984. *Summary of Lithostratatigraphy and Biostratigraphy for the Coastal Plain of the Southeastern United States*. Biostratigraphy Newsletter No. 2.

Coile, Nancy, 2000. *Notes on Florida's Endangered and Threatened Plants. Florida Department of Agriculture and Consumer Services,* Division of Plant Industry, Tallahassee, Florida.

Environmental Science and Engineering, 2000. Ecological Risk Assessment for American Crocodile in the Cooling Canal System at Florida Power and Light's Turkey Point Facility.

Federal Emergency Management Agency, Flood Maps.

Florida Bureau of Geology, 1986. *Hydrogeologic Units of Florida*. Florida Bureau of Geology Special Publication No. 28, Tallahassee, Florida.

Florida Committee on Rare and Endangered Plants and Animals (FCREPA), 1996, 2002. Report SSWEC74, FCREPA Designations, Wildlife Ecology and Conservation Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville Florida. (Original publication date October, 1996. Reviewed September, 2002.) EDIS at http://edis.ifas.ufl.edu. FAIRS at http://hammock.ifas.ufl.edu.

Florida Department of Children and Families, 2007. http://199.250.30.131/childcare/provider/providersearch.aspx. Accessed October, 2007.

Florida Department of Education, 2007. Private School Directory, http://www.floridaschoolchoice.org/Information/PrivateSchoolDirectory. 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, 2007b. http://www.fldoe.org. Accessed October 2007

Florida Department of Environmental Protection (FDEP), 2003. Biscayne Bay Aquatic Preserve. http://www.dep.state.fl.us./coastal/sites/south/Biscayne/info//htm.

Florida Department of Transportation (FDOT) 2002. Quality and Level of Service Handbook.

Florida Department of Transportation (FDOT), 1999. Florida Land Use, Cover and Forms Classification System (FLUCFCS) Handbook. Surveying and Mapping, Thematic Mapping Section, Tallahassee, Florida.

Florida Department of Transportation (FDOT), 2002, 2003. Average Annual Daily Traffic Report. Miami-Dade County Transportation Statistics Office, Miami, Florida.

Florida Emergency Management Agency, 2007. http://msc.fema.gov. Flood Maps. Accessed October, 2007.

Florida Fish and Wildlife Conservation Commission (FFWCC), 2007. Bald Eagle Nest Locator Database. http://wld.fwc.state.fl.us/eagle/eaglenests. Accessed October, 2007.

Florida Natural Area Inventory (FNAI), 2003. Specific Site Element Occurrence Report. Map of Threatened and Endangered Species in Proximity of Turkey Point Unit 5 Project Area Florida Natural Area Inventory.

Florida Natural Areas Inventory (FNAI) database, 2007. Element Occurrences, Potential Natural Areas, and Potential Habitats for Rare Species in Miami-Dade County.

Florida Power & Light Company (FPL). 2000. *Environmental Report for the Operating License Renewal Stage, Turkey Point Units 3 & 4.*

Florida Power and Light (FPL), 1972. Final Environmental Statement related to Operation of Turkey Point Plant, Florida Power and Light Company, Docket No. 50-250 and 50-251, July 1972.

Florida Power and Light (FPL), 2003. Site Certification Application Turkey Point Expansion Project (a.k.a. Turkey Point Unit 5.) Submitted November, 2003.

Florida Power and Light (FPL), 2007. Site Certification Application St. Lucie Uprate Project. Submitted December, 2007.

Florida State Parks, 2007. http://www.floridastateparks.org. Accessed October, 2007.

Gaby, R., McMahon, M.P., Mazzotti, F.J., Gillies, W.N., and Wilcox, J.R., 1985. *Ecology of a Population of Crocodylus acutus at a Power Plant Site in Florida*. J.Herpetology (19) 189-198.

Gale Research Company, 1980. *Climates of the States*. Book Tower, Detroit, Michigan 48226.

Gannett Fleming, 2005. Miami-Dade Transportation Plan, Directional Trip Distribution Report, Gannett Fleming, Inc., Miami, Florida.

Homestead Air Reserve Base, 2007. http://www.homestead.afrc.af.mil/. Accessed October, 2007.

Klein, H. and Hull, J.E. 1978. Biscayne Aquifer, Southeast Florida: U.S. Geological Survey Water-Resources Investigations Report 78-107. http://sofia.usgs.gov/publications/wri/78-107/.

Lane, E. 1986. Karst in Florida: Florida Geological Survey Special Publication 29.

Lang, J.W., 1976. *Amphibious Behavior of Alligator mississippiensis: Roles of a Circadian Rhythm and Light.* Science (191) 575-577.

Lewis, S.P. and Davis, J., 1996. *Phase I Archaeological Resource Survey of Florida Power and Light's South-Dade Mitigation Bank, Dade County, Florida*.

Mazzotti, F.J. and Brandt, L.A.,1994. *Procedures Manual for the Crocodile Monitoring Program at Florida Power and Light Company's Turkey Point Power Plant Site, Homestead, Florida*. Unversity of Florida, Department of Wildlife and Range Sciences.

McKee, K., 1996. Biological Adaptations to Environmental Extremes in Mangrove Florida, *in Mangrove Ecology: A Manual for a Field Course*, Feller, I.C. and Stitnik, M., Eds. Smithsonian Institution, Washington, D.C.

Miami-Dade Code, 2007. http://www.municode.com/resources/. Accessed September, 2007.

Miami-Dade County Environmental Resource Management Department, 2007. http://www.miamidade.gov/derm. Accessed October, 2007.

Miami-Dade County GIS Department, 2007. GIS Data Set, Miami, Florida.

Miami-Dade County Planning and Zoning Department, 2007. http://www.miamidade.gov/planzone/zoning_computer_serv.asp. Accessed September, 2007.

Miami-Dade County School District, 2007. http://www2.dadeschools.net/index.htm. Accessed October, 2007.

Miami-Dade County, 2000. *Census Tracts 2000.* Department of Planning and Zoning, Miami-Dade County, Florida.

Miami-Dade County, 2007a. Miami-Dade Fire Rescue Fact Sheet, http://www.miamidade.gov/MDFR/fact_sheet.asp. Accessed October, 2007.

Miami-Dade County, 2007b. Miami-Dade Police Protection, http://www.mpdp.com. Accessed October, 2007.

Miami-Dade County, 2007c. Miami-Dade County Water Supply, Miami-Dade County Department of Environmental Resource Management, http://www.miamidade.gov/derm. Accessed October, 2007.

Miller, J. A. Hydrogeologic framework of the Floridan aquifer system in Florida, and in parts of Georgia, Alabama, and South Carolina, U. S. Geological Survey, Professional Paper 1403-B, 1986.

National Oceanic and Atmospheric Administration (NOAA), 2005. Wind Distribution of Hourly Surface Observations, Miami International Airport, 2001-2005.

National Oceanic and Atmospheric Administration (NOAA). 2006. Stability Apply Distribution of Hourly Surface Observations of Upper Air Data, Miami International Airport, 2001–2005.

National Park Service, 2007. www.nps.gov. Accessed October, 2007.

Parker, G. G., Ferguson, G. E., Love, S.K., and others, 1955. Water Resources of Southeast Florida, USGS Water-Supply Paper 1255.

Pautz, M.E. 1969. *Severe Local Storm Occurrences 1955–1967.* U.S. Weather Bureau, Silver Spring, Maryland.

Pitt, W.A.J., Jr., Mattraw, H.C., and Klein. H., 1975. Ground-water quality in selected areas serviced by septic tanks, Dade County, Florida. U.S. Geological Survey open-file report.

Sherwood, C.B., McCoy, H.J., and Galliher, C.F. 1973. Water resources of Broward County, Florida. Florida Bureau of Geology Report of Investigations No. 65, 141p.

Sinclair, W.C., and Stewart, J.W. 1985. Sinkhole type, development, and distribution in Florida. Florida Bureau of Geology Map Series 110.

South Florida Water Management District (SFWMD), 2000. *Save Our Rivers – 2000 Land Acquisition and Management Program.*

South Florida Water Management District (SFWMD), 2003a. *Public Use Guide*.

South Florida Water Management District (SFWMD), 2003b. *Water Use Permit Inventory*.

State of Florida Labor Market Statistics. 2006. “Quarterly Census of Employment and Wages” (ES-202), Annual NAICS files, http://www.labormarketinfo.com/index.htm. Accessed October 2007.

Thom, H., 1963. *Tornado Probabilities.* Monthly Weather Review, Volume 91.

Tucker, W.A., Mazzotti, F.J., Zillioux, E., and Shortelle, A.B., 2004. *Assessment of American Crocodile Populations of Southern Florida: Trends in Population and Reproduction Rates*. Pending publication.

U.S. Department of Commerce, Bureau of Economic Analysis (BEA), Regional Economic Information, 2005

University of Florida Bureau of Economic and Business Research (UF/BEBR), 2006. Florida Statistical Abstract 2006, Warrington College of Business Administration, University of Florida, Gainesville, Florida.

University of Florida. 2006. Bureau of Economic and Business Research, Warrington College of Business, USBE/UF.

USGS, 1994. U.S. Geological Survey Report 94-4010.

Vecchioli, J. and Foose, D.W., 1984. Florida Groundwater Resources, in National Water Summary, 1984: Hydrologic Events, Selected Water Quality Trends and Groundwater Resources, USGS Water Supply Paper 2275, pp 173-178.

APPENDICES

No.	Title
10.1	**Federal Permit Applications or Approvals**
10.1.1	316 Demonstrations
10.1.2	NPDES Applications/Permits
10.1.2.1	NPDES "No Discharge" Permit #FL0001562-004-IW1N/NR Renewal
10.1.2.2	NPDES Permit #FL0001562 Modification Requested 5/30/2006
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 Permits and Approvals
10.1.7.1	USCG Permit #64-397: Private Aids to Navigation Application 04/18/1968
10.1.7.2	Final Judgment, USA vs. FPL Case 70-328-CA
10.1.7.3	USCG Letter & Approved Permit #64-397 Modification Private Aids to Navigation Application 11/19/1993
10.1.7.4	USFWS Endangered Species Permit #TE092945-0 (American Crocodile)
10.1.7.5	USFWS Endangered Species Permit #TE092945-1 (American Crocodile)
10.1.7.6	USFWS Special Purpose Salvage Permit #MB697722-1
10.1.7.7	USFWS Depredation Permit #MB135540-0
10.2	**Miami-Dade County Zoning**
10.2.1	Letter from Miami-Dade County Planning and Zoning Commission
10.2.2	Miami-Dade County Zoning Code (Excerpt)
10.3	**Miami-Dade County Comprehensive Land Use Plan (Excerpt)**
10.4	**Existing Permits**
10.4.1	Existing Permits: Air and Water
10.4.1.1	Fourth Supplemental Agreement Between FPL & SFWMD (07/15/1983)
10.4.1.2	FDER Air Permitting Exemption Letter
10.4.1.3	FDEP Permit #93-115 Letter
10.4.1.4	Title V Air Operation Permit #0250003-004-AV
10.4.1.5	FDEP Permit #FLA013612
10.4.1.6	FDEP Wastewater Permit #0127512-002-UO
10.4.1.7	Multiple Source Annual Operating Permit #MSP-00010-2006
10.4.1.8	Domestic Wastewater Annual Operating Permit
10.4.2	Existing Permits: Fish and Wildlife
10.4.2.1	FFWCC Scientific Collecting/Institutional Permit #WS04246
10.4.2.2	FFWCC Scientific Collecting/Institutional Permit #WS06468
10.4.2.3	FFWCC Special Purpose Permit #WX06467
10.4.2.4	FFWCC Migratory Bird Nest Permit #WN07311
10.5	**Monitoring Programs**
10.5.1	Traffic Study
10.5.2	Octave Bank Measurements and Noise Level Charts
10.5.3	Equipment Calibration Certificates
10.6	**Cooling Canal System Modeling Report**
10.7	**FPSC Final Order of Need**

APPENDIX 10.1.1

316 DEMONSTRATIONS

NOTE: The Project does not require a 316 Demonstration since there is no withdrawal from or discharge to surface waters of the U.S. or the state.

APPENDIX 10.1.2.1

NPDES “NO DISCHARGE” PERMIT #FL0001562-004-IW1N/NR RENEWAL

Department of Environmental Protection

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

Jeb Bush
Governor

Colleen M Castille
Secretary

In the Matter of an
Application for Permit by:

CERTIFIED MAIL
RETURN RECIEPT REQUESTED

DEP File # FL0001562-004-IW1N/NR
Miami-Dade County
Florida Power & Light Company

Turkey Point Power Plant
9760 S.W. 344 Street
Florida City, FL 34428

Attention: Mr. Terry O. Jones

NOTICE OF PERMIT

Enclosed is Permit Number FL0001562, issued under Section 403.0885, Florida Statutes and DEP Chapter 62-620, Florida Administrative Code, authorizing renewal of a "No Discharge" NPDES permit for internal discharge to an onsite closed-loop recirculating cooling canal system at the Turkey Point Power Plant located at 9670 S.W. 344 Street, Florida City, Miami-Dade County, Florida.

Any party to this order (permit) has the right to seek judicial review of the permit 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 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

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

FILING AND ACKNOWLEDGMENT

FILED, on this date, under Section 120.52, Florida Statutes, with the designated deputy clerk, receipt of which is hereby acknowledged.

S. Shields 05-13-05

Clerk Date

Copies furnished to:

Roosevelt Childress, EPA
Chairman, Miami-Dade County Board of Commissioners
Tim Powell, P.E., DEP SED, West Palm Beach
Buck Oven, P.E., DEP Tallahassee
Betsy Hewitt, DEP Tallahassee (w/o enclosure)

SECOND AMENDMENT TO THE FACT SHEET

DATE: January 28, 2004

PERMIT NUMBER: FL0001562

PERMITTEE: Florida Power & Light Company
Turkey Point Power Plant

The following minor corrections have been made to the proposed permit. None of these corrections alter any of the discharge limitations monitoring requirements in the permit.

1. **Permittee Comments**

The Permittee requested the following minor corrections to the permit

Typographical errors in the Draft Permit: The Applicant pointed out several typographical errors by the Department which are not listed in the items below. The Department has corrected these errors, which were non-substantive and did not affect any permit limitations or monitoring requirements.

Condition I.A.6.&7. The Permittee pointed out that that previous permits did not include these conditions, which refer to floating foam and visible sheen on surface waters of the state due to discharge of wastewater. The Permittee noted that the conditions are not appropriate because the facility does not discharge to surface waters. The Department concurs, and notes that it included the conditions in error. The conditions have been deleted from the final permit

STATE OF FLORIDA
INDUSTRIAL WASTEWATER FACILITY PERMIT

PERMITTEE:

Florida Power & Light Company
9760 S.W. 344 Street
Florida City, FL 33035

PERMIT NUMBER: FL0001562 (Major)
PA FILE NUMBER: FL0001562-004-IW1N
ISSUANCE DATE: May 6, 2005
EXPIRATION DATE: May 5, 2010

RESPONSIBLE AUTHORITY:

Mr. Terry O. Jones
Vice President

FACILITY:

FPL Turkey Point Power Plant
9760 S.W. 344 Street
Florida City, FL 33035
Dade County

Latitude: See Note Below Longitude: See Note Below

Note: Latitude and longitude are not shown at 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.), and constitutes authorization to discharge to waters of the state under the National Pollutant Discharge Elimination System (NPDES). 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 four steam-electric generating units: Two fossil fuel oil-fired units (Units 1&2) and two nuclear units (Units 3&4). Units 1&2 each have a continuous generating capability of 404 megawatts (MW), and Units 3&4 each have a continuous generating capability of 693 MW.

WASTEWATER TREATMENT:

Wastewater from the Turkey Point facility consists of a non-contact once-through condenser cooling water (OTCW), auxiliary equipment cooling water (AECW), low-volume waste (LVW), and stormwater. LVW consists of chemical treatment system wastewater, boiler blowdown, reverse osmosis concentrate, condensate polishing system backwash water, and other process wastestreams. Stormwater includes stormwater associated with industrial activity and stormwater not associated with industrial activity.

OTCW and AECW discharge to the facility's approximately 6,700 acre onsite closed loop cooling canal system. LVW, equipment area stormwater, and non-equipment area stormwater/drainage discharge either directly to the onsite closed loop cooling canal system or indirectly to the same system via solids settling basins and/or neutralization basin. The cooling canal system is not lined, and therefore, discharges to Class G-III groundwater. The cooling canal system does not discharge to surface waters of the state.

PERMITTEE:	PERMIT NUMBER:	FL0001562
Florida Power & Light Company 9760 S.W. 344 Street Florida City, FL 33035	Issuance date: Expiration date:	May 6, 2005 May 5, 2010

EFFLUENT DISPOSAL:

Surface Water Discharge:

This permit does not authorize discharge to surface waters of the state.

Internal Outfalls:

This permit authorizes discharge from existing internal outfalls I-001 and I-002 to the facility's onsite closed loop cooling canal system.

Groundwater Discharge

This permit authorizes an existing discharge from the onsite closed loop cooling canal system to the surficial aquifer which is a Class G-III groundwater.

IN ACCORDANCE WITH: The limitations, monitoring requirements and other conditions as set forth in Part I through Part VIII on pages 3 through 14 of this permit.

PERMITTEE:

Florida Power & Light Company
9760 S.W. 344 Street
Florida City, FL 33035

PERMIT NUMBER: FL0001562

Issuance date: May 6, 2005
Expiration date: May 5, 2010

I. Effluent Limitations and Monitoring Requirements

A. Surface Water Discharges

1. This permit does not authorize discharge to surface waters of the state

2. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge non process wastewater consisting of non-contact once-through condenser cooling water (OTCW), non-contact auxiliary equipment cooling water (AECW), and other wastestreams (as indicated in the permit renewal application) from Internal Outfall I-001 to the onsite feeder canal within the facility's onsite closed loop cooling canal system. Such discharge shall be limited and monitored by the permittee as specified below:

	Discharge Limitations			Monitoring Requirements		
Parameters (units)	Maximum Daily Average	Daily Maximum	Daily Minimum	Monitoring Frequency	Sample Type	Sample Point
Temperature (F), Water (DEG.F)	--	Report	--	Monthly	Instantaneous	OUI-1
Solids, Total Suspended (MG/L)	--	Report	--	Quarterly	Grab	OUI-1
pH (SU)	--	Report	Report	Quarterly	Grab	OUI-1
Salinity (PPT)	--	Report	--	Quarterly	Grab	OUI-1
Specific Conductance (UMHO/CM)	--	Report	--	Quarterly	Grab	OUI-1
Copper, Total Recoverable (UG/L)	--	Report	--	Semiannually	Grab	OUI-1
Iron, Total Recoverable (MG/L)	--	Report	--	Semiannually	Grab	OUI-1
Zinc, Total Recoverable (UG/L)	--	Report	--	Semiannually	Grab	OUI-1

3. Effluent samples shall be taken at the monitoring site locations listed in permit condition I.A.2. and as described below:

Sample Point	Description of Monitoring Location
OUI-1	Cooling water discharge prior to entering the feeder canal within the closed loop cooling canal system

PERMITTEE:

Florida Power & Light Company
9760 S.W. 344 Street
Florida City, FL 33035

PERMIT NUMBER: FL0001562

Issuance date: May 6, 2005
Expiration date: May 5, 2010

4. 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 stormwater from Internal Outfall I-002 into the facility's onsite closed loop cooling canal system. Such discharge shall be limited and monitored by the permittee as specified below:

	Discharge Limitations			Monitoring Requirements		
Parameters (units)	**Monthly Average**	**Daily Maximum**	**Daily Minimum**	**Monitoring Frequency**	**Sample Type**	**Sample Point**
Solids, Total Suspended (MG/L)	--	Report	--	Semiannually	Grab	OUI-2
PH (SU)	--	Report	Report	Monthly	Grab	OUI-2
Specific Conductance (UMHO/CM)	--	Report	--	Quarterly	Grab	OUI-2
Lead, Total Recoverable (UG/L)	--	Report	--	Semiannually	Grab	OUI-2
Oil and Grease (MG/L)	--	Report	--	Semiannually	Grab	OUI-2
Copper, Total Recoverable (UG/L)	--	Report	--	Semiannually	Grab	OUI-2
Zinc, Total Recoverable (UG/L)	--	Report	--	Semiannually	Grab	OUI-2

5. Effluent samples shall be taken at the monitoring site locations listed in permit condition I A 4. and as described below:

Sample Point	**Description of Monitoring Location**
OUI-2	discharge from the two solids settling basins or neutralization basin prior to mixing with water in the closed loop cooling canal system

B. Underground Injection Control Systems

1. This section is not applicable to this permit. Discharge by underground injection is regulated under permit UC-13-277655.

C. Land Application Systems

1. 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. 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	28th 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.

The permittee shall make copies of the attached DMR form(s) and shall submit the completed DMR form(s) to the Department's Southeast District Office at the address specified in Permit Condition I.E.2.

2. 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:

   Southeast District Office
   400 North Congress, Suite 200
   West Palm Beach, FL 33401-3303

   Phone Number - (561) 681-6702

3. All reports and other information shall be signed in accordance with requirements of Rule 62-620.305, F.A.C.

4. The permittee shall provide safe access points for obtaining representative samples which are required by this permit.

5. 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

6. 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.

7. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

8 This permit authorizes the use of the following biocides, or their generic equivalents, in various closed cooling water systems without limitations or monitoring; NALCO 7338, NALCO 7330, NALCO 7348, BULAB 6001/6002, BETZ POWERLINE 3610 The Permittee shall notify the Department if there is a discharge of any of these products into the closed cycle cooling canal system in other than de-minimus amounts which contain concentrations of active ingredients above the MDLs for those ingredients.

9 A permit revision from the Department shall be required prior to the use of any biocide or chemical additive, which may be toxic to aquatic life, (except as authorized elsewhere in this permit) in the cooling water system or any other portion of the industrial wastewater system. The permit revision request 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 prior authorization by the Department. Permit revisions shall be processed in accordance with the requirements of Chapter 62-620, F.A.C.

10. 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.

11. Hydrazine and Monoethanolamine (ETA) Monitoring Requirements

a) Discharge of hydrazine, carbohydrazide, dimethylamine, and monoethanolamine (ETA) in the boiler or steam generator blowdown is authorized without limitation or monitoring requirements.
b) Hydrazine from plant layup water during overhauls and/or refueling outages shall be measured at the outlet from the unit being serviced. Sampling shall be once per day of discharge by grab sample at the maximum expected concentration. Results of sampling will be submitted to the Department upon request. To determine the hydrazine concentration being discharged to the cooling canal system, the following equation shall be used:

$$\frac{\textit{(B/S) Blowdown Flow x (B/S) Hydrazine Concentration}}{\textit{Once-through Cooling Water Flow}} = \textit{Hydrazine concentration at the closed cycle cooling canal system}$$

Where (B/S) refers to boiler or steam generator

In the event that any value exceeds 3.4 mg/l, the permittee shall immediately modify its release pattern and resample. The Department's Southeast District office will be notified of the situation within five days.

12. Molybdate, Tolytriazole, and Nitrite Discharge Requirements
The discharge of molybdate, tolytriazole, and nitrite to the closed cycle recirculating cooling canal system during maintenance of the auxiliary closed water system is allowed without limitations and monitoring requirements.

13. Non-discharging/Closed Loop Vehicle Wash Recycle System Requirements

a) No discharge of recycle system wastewater, including filter backwash water, is authorized to surface water or to ground water

b) The rainwater diversion system shall be operated in accordance with the facility's Best Management Practice Procedure as indicated on amended drawing No. 297-036, Alternate No. 6, signed and sealed 4/23/99.

c) A placard shall be conspicuously posted in the area of the non-discharging/closed loop recycle equipment which indicates the proper operation of the rainwater diversion system i.e. TRUCK WASH RAINWATER VALVE OPERATING PROCEDURE as indicated on amended drawing No. 297-036 Alternate No. 6, signed and sealed 4/23/99.

d) d) Spent process wastewater shall be disposed of at a Department permitted wastewater treatment facility which is capable of treating the wastewater

e) Any oil collected from the oil/water separator shall be disposed by a licensed used oil recycler in accordance with Florida Administrative Code 62-710 or otherwise recycled on site through Department approved methods and procedures.

f) Any accidental discharge to ground water or surface water shall be reported to the Southeast District office.

14. Notwithstanding any other requirements of this "No Discharge" permit, the permittee shall comply with all applicable provisions of the Final Judgement dated September 10, 1971, in Civil Action Number 70-328-CA issued by the U.S. District Judge C. Clyde Atkins of the Southern District of Florida.

II. Industrial Sludge Management Requirements

A. Basic Management Requirements

1. Sludge or other solids generated from the facility shall be reused, reclaimed, or otherwise disposed of in accordance with the requirements of Chapter 62-701, F.A.C.

2. The permittee shall keep records at the facility of the amount of sludge or residuals disposed, transported, or incinerated. If a person other than the permittee is responsible for sludge transporting, disposal, or incineration, the permittee shall also keep the following records:

   a. name, address and telephone number of any transporter, and any manifests or bill of lading used;
   b. name and location of the site of disposal, treatment or incineration;
   c. name, address, and telephone number of the entity responsible for the disposal, treatment, or incineration site

III. Ground Water Monitoring Requirements

1. This section is not applicable to this facility.

IV. Other Land Application Requirements

1. The Permittee's discharge to ground water shall not cause a violation of the minimum criteria for ground water specified in Rule 62-520.400, F.A.C. and 62-520.430, F.A.C.

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.

VI. Schedules

1. The permittee shall achieve compliance with the other conditions of this permit as follows:

   Operational level attained Issuance Date of permit

2. No later than 14 calendar days following a date identified in the above schedule(s) of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by an identified date, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

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

1. 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.

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, 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.]

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).
    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. Fields 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.
   (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.]

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 A. Drew
Director, Division of Water Resource Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
(850) 245-8592

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, Wastewater Compliance Evaluation Section, MS 3551 , 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Florida Power & Light Company
MAILING ADDRESS: 9760 S.W. 344 Street
Florida City, FL 33035

PERMIT NUMBER FL0001562

LIMIT: Final
CLASS SIZE: Major

REPORT: Monthly
GROUP: Industrial

FACILITY: FPL Turkey Point Power Plant
LOCATION: 9760 S.W. 344 Street
Florida City, FL 33035

MONITORING GROUP NUMBER: I-001
MONITORING GROUP DESC: non-contact once through condenser cooling water

COUNTY: Dade

NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Temperature (F), Water	Sample Measurement										
PARM Code 00011 P Mon. Site No. OUI-1	Permit Requirement						Report (Day.Max.)	DEG.F		Monthly	Instantaneous
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	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)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, Wastewater Compliance Evaluation Section, MS 3551 , 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Florida Power & Light Company
MAILING ADDRESS: 9760 S.W. 344 Street
Florida City, FL 33035

PERMIT NUMBER FL0001562

LIMIT: Final REPORT: Quarterly
CLASS SIZE: Major GROUP: Industrial

FACILITY: FPL Turkey Point Power Plant
LOCATION: 9760 S.W. 344 Street
Florida City, FL 33035

MONITORING GROUP NUMBER: I-001
MONITORING GROUP DESC: non-contact once through condenser cooling water

COUNTY: Dade

NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 P Mon. Site No. OUI-1	Permit Requirement						Report (Day Max.)	MG/L		Quarterly	Grab
pH	Sample Measurement										
PARM Code 00400 P Mon. Site No. OUI-1	Permit Requirement					Report (Day Min.)	Report (Day Max.)	SU		Quarterly	Grab
Salinity	Sample Measurement										
PARM Code 00480 P Mon. Site No. OUI-1	Permit Requirement						Report (Day Max.)	PPT		Quarterly	Grab
Specific Conductance	Sample Measurement										
PARM Code 00095 P Mon. Site No. OUI-1	Permit Requirement						Report (Day Max.)	UMHO/CM		Quarterly	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.

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PERMITTEE NAME: Florida Power & Light Company
MAILING ADDRESS: 9760 S.W. 344 Street
Florida City, FL 33035

PERMIT NUMBER FL0001562

LIMIT: Final REPORT: Semiannual
CLASS SIZE: Major GROUP: Industrial

FACILITY: FPL Turkey Point Power Plant
LOCATION: 9760 S.W. 344 Street
Florida City, FL 33035

MONITORING GROUP NUMBER: I-001
MONITORING GROUP DESC: non-contact once through condenser cooling water

COUNTY: Dade

NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Copper, Total Recoverable	Sample Measurement										
PARM Code 01119 P Mon. Site No. OUI-1	Permit Requirement						Report (Day Max.)	UG/L		Semiannually	Grab
Iron, Total Recoverable	Sample Measurement										
PARM Code 00980 P Mon. Site No. OUI-1	Permit Requirement						Report (Day Max.)	MG/L		Semiannually	Grab
Zinc, Total Recoverable	Sample Measurement										
PARM Code 01094 P Mon. Site No. OUI-1	Permit Requirement						Report (Day Max.)	UG/L		Semiannually	Grab
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

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PERMITTEE NAME: Florida Power & Light Company
MAILING ADDRESS: 9760 S.W. 344 Street
Florida City, FL 33035

PERMIT NUMBER FL0001562

LIMIT: Final
CLASS SIZE: Major

REPORT: Monthly
GROUP: Industrial

FACILITY: FPL Turkey Point Power Plant
LOCATION: 9760 S.W. 344 Street
Florida City, FL 33035

MONITORING GROUP NUMBER: I-002
MONITORING GROUP DESC: low volume wastewater (LVW) and equipment area stormwater discharged

COUNTY: Dade

NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
pH	Sample Measurement										
PARM Code 00400 P Mon. Site No. OUI-002	Permit Requirement					Report (Day Min.)	Report (Day Max.)	SU		Monthly	Grab
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

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PERMITTEE NAME: Florida Power & Light Company
MAILING ADDRESS: 9760 S.W. 344 Street
Florida City, FL 33035

PERMIT NUMBER FL0001562

LIMIT: Final
CLASS SIZE: Major

REPORT: Quarterly
GROUP: Industrial

FACILITY: FPL Turkey Point Power Plant
LOCATION: 9760 S.W. 344 Street
Florida City, FL 33035

MONITORING GROUP NUMBER: I-002
MONITORING GROUP DESC: low volume wastewater (LVW) and equipment area stormwater discharged

COUNTY: Dade

NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Specific Conductance	Sample Measurement										
PARM Code 00095 P Mon. Site No. OUI-002	Permit Requirement						Report (Day Max.)	UMHO/CM		Quarterly	Grab
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

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COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

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PERMITTEE NAME: Florida Power & Light Company
MAILING ADDRESS: 9760 S.W. 344 Street
Florida City, FL 33035

PERMIT NUMBER FL0001562

LIMIT: Final REPORT: Semiannual
CLASS SIZE: Major GROUP: Industrial

FACILITY: FPL Turkey Point Power Plant
LOCATION: 9760 S.W. 344 Street
Florida City, FL 33035

MONITORING GROUP NUMBER: I-002
MONITORING GROUP DESC: low volume wastewater (LVW) and equipment area stormwater discharged

COUNTY: Dade

NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 P Mon. Site No. OUI-002	Permit Requirement						Report (Day Max.)	MG/L		Semiannually	Grab
Lead, Total Recoverable	Sample Measurement										
PARM Code 01114 P Mon. Site No. OUI-002	Permit Requirement						Report (Day Max.)	UG/L		Semiannually	Grab
Oil and Grease	Sample Measurement										
PARM Code 00556 P Mon. Site No. OUI-002	Permit Requirement						Report (Day Max.)	MG/L		Semiannually	Grab
Copper, Total Recoverable	Sample Measurement										
PARM Code 01119 P Mon. Site No. OUI-002	Permit Requirement						Report (Day Max.)	UG/L		Semiannually	Grab
Zinc, Total Recoverable	Sample Measurement										
PARM Code 01094 P Mon. Site No. OUI-002	Permit Requirement						Report (Day Max.)	UG/L		Semiannually	Grab
	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.

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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 1 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.
$CBOD_5$: Enter the average $CBOD_5$ 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 10.1.2.2

NPDES PERMIT #FL0001562
MODIFICATION REQUESTED 5/30/2006

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-Designee

January 12, 2007

BY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Jill Watson
Power Generation Division
Florida Power & Light Company
Post Office Box 14000
Juno Beach, Florida 33408-0420

RE: Florida Power & Light Company
Turkey Point Power Plant, Dade County
NPDES Permit No. FL0001562
Approval of Minor Revision for Inclusion of New Electric Generating Unit (Unit 5)

Dear Ms. Watson:

On May 30, 2006, the Department received a minor permit revision application for the Florida Power & Light Company (FPL) Turkey Point power plant. The proposed permit modification is to authorize the discharge of wastewater streams from the new combined cycle electrical generation unit (Unit 5) at the facility into the existing closed-loop cooling canal system. After review of the application, the Department has determined that the proposed modification to permit number FL0001562 does not substantially change the characteristic 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 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 May 5, 2010 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 modified 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
Acting Director
Division of Water Resource Management

JGL/wfr/mh
Attachments
cc: Tim Powell, P.E. – FDEP West Palm Beach

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:

Florida Power & Light Company
9760 S.W. 344 Street
Florida City, FL 33035

PERMIT NUMBER: FL0001562 (Major) *Rev. A*
PA FILE NUMBER: FL0001562-004-IW1N
ISSUANCE DATE: May 6, 2005
EXPIRATION DATE: May 5, 2010

RESPONSIBLE AUTHORITY:

Mr. Terry O. Jones
Vice President

FACILITY:

FPL Turkey Point Power Plant
9760 S.W. 344 Street
Florida City, FL 33035
Dade County

Latitude: See Note Below Longitude: See Note Below

Note: Latitude and longitude are not shown at 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.), and constitutes authorization to discharge to waters of the state under the National Pollutant Discharge Elimination System (NPDES). 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 ~~four~~ *five* ~~steam~~ electrical generating units: Two fossil fuel oil/*natural gas*-fired units (Units 1&2), ~~and~~ two nuclear units (Units 3&4) *and one combined cycle unit (Unit 5)* Units 1&2 each have a ~~continuous~~ generating ~~capability~~*capacity* of 404 megawatts (MW), ~~and~~ Units 3&4 each have a ~~continuous~~ generating ~~capability~~*capacity* of 693 MW *and Unit 5 has a generating capacity of 1150 megawatts (MW)*

WASTEWATER TREATMENT:

Wastewater from the Turkey Point facility consists of ~~a~~ non-contact once-through condenser cooling water (OTCW), auxiliary equipment cooling water (AECW), *cooling tower blowdown*, low-volume waste (LVW), and stormwater. LVW consists of chemical treatment system wastewater, boiler blowdown, *heat recovery steam generator blowdown*, reverse osmosis concentrate, condensate polishing system backwash water, and other process wastestreams. Stormwater includes stormwater associated with industrial activity and stormwater not associated with industrial activity.

OTCW, ~~and~~ AECW *and cooling tower blowdown* discharge to the facility's approximately 6,700 acre onsite closed loop cooling canal system. LVW, equipment area stormwater, and non-equipment area stormwater/drainage discharge either directly to the onsite closed loop cooling canal system or indirectly to the same system via solids settling basins and/or neutralization basin. The cooling canal system is not lined, and therefore, discharges to Class G-III groundwater. The cooling canal system does not discharge to surface waters of the state.

PERMITTEE: PERMIT NUMBER: FL0001562 *(Rev. A)*

Florida Power & Light Company
9760 S.W. 344 Street
Florida City, FL 33035

Issuance date: May 6, 2005
Expiration date: May 5, 2010

Additions to the permit are identified by italics and underline. Deletions are identified by strikethrough.

I. Effluent Limitations and Monitoring Requirements

A. Surface Water Discharges

1. This permit does not authorize discharge to surface waters of the state.

2. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge non process wastewater consisting of non-contact once-through condenser cooling water (OTCW), non-contact auxiliary equipment cooling water (AECW), *cooling tower blowdown* and other wastestreams (as indicated in the permit renewal application *and permit revision application*) from Internal Outfall I-001 to the onsite feeder canal within the facility's onsite closed loop cooling canal system. Such discharge shall be limited and monitored by the permittee as specified below:

	Discharge Limitations			Monitoring Requirements		
Parameters (units)	**Maximum Daily Average**	**Daily Maximum**	**Daily Minimum**	**Monitoring Frequency**	**Sample Type**	**Sample Point**
Temperature (F), Water (DEG.F)	--	Report	--	Monthly	Instantaneous	OUI-1
Solids, Total Suspended (MG/L)	--	Report	--	Quarterly	Grab	OUI-1
pH (SU)	--	Report	Report	Quarterly	Grab	OUI-1
Salinity (PPT)	--	Report	--	Quarterly	Grab	OUI-1
Specific Conductance (UMHO/CM)	--	Report	--	Quarterly	Grab	OUI-1
Copper, Total Recoverable (UG/L)	--	Report	--	Semiannually	Grab	OUI-1
Iron, Total Recoverable (MG/L)	--	Report	--	Semiannually	Grab	OUI-1
Zinc, Total Recoverable (UG/L)	--	Report	--	Semiannually	Grab	OUI-1

3. Effluent samples shall be taken at the monitoring site locations listed in permit condition I.A.2. and as described below:

Sample Point	Description of Monitoring Location
OUI-1	Cooling water discharge prior to entering the feeder canal within the closed loop cooling canal system

9 A permit revision from the Department shall be required prior to the use of any biocide or chemical additive, which may be toxic to aquatic life, (except as authorized elsewhere in this permit) in the cooling water system or any other portion of the industrial wastewater system. The permit revision request 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 prior authorization by the Department. Permit revisions shall be processed in accordance with the requirements of Chapter 62-620, F.A.C.

10. 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. *Discharge of Continuum AEC3145, Inhibitor AZ8101, Inhibitor OP8413, sulfuric acid, sodium hypochlorite, Foamtrol AF2290 and biocides such as Spectrus CT1300 or an equivalent product from the use of the cooling tower is authorized. Also chemicals used in the water treatment systems including soda ash, polymer, hydrated lime, Kleen MCT511, Betz Dearborn DCL30, Hypersperse MDC120 and Kleen MCT103, and products that may be used to clean the RO membranes including ROClean L212, ROClean L403, ROClean P111 and ROClean L811 or an equivalent product are authorized.*

10. Hydrazine and Monoethanolamine (EIA) Monitoring Requirements

a) Discharge of hydrazine, carbohydrazide, dimethylamine, and monoethanolamine (EIA) in the boiler or steam generator blowdown is authorized without limitation or monitoring requirements.
b) Hydrazine from plant layup water during overhauls and/or refueling outages shall be measured at the outlet from the unit being serviced. Sampling shall be once per day of discharge by grab sample at the maximum expected concentration. Results of sampling will be submitted to the Department upon request. To determine the hydrazine concentration being discharged to the cooling canal system, the following equation shall be used:

$$\frac{\text{(B/S) Blowdown Flow x (B/S) Hydrazine Concentration}}{\text{Once-through Cooling Water Flow}} = \text{Hydrazine concentration at the closed cycle cooling canal system}$$

Where (B/S) refers to boiler or steam generator

In the event that any value exceeds 3.4 mg/l, the permittee shall immediately modify its release pattern and resample. The Department's Southeast District office will be notified of the situation within five days.

11. Molybdate, Tolytriazole, and Nitrite Discharge Requirements
The discharge of molybdate, tolytriazole, and nitrite to the closed cycle recirculating cooling canal system

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

STATEMENT OF BASIS FOR REVISION TO INCLUDE UNIT 5

Permit Number: FL0001562
Permit Writer: Bala Nori

Application Date: May 16, 2006
Additional Information: August 8, 2006
Application No: FL0001562-006-IWB/MR

1. SYNOPSIS OF APPLICATION

A. Name and Address of Applicant

Florida Power & Light Company
Post Office Box 14000
Juno Beach, Florida 33408-0420

For:

Turkey Point Power Plant
9760 S.W. 344 Street
Florida City, Florida 33035

B Description of Proposed Activity:

The Florida Power & Light Company (FPL) submitted a minor revision application dated May 16, 2006 for wastewater permit number FL0001562. The proposed permit modification is to authorize the discharge of wastewater streams from the new combined cycle electric generation unit (Unit 5) at Turkey Point Power Plant. On June 23, 2006, the Department requested additional information from FPL in order to process the application. The Department received FPL's response on August 8. Unit 5 is currently under construction. FPL filed a Site Certification application for Unit 5 with the Department in November 2003. The final Order of Certification was signed in February 2005.

All industrial wastewater generated from the operation and maintenance of Unit 5 is to be discharged to the existing cooling canal system, which does not discharge to surface waters of the State. Non-equipment storm water associated with Unit 5 will be collected and routed to three of the existing storm water detention ponds. Storm water detention pond 1 will flow into the natural environment directly west of the pond. Non-equipment area storm water collected in detention pond 3 will overflow into detention pond 2 and will be discharged through existing internal outfall I-001 to the cooling canal system. As a result, no new or expanded wastewater discharges to surface waters of the State are proposed for Unit 5

The high-purity make-up water for the Unit 5 heat recovery steam generator (HRSG) will be produced through a reverse osmosis and demineralization system. The Department has authorized the use of chemical additives to further treat the HRSG make-up water for controlling pH, corrosion

and scale formation. These additives include hydrazine, an oxygen scavenger; ammonia or an amine; sodium hydroxide; and Optisperse HP 4930, a phosphate containing chemical.

The reject water and backwash from the reverse osmosis and demineralization system will be discharged through internal outfall I-001 to the existing cooling canal system. The Department has authorized the use of the following antifouling and cleaning chemicals for the reverse osmosis membranes: Betz Dearborn DCL 30, Hypersperse MDC120, Kleen MCT103, Kleen MCT511, ROClean L212, ROClean L403, ROClean P111 and ROClean L811 or an equivalent product.

Make-up water for the cooling tower will be supplied from Floridan Aquifer wells. The cooling tower blowdown will be discharged through internal outfall I-001 to the existing cooling canal system. The Department has authorized the use of the following chemical products to control pH, corrosion, fouling and foaming in the cooling tower: sulfuric acid; Inhibitor AZ8101; Inhibitor OP8413; Continuum AEC3145; Corrshield MD 4100; biocides, such as Spectrus CT1300 and sodium hypochlorite; and Foamtrol AF2290, an antifoaming agent.

After review of the application, the Department's Toxicity Coordinator decided that toxicity testing is not warranted since the cooling canal system does not discharge to surface waters of the State.

C. Revisions to the Permit:

The description of plant operations and treatment facilities provided on the cover page and pages 2 and 3 of the permit have been revised to incorporate operation activities associated with Unit 5. In addition, page 6 of the permit was revised to authorize the discharge of Continuum AEC3145, Inhibitor AZ8101, Inhibitor OP8413, sulfuric acid, sodium hypochlorite, Foamtrol AF2290 and biocides such as Spectrus CT1300 or an equivalent product from the use of the cooling tower. Also chemicals used in the water treatment systems including soda ash, polymer, hydrated lime, Kleen MCT511, Betz Dearborn DCL30, Hypersperse MDC120 and Kleen MCT103, and products that may be used to clean the RO membranes including ROClean L212, ROClean L403, ROClean P111 and ROClean L811 or an equivalent product.

This constitutes Revision A (Rev. A) to the permit. All changes to the permit are noted in Rev. A by underline or strike-through, with a margin bar indicating lines where changes have been made for this revision.

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

FEDERAL PERMITS

NOTE: No other federal permits are required for the Project.

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

USCG PERMIT #64-397
PRIVATE AIDS TO NAVIGATION APPLICATION
04/18/1968

TREASURY DEPARTMENT
U. S. COAST GUARD
CG-2554 (Rev. 3-62)

PRIVATE AIDS TO NAVIGATION APPLICATION

(See instructions on reverse of attached copy of Code of Federal Regulations, Title 33, Chap. I, Sect. 66.)

Form approved Budget Bureau No. 48-R379

LLNR6260.8 PT, USC Nav. A

1 ACTION REQUESTED FOR PRIVATE AIDS TO NAVIGATION

A [X] ESTABLISH AND MAINTAIN B [X] DISCONTINUE C [X] CHANGE D [ ] CHANGE OWNERSHIP

2 DATE ACTION TO START: Installed

PERIOD AIDS WILL BE OPERATED: A [X] THROUGHOUT YEAR

[ ] TEMPORARILY UNTIL ..... C [ ] ANNUALLY FROM ..... TO .....

3 NECESSITY FOR AID (Continue in remarks)
Mark Barge Channel Drawing A-46649 Rev. 1

5 CORPS OF ENGINEERS AUTHORIZED THIS STRUCTURE OR BUOY
BY [X] PERMIT OR [ ] LETTER DATED 64-397 7-24-64

Cols. A and B for District Commander's use. Applicant will fill in applicable remaining columns.

6. LIGHTS

LIGHT LIST NUMBER OR PAGE A	NAME OF AID B	CHARACTERISTICS: FLASH LENGTH C	CHARACTERISTICS: ECLIPSE LENGTH D	COLOR E	POSITION	HEIGHT	CANDLE POWER H	LENS	ILLUMINANT: VOLTS J	ILLUMINANT: AMPERES K
					*See attached sheet			Clear 250 mm		
R6260.8	Turkey Point Channel Light 2	0.4	3.6	White	Atop 3 pile dolphin northerly side of channel entrance	8' above MHW	250	acrylic Fresnel 360° visb.	400 dry 12	day cell .77

7. BUOYS

LIGHT LIST NUMBER OR PAGE A	NAME OF AID B	NUMBER OR LETTER C	POSITION	DEPTH OF WATER E	TYPE F	COLOR G	REFLECTOR COLOR H
			*See attached sheet				
LLPG 763	Turkey Point Channel Buoy	3-27	Port entering channel 80 ft. from centerline.	8'	Can 12" dia. 33" high	Black	Green
		4-26	Starboard entering channel 80 ft. from centerline.	8'	Nun 12" dia. 3.. high	Red	Red

8. FOG SIGNALS

LIGHT LIST NUMBER OR PAGE A	NAME OF AID B	CHARACTERISTICS: NUMBER STROKES OR BLAST C	CHARACTERISTICS: PERIOD D	CHARACTERISTICS: BLAST LENGTH E	POSITION F	TYPE G	RANGE H
					Not Applicable		

9. STRUCTURES

LIGHT LIST NUMBER OR PAGE A	NAME OF AID B	NUMBER OR LETTER C	POSITION D	WATER DEPTH IF MARINE SITE E	HEIGHT ABOVE MEAN HIGH WATER F	TYPE G	COLOR H	DAYMARK: SHAPE I	DAYMARK: COLOR J
			*See attached sheet						
R6260.8	Turkey Point Channel Light	2	Entrance to channel	8'	8'	Three pile	Black	Trian-g.	Red

10A NAME AND ADDRESS OF PERSON IN DIRECT CHARGE OF AID

J. R. Bensen
Florida Power & Light Company
P. O. Box 3100
Miami, Florida 33101

11A NAME AND ADDRESS OF PERSON OR CORPORATION AT WHOSE EXPENSE AID IS MAINTAINED

Florida Power & Light Company
P. O. Box 3100
Miami, Florida 33101

11B 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 OPERATIONS OF THE APPROVED AID(S).

10B TELEPHONE NUMBER: 455-6211

11C DATE: April 8, 1965

11D SIGNATURE AND TITLE OF OFFICIAL SIGNING: [signature illegible] Asst. Secy.

5 EDITIONS ARE OBSOLETE

APPENDIX 10.1.7.2

FINAL JUDGMENT
USA vs. FPL CASE 70-328-CA

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF FLORIDA

Civil Action No. 70-328-CA

UNITED STATES OF AMERICA,	:	
Plaintiff,	:	
v.	:	FINAL JUDGMENT
FLORIDA POWER AND LIGHT COMPANY,	:	
Defendant.	:	

WHEREAS the plaintiff, the United States of America, has filed a complaint and an amended complaint in the above-captioned matter, and the defendant, the Florida Power and Light Company, has appeared and denied the allegations of the complaint, and has filed affirmative defenses and a counterclaim and the plaintiff and the defendant, by their respective attorneys, have each consented to the making and entry of this Final Judgment without further pleading or trial or adjudication of or finding on any issues of fact or law raised by the complaint,

NOW, THEREFORE, without trial or adjudication of any issue of fact or law herein, and without this Final Judgment constituting evidence or an admission by any party with respect to any such issue in the pending action or in any other proceeding, and, upon consent of the parties as aforesaid, it is hereby

ORDERED, ADJUDGED, AND DECREED as follows:

I

This Court has jurisdiction of the subject matter of this action and of the parties thereto.

II

For the purposes of this Final Judgment:

(a) "Florida Power and Light" shall mean the defendant

(b) "Generating facilities" shall mean Florida Power and Light's fossil fueled electric generating units 1 and 2, and nuclear powered electric generating units 3 and 4, all of which are located (or are under construction) at Turkey Point near Homestead, Florida.

(c) "Intake structures" shall mean all natural or artificial channels, structures, or devices through which Florida Power and Light draws or is able to draw water from Biscayne Bay or Card Sound for use in cooling its generating facilities.

(d) "Cooling system" shall mean any and all waterways, lakes, ponds, canals, dikes, levees, dams, barriers, or other structures, devices, or appurtenant facilities which under the provisions of this Judgment shall be constructed and employed to reduce the temperature of water discharged from Florida Power and Light's generating facilities.

(e) "Discharge canals" shall mean all natural or artificial conduits through which water from Florida Power and Light's generating facilities is discharged to Biscayne Bay or Card Sound.

(f) "A regional emergency" shall mean one of the following occurrences within the State of Florida: (1) a catastrophic natural disaster including hurricanes, floods, and tidal waves; or (2) other emergencies declared by state, county, municipal, or federal authorities during which an uninterrupted supply of electric power is vital to public health and safety.

(g) "National power emergency" shall mean any event causing authorized federal officials to require or

request that Florida Power and Light supply electricity to points within or without the State of Florida.

(h) "Reactor emergency" shall mean an unanticipated equipment malfunction necessitating prompt remedial action to avoid endangering the public health or welfare.

(i) Abbreviations are as follows: (1) cfs = cubic feet per second; (2) ^{o}F = degrees farenheit; (3) fps = feet per second.

(j) Temperature, salinity, flow rate, and velocity measurements provided herein shall be instantaneous measurements and shall not be average figures.

(k) "Salinity" shall mean the total mass of dissolved solids in a one liter sample of water, referred to the temperature of the receiving water.

III

The provisions of this Final Judgment shall be binding upon Florida Power and Light, its directors, officers, agents, servants, employees, successors and assigns, and all persons, firms, and corporations acting under, through, or for it, and all persons, firms, and corporations in active concert or privity with it, providing they have actual notice of the Final Judgment by personal service or otherwise.

IV

Subject to the provisions of Paragraph VI, and commencing four years after the receipt by Florida Power and Light of all necessary construction permits, and upon receipt of the cooling system operating permits, but in no event later than five years from the date of the entry of this Final Judgment, Florida Power and Light shall not discharge into Biscayne Bay or Card Sound any water used for cooling

except in accordance with the provisions of Paragraph V of this Final Judgment. With respect to those same generating facilities, immediately subsequent to the entry of this Final Judgment, Florida Power and Light:

1. Shall, upon securing the necessary State and Federal permits, complete the construction of the Card Sound Canal within four years;

2. Shall continue to prosecute its application to the Corps of Engineers for a dredging permit for the Card Sound Canal, and immediately upon entry of this Final Judgment, the Corps of Engineers will commence to process Florida Power and Light's application for a permit pursuant to the regulations of the Corps of Engineers;

3. Shall not, prior to the completion of the Card Sound Canal, discharge water into Biscayne Bay at a rate in excess of 3000 cfs;

4. After completion of the Card Sound Canal and until October 1, 1973, shall not discharge water at an average 24 hour rate in excess of 2750 cfs into Card Sound and 1500 cfs into Biscayne Bay; thereafter Florida Power and Light shall not discharge water at an average 24 hour rate in excess of 2150 cfs into Card Sound and 2100 cfs into Biscayne Bay;

5. Shall not at any time discharge water into Biscayne Bay or Card Sound at a temperature in excess of 95°F;

6. Shall construct and maintain the outlet into Card Sound so that:

A. No discharge will be allowed to flow over the shallow substrate which is exposed at low tide (retaining structures or berms extending to the 8 foot bathymetric contour of Card Sound

B. The discharge will be directed upward so that a warm water plume will form on top of the water; and

C. The rate of discharge will be controlled so that water will not enter Card Sound at a velocity greater than 1.5 fps;

7. Shall construct no later than July 1, 1972, and thereafter maintain, a ground water monitoring system southward and eastward of the cooling system for the purpose of evaluating the effect of the seepage from the cooling system upon the underlying aquifer. The monitoring system shall consist of a series of observation wells, the number and location of which shall be mutually agreed upon between Florida Power and Light Company and the Environmental Protection Agency, but which will not exceed 23 wells drilled to a depth of not more than 70 feet. From July 1, 1972 to July 1, 1976, transmissivity will be evaluated in each well every three months, while temperature, concentration of biocides, and salinity will be measured in each well each month. Monitored data will be submitted to the Environmental Protection Agency within ten days following collection. Monitoring frequency requirements to be maintained after July 1, 1976, will be determined by the Environmental Protection Agency based on evaluation of the data in consultation with the United States Geological Survey. If in the judgment of the Environmental Protection Agency the monitored data reveals that substantial environmental harm is occurring, Florida Power and Light shall take such necessary remedial action as the Environmental Protection Agency may direct;

8. Shall install and maintain such protective devices at the intake structure and discharge canal as may be required by the Florida Department of Natural Resources in accordance with a reasonable construction schedule;

9. Shall not introduce biocides into the waters used to cool the condensors at its generating facility except in compliance with the specifications set out in Chapters 17-3 and 17-4 Florida Administrative Code and the applicable laws and regulations of the State of Florida;

10. Shall, consistent with good system maintenance and operating practices providing for necessary area protection, operating reserves, and over-all system reliability, provide power to the areas it serves in the State of Florida by drawing upon all sources of power available to it in such combinations as to minimize the discharges of heated water from the Turkey Point plant;

11. Shall immediately arrange with appropriate officials of the United States, the State of Florida, and other appropriate jurisdictions, to commence joint studies of: (a) the availability of groundwater from at least the depth of the Floridan aquifer (this joint study shall be completed within two years after the entry of this Final Judgment); (b) alternate sources of cooling water, partfcularly from nearby canals such as the Florida City Canal, the Mowry Canal, and the North Canal; (c) mechanical cooling devices such as powered spray modules and other reasonable concepts for reducing adverse environmental effects attributable to the cooling system specified in this Final Judgment; and (d) procedures for restoration of areas affected by discharges from the Turkey Point generating facilities. Florida Power and Light's financial contribution to these studies shall be limited to $500,000. The studies specified in (a), (b) and (c) above shall be directed toward the determination of the feasibility, practicability, and acceptability of utilization of such alternate sources of water as a substitute or supplement for withdrawals of make-up water from Card Sound for the cooling system described in Paragraph V below;

12. Shall utilize those waters which, as a result of the studies referred to in subparagraph 11 above, the Administrator of the Environmental Protection Agency may identify as being available to provide make-up water for Florida Power and Light's cooling system, to the extent that this can be done feasibly and practicably and at a cost which is not disproportionate to the degree of environmental protection to be achieved and to the extent that the same can be done without violating any lawful local, state, or federal rule, regulation, statute, ordinance, or order. The Administrator shall not identify groundwater as available for use without the written concurrence of the State of Florida or local agencies with jurisdiction recognized by federal or state law. Florida Power and Light shall alter its Card Sound discharge and withdrawal flow regimen based on the less saline water inputs, as directed by the Administrator, so as to achieve the least amount of environmental damage, but at no power production penalty;

13. Immediately proceed to acquire land for the construction, operation, and maintenance of a cooling system to reduce the temperature of the water discharged from the Turkey Point generating facilities consistent with the standards for operation required by this Final Judgment, and further shall commence to construct, immediately upon receipt of all necessary construction permits, the structures necessary to comply with Paragraph V of this Final Judgment, and shall submit quarterly progress reports concerning the construction of such cooling system in the four years following receipt of the necessary permits and, no later than April 1 of the fourth year after the date of the entry of this Final Judgment, a report specifying the results of trial operation and testing of the final cooling system; and

14. Shall install and operate monitoring devices at the outlet to Card Sound and at other locations, all of the foregoing to be specified by the Environmental Protection Agency, to measure temperature, salinity, flow rate, and velocity.

V

Except as otherwise provided by Paragraph IV of this Final Judgment, all water used by Florida Power and Light to cool its condensors at its generating facilities at Turkey Point shall be discharged into a cooling system, and no water shall be discharged from this cooling system into Biscayne Bay, or Card Sound, or any other navigable water of the United States or tributary thereof unless required to prevent the excessive concentration of salt in the waters of the cooling system, in which case discharges shall be made only into Card Sound and only under the following conditions:

1. Discharges to and withdrawals from Card Sound shall be made only through the Card Sound Canal;

2. The temperature of the water which is discharged as measured at the control structure (to be constructed at a point approximately one mile north of the outlet of Card Sound Canal) shall not exceed 90° F;

3. Subject to subparagraph 2 of Paragraph V, the temperature of the water which is discharged, as measured at the control structure, shall not be more than 4° F above the ambient temperature of the waters of Card Sound as measured at a station or stations to be designated by the Environmental Protection Agency;

4. Variations in the temperature of the water which is discharged shall not exceed 2° F per hour during times when the temperature is rising, or 1.0° F per hour during times when the temperature is falling;

5. The salinity of the water which is discharged, as measured at the outlet to Card Sound, may not be greater than 1.10 times the salinity of the water of Card Sound and may not exceed 44 parts per thousand;

6. Shall not introduce [illegible]

6. The flow as measured at the control structure shall not exceed 1200 cfs;

7. Discharges and withdrawals shall be limited to a tidal regimen (which approximates a six hour period), except in the event that salinity in the cooling system approaches 1.10 times the salinity of the water of Card Sound, or 44 parts per thousand, whichever is more limiting and an additional time period for discharge is required to avoid exceeding those limits;

8. All man-made canals connecting the intake structures and the cooling system with Biscayne Bay shall be closed;

9. Final operating requirements shall include the interim operating requirements contained in subparagraphs 6, 7, 8, 9, 12 and 14, of Paragraph IV; and

10. Florida Power and Light shall develop and submit to the Environmental Protection Agency within two years from entry of this Final Judgment, a contingency plan for rapid restoration of the cooling facilities in the event of system damage due to storms, hurricanes, and similar extraordinary acts of nature.

VI

During a national power emergency, regional emergency, reactor emergency, or at any time when the health, safety, or welfare of the public may be endangered by the inability of Florida Power and Light to supply electricity from any other sources available to it, the operating limits provided in this Final Judgment shall be inapplicable. However, during such emergencies, the defendant shall not exceed the operating limits except as is necessitated by the emergency. Provided Florida Power and Light shall have made timely and proper application for all necessary licenses, permits, consents, approvals, and certifications required by law for construction or operation of the cooling system and discharge canal required to meet the standards provided for herein and shall have duly prosecuted such applications, this Court may extend the time within which Florida Power and Light is required to do any act herein by the

length of any delay in completion of construction or operation of the cooling system which is shown to have been the exclusive result of physical impossibility, force majeure, or legal prohibition.

VII

In the event Florida Power and Light shall be in substantial violation of the express operating provisions of the cooling system herein, the United States shall give Florida Power and Light written notice describing said violations by certified mail to Florida Power and Light, 4200 West Flagler Street, Miami, Florida 33134, and if at the expiration of 3 days after the giving of said notice, said violation upon which said notice was based shall continue to exist, the United States may apply to this Court for an order requiring Florida Power and Light to perform such obligations and comply with such limitations as are expressly required herein and shall accompany such application with a showing of said violation notice, and noncompliance. The relief which may be granted upon a showing of noncompliance with the operating limitations contained herein shall include but not be limited to an order requiring Florida Power and Light to limit operation of its generating facilities to the extent necessary to achieve compliance with this Final Judgment.

VIII

This Final Judgment is not and shall not be interpreted to be a permit under 33 U.S.C. §§403, or 407 nor shall it in any way affect Florida Power and Light's obligation, if any, to secure a license or permit from the Corps of Engineers or the Atomic Energy Commission pursuant to 33 U.S.C. §§403, or 407, 33 U.S.C. §§1151 et seq., 42 U.S.C. §2134, and 42 U.S.C. §4321, nor shall it be interpreted to affect or waive any of the conditions or requirements which may be validly imposed by the Corps of Engineers or the Atomic Energy Commission as conditions for the issuance of such a permit. The D[illegible]

of the Interior and the Environmental Protection Agency have reviewed and participated in technical studies which have been used to establish the standards for operation of the generating facilities and the cooling system hereinabove set forth, and the Department of the Interior and the Environmental Protection Agency shall recommend to the Corps of Engineers and the Atomic Energy Commission that the necessary permits and/or licenses be issued for the construction and operation of generating facilities, a cooling system, discharge canals, and any structures or work in navigable waters of the United States or for discharges into such waters or tributaries thereof, consistent with the standards for operation set forth in this Final Judgment and with the standards of the Atomic Energy Commission. Also, this Final Judgment does not operate to excuse Florida Power and Light from compliance, as required by law, with any Federal or State water quality requirements now or hereafter applicable to it.

IX

For the purpose of insuring compliance with this Final Judgment, duly authorized representatives of the Department of Justice, the Environmental Protection Agency, the Department of the Interior, the Atomic Energy Commission, and the Corps of Engineers shall be permitted access, at reasonable times, to Florida Power and Light's facilities at Turkey Point for the purpose of: (1) inspecting the cooling facilities, intake structure, discharge canal(s), and monitoring devices; (2) collecting water samples therefrom; (3) conducting testing procedures which are not unduly disruptive of the operation of such facilities; (4) obtaining from Florida Power and Light records of operations and other corporate records, data pertaining to the

facilities and discharge canals and information concerning the distribution of electric power within the State of Florida. Information concerning the impact of the cooling system on the environment may be freely disclosed. Other information obtained under the provisions of this Paragraph will be divulged by the representatives designated thereunder to any person other than a duly authorized representative of the Department of Justice, Environmental Protection Agency, Department of the Interior, Atomic Energy Commission, or Corps of Engineers only as is provided by federal law or in the course of legal proceedings to which the United States is a party for the purpose of securing compliance with this Final Judgment.

X

Florida Power and Light agrees that it will dismiss its counterclaim in this action against the plaintiff, United States of America.

XI

Jurisdiction is retained for the purpose of enabling either party to this Final Judgment to apply to this Court at any time for such further orders and directions as may be necessary or appropriate for the construction or carrying out of this Final Judgment, or the modification or termination of any of the provisions thereof or for the enforcement or compliance therewith. In addition copies of all reports, plans and studies required to be prepared by the terms of this Final Judgment shall be promptly filed with this Court. If Florida Power and Light utilizes the provisions of the first sentence of Paragraph VI, then it shall immediately report to this Court and to the Administrator of the Environmental Protection Agency the fact of the emergency and the reasons for utilization of such provisions.

Dated: Miami, Florida
September 10th, 1971

United States District Judge

Certified to be a true and correct copy of the original
U. S. District Court
Joseph F. Spaeth, Clerk
Southern Dist. of Fla.
By
Date 9/10/71, Deputy Clerk

We hereby consent to the entry of the foregoing Final Judgment without further notice.

THE UNITED STATES OF AMERICA, Plaintiff

BY:

Shiro Kashiwa By JAG
SHIRO KASHIWA
Assistant Attorney General
Department of Justice

Walter Kiechel Jr By JAG
WALTER KIECHEL, JR.
Deputy Assistant Attorney General
Department of Justice

Robert W Rust
ROBERT W. RUST
United States Attorney
Miami, Florida 33132

Martin Green
MARTIN GREEN
Attorney
Department of Justice

James A. Glasgow
JAMES A. GLASGOW
Attorney
Department of Justice
Washington, D. C. 20530

FLORIDA POWER AND LIGHT COMPANY, Defendant

BY:

ROBERT J. GARDNER
Vice President

McCARTHY STEEL HECTOR & DAVIS
Attorneys for Defendant

BY:
WILLIAM C. STEEL
Attorney

APPENDIX 10.1.7.3

USCG LETTER & APPROVED PERMIT #64-397 MODIFICATION
PRIVATE AIDS TO NAVIGATION APPLICATION
11/19/1993

U.S. Department of Transportation

United States Coast Guard

Commander
Seventh Coast Guard District

Br :ell Plaza Federal Bldg.
909 S.E. First Avenue
Miami, Fl 33131
Staff Symbol: (oan)
Ph: (305) 536-5621

RECEIVED

NOV 26 199

ENVIRONMENTAL AFFAIRS
NOV 2 [illegible]

16518/89
Serial: 1373

Mr. Mark Jones
Environmental Specialist
Florida Power and Light Company
P.O. Box 088801
North Palm Beach, FL 33408-8801

Dear Mr. Jones:

I am pleased to enclose the approved Private Aids to Navigation Application (CG-2554) authorizing renumbering existing Turkey Point Channel Daybeacons 3 and 4 to 3A and 4A and establishing new Turkey Point Channel Daybeacons 3 and 4. These Class II private aids will be charted and entered in Light List, Volume III - Atlantic and Gulf Coasts.

This authorization is issued under the following strict conditions:

(1) You must not deviate from conditions of this application without prior approval.

(2) Discontinuance or change in ownership of aids must also be approved by this office.

(3) Authorization to establish private aids to navigation does not authorize any invasion of private rights, nor grant any exclusive privileges, nor does it obviate the necessity of complying with any other Federal, state or local laws or regulations. Please note, the Florida Department of Environmental Protection (FDEP) also requires a permit for establishment of private aids to navigation.

(4) When you have completed installation of the aids, you must contact this office so that we may issue notice to mariners information to update charts and the Light List. After installation, the aids will be inspected to verify compliance with the permit.

(5) Private aids to navigation must be maintained in proper operating condition at all times. A discrepancy exists whenever an aid is not displaying the characteristics as per the approved application. Any discrepancy in the operation of an aid at any time shall be promptly reported to us in order that notice to mariners information may be issued. Discrepancies are to be corrected at once; call Petty Officer Allen at (305) 536-5621 when you have done so and follow-up with a letter confirming repair of the aid.

16518/89
Serial: 1373

(6) The applicant agrees to save the Coast Guard harmless with respect to any claim or claims that may result from the alleged negligence in maintenance or operation of an aid.

(7) This authorization is valid for one year from the date of this letter. If the aids are not established within this period, the authorization is automatically void and you must resubmit your application.

When an aid to navigation is established or changed, related information is widely advertised and included on future editions of appropriate charts and in the Light List. Thereafter, mariners have the right to expect the aid to display advertised signals. Discrepancies left uncorrected may result in marine casualties and resultant litigation.

Please ensure an adequate amount of funding will be available for emergency and routine maintenance. The importance of ongoing maintenance cannot be overstressed.

Sincerely,

B. W. HARDER
Captain, U.S. Coast Guard
Chief, Aids to Navigation and
Waterways Management Branch
Seventh Coast Guard District
By direction of the District Commander

Encl: (1) Private Aids to Navigation Application (CG-2554)

Copy: Commander, Coast Guard Group Miami
Officer-in-Charge, Aids to Navigation Team Miami
U.S. Army Corps of Engineer, Jacksonville District
Florida Department of Environmental Protection, Waterway Management

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. I, Part 66)

Form Approved
OMB-004-R5681

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. 66.01-5).

1. ACTION REQUESTED FOR PRIVATE AIDS TO NAVIGATION: A. [X] ESTABLISH AND MAINTAIN B. [ ] DISCONTINUE C. [ ] CHANGE D. [ ] TRANSFER OWNERSHIP

2. DATE ACTION TO START: Upon approval of application

3. AIDS WILL BE OPERATED: A. [X] THROUGHOUT YEAR B. [ ] TEMPORARILY UNTIL _____ C. [ ] ANNUALLY FROM _____ TO _____

4. NECESSITY FOR AID *(Continue in Block 8)*: To mark barge channel.

5. GENERAL LOCALITY: Biscayne Bay

6. CORPS OF ENGINEERS AUTHORIZED THIS STRUCTURE OR BUOY BY [XX] PERMIT OR [ ] LETTER *(file and date)*: NATIONWIDE PERMIT

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 PER. (7b)	LIGHT FLASH LGTH. (7c)	LIGHT COLOR (7d)	POSITION (7e)	DEPTH OF WATER (7f)	CANDLE POWER (7g)	HT. ABOVE WATER (7h)	STRUCTURE TYPE, COLOR, AND HEIGHT ABOVE GROUND (7i)	REMARKS *(See Instructions)* (7j)
		4/26				70' from centerline See attached sheet	5FT		4½ FT	Nun, red, 16" X 5½' high.	Radar and red light reflective
		3/25				70" from centerline See attached sheet	5FT		4½ FT	Can, green, 16" X 5' high.	Radar and green light reflective.

NOV 2 ? 1993

8. ADDITIONAL COMMENTS

9a. NAME AND ADDRESS OF PERSON IN DIRECT CHARGE OF AID
Kurt Peterson
Florida Power & Light CO.

9b. TELEPHONE NO.
(305) 246-6295

10a. NAME AND ADDRESS OF PERSON OR CORPORATION AT WHOSE EXPENSE AID IS MAINTAINED
Land Utilization Dept.
P. O. Box
Homestead, FL. 33090-1565

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: 11-15-93

10d. SIGNATURE AND TITLE OF OFFICIAL SIGNING
Mark A. Jones, Environmental Specialist
Mark A. Jones

FOR USE BY DISTRICT COMMANDER

SERIAL NO.	CLASSIFICATION OF AIDS	RECD.	
PA 89	Class II	CHART	
		L. N. M.	

DATE APPROVED: 11/19/93

SIGNATURE *(By direction)*
B. M. HADLER, CAPTAIN, U.S. COAST GUARD
CHIEF, AIDS TO NAVIGATION AND WATERWAYS MANAGEMENT BRANCH

PREVIOUS EDITIONS ARE OBSOLETE

SN 7530-00-501-1380

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)

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

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 attraction

5. GENERAL LOCALITY
Turkey/Biscayne Bay

6. CORPS OF ENGINEERS AUTHORIZED THIS STRUCTURE OR BUOY BY
☒ PERMIT OR ☐ LETTER (title and date) 64-397 7-24-64

FOR DISTRICT COMMANDERS ONLY

7. APPLICANT WILL FILL IN APPLICABLE REMAINING COLUMNS

LIGHT LIST NUMBER OR PAGE (1)	NAME OF AID (2a)	NO. OR LTR. (2b)	LIGHT PER. (2c)	LIGHT FLASH LGTH. (2d)	LIGHT COLOR (2e)	POSITION (3a)	DEPTH OF WATER (3b)	CANDLE-POWER (4)	HGHT. ABOVE WATER (5)	STRUCTURE TYPE, COLOR, and HEIGHT ABOVE GROUND (6)	REMARKS *(See instructions)* (7)
		2	4s	0.4	Red	01° 19', 9150 ft from Pelican Bank Light #1	8'	135'	20	Single Pile Platform 15' high	4' Square Red Daymark Boards
		4/26	-	-	-	70' from centerline See attached sheet.	5	-	4½'	Nun, Red, 16" x 5-1/2' high	Radar and Red Light reflective
		3/25	-	-	-	70' from centerline See attached sheet.	5	-	4½'	Can, green 16" by 5' high	Radar and Green Light reflective

8. ADDITIONAL COMMENTS

Turkey Point channel light 2 is being replaced because of damages resulting from Hurricane Andrew. Buoy's 3 through 27 are being replaced as per prior Coast Guard approval. New bearing and range data is provided for each buoy from Pelican Bank Light #1.

9a. NAME AND ADDRESS OF PERSON IN DIRECT CHARGE OF AID
Kurt W. Petersen
Florida Power & Light Company
Land Utilization Department
P. O. Box
Homestead, FL 33090-1565

9b. TELEPHONE NO.
(305) 246-6295

10a. NAME AND ADDRESS OF PERSON OR CORPORATION AT WHOSE EXPENSE AID IS MAINTAINED
Same as 9a.

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
3-24-93

10d. SIGNATURE AND TITLE OF OFFICIAL SIGNING
Mark A. Jones, Environmental Specialist

APPENDIX 10.1.7.4

USFWS ENDANGERED SPECIES PERMIT #TE092945-0 (AMERICAN CROCODILE)

DEPARTMENT OF THE INTERIOR
U S FISH AND WILDLIFE SERVICE

3-201
(1/97)

FEDERAL FISH AND WILDLIFE PERMIT

2 AUTHORITY-STATUTES

16 USC 1539(a)(1)(A)

REGULATIONS (Attached)

50 CFR §§ 13, 17

3 NUMBER

TE092945-0

1 PERMITTEE

FLORIDA POWER & LIGHT COMPANY
700 UNIVERSE BOULEVARD
JUNO BEACH, FLORIDA 33408

TELEPHONE: 561/691-7032
FACSIMILE: 561/691-7070

4 RENEWABLE	5 MAY COPY
[X] YES	[X] YES
[ ] NO	[ ] NO
6 EFFECTIVE	7 EXPIRES
9/26/05	9/30/09

8 NAME AND TITLE OF PRINCIPAL OFFICER (If # 1 is a business)

JAMES ROBERT LINDSAY, PRINCIPAL ENVIRONMENTAL SPECIALIST

9 TYPE OF PERMIT

ENDANGERED SPECIES

10 LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED

FLORIDA POWER & LIGHT TURKEY POINT POWER PLANT COOLING CANALS, DADE COUNTY, 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, WILLIAM A. TUCKER, FRANK J. MAZZOTTI, AND JOSEPH A. WASILEWSKI, JR.

D. PERMITTEE IS AUTHORIZED TO TAKE (CAPTURE, EXAMINE, WEIGH, SEX, COLLECT TISSUE SAMPLES, MARK, RADIO-TAG, RADIO-TRACK, RELOCATE, RELEASE) THE ENDANGERED AMERICAN CROCODILE (Crocodylus acutus) WHILE CONDUCTING DAYTIME AND NIGHTTIME MONITORING SURVEYS TO DOCUMENT NESTING ACTIVITY AND UTILIZATION OF THE COOLING CANAL SYSTEM AND WHILE MONITORING THE NUMBER AND LOCATION OF CROCODILE NESTS, PRODUCTION OF HATCHLINGS, AND GROWTH AND SURVIVAL RATES, AS CONDITIONED BELOW:

1. SURVEYS MAY BE CONDUCTED DURING THE BREEDING, NESTING, HATCHING, AND POST-HATCHING PHASES OF THE AMERICAN CROCODILE'S LIFE. NEST MONITORING SHALL BE LIMITED TO A MINIMUM AMOUNT OF MONITORING NEEDED TO DETERMINE THE STATUS OF NESTS.

A. NIGHT SURVEYS MAY BE CONDUCTED IN THE COOLING CANALS BY AIRBOATS; IN THE INTERCEPTOR DITCH BY TRUCK, JON BOAT, OR CANOE; AND IN THE L-31, C-107, AND SEA DADE CANALS BY JON BOAT OR CANOE.

1. AMERICAN CROCODILES MAY BE LOCATED THROUGH EYESHINES USING A HIGH POWERED QUARTZ HALOGEN SPOT LIGHT WHILE CONDUCTING SURVEYS FROM AN AIRBOAT OR WITH HEAD LAMPS OR FLASHLIGHTS WHEN SURVEYING FROM A JON BOAT OR CANOE.

BLOCK 11 OF THIS PERMIT CONSISTS OF ITEMS A - M (5 PAGES TOTAL)

12 REPORTING REQUIREMENTS

REPORTS WILL BE PROVIDED TO THE U.S. FISH AND WILDLIFE SERVICE OFFICES APPEARING IN CONDITIONS L AND M OF THIS PERMIT. REPORTING CONTENT, FORMAT, SUFFICIENCY, AND FREQUENCY IS OUTLINED IN CONDITION K OF THIS PERMIT.

ISSUED BY:	TITLE	DATE
Glenn Ball	CHIEF, ENDANGERED SPECIES, SOUTHEAST REGION	9/23/05

FLORIDA POWER & LIGHT COMPANY
700 UNIVERSE BOULEVARD
JUNO BEACH, FLORIDA 33408
TELEPHONE: 561/691-7032
TE092945-0

D. 1. A. CONDITIONED.

2. DURING NON-NESTING PERIODS, ANIMALS LESS THAN 200 CENTIMETERS (CM) IN TOTAL LENGTH MAY BE CAPTURED FOR ASSESSMENT OF GROWTH AND SURVIVAL RATES.

3. DURING THE NESTING SEASON, NESTS MAY BE LOCATED AND HATCHLINGS SHALL BE CAPTURED, MEASURED AND TAGGED WITH AMERICAN VETERINARY IDENTIFICATION DEVICES (AVID) MICROCHIPS.

4. NIGHTTIME SURVEYS MAY BE CONDUCTED 4 TIMES PER WEEK FROM MAY THROUGH MID JUNE.

5. DURING MARCH AND APRIL, SURVEYS MAY BE CONDUCTED 2 TIMES PER WEEK.

6. SURVEYS MAY ALSO BE CONDUCTED THROUGHOUT THE YEAR.

B. DAYTIME NEST SURVEYS MAY BE CONDUCTED TO LOCATE ALL POSSIBLE NEST SITES.

1. ALL PREVIOUSLY ACTIVE NESTING AREAS AND NEST SITE SANCTUARIES MAY BE SURVEYED.

2. ALL IDENTIFIED NESTS SHALL BE MONITORED ONCE PER WEEK THROUGHOUT THE NESTING SEASON.

3. FINAL SURVEYS SHALL BE CONDUCTED AFTER THE NEST HAS HATCHED.

4. UNHATCHED EGGS AND EGGSHELLS MAY BE REMOVED FROM THE SITE. THE COLLECTED UNHATCHED EGGS AND EGGSHELLS SHALL BE USED FOR SCIENTIFIC STUDIES. ALSO, THE UNHATCHED EGGS MAY PRESERVED AND TRANSFERRED TO OTHER QUALIFIED RESEARCHERS WITH VALID RESEARCH PROPOSALS.

5. NEST SURVEYS SHALL BE CONDUCTED UP TO 4 TIMES PER WEEK DURING MARCH AND APRIL.

2. HOBOTEMP DATALOGGERS MAY BE PLACED IN UP TO FOUR CROCODILE NESTS EACH YEAR IN ORDER TO PROVIDE CONTINUOUS MONITORING OF NEST TEMPERATURE DURING INCUBATION.

A. THE NEST MATERIAL SHALL CAREFULLY AND TEMPORARILY BE REMOVED BY HAND AND KEPT IN A SHADY LOCATION WHILE THE DATALOGGERS ARE BEING INSERTED.

1. ONE DATALOGGER SHALL BE PLACED MID WAY IN THE CLUTCH ANOTHER DATALOGGER SHALL BE PLACED 1 TO 2 METERS AWAY IN THE OPEN AIR. IF THE NEST IS IN THE SHADE, THE SECOND DATALOGGER SHALL BE PLACED IN THE SHADE. IF THE NEST IS IN THE SUN, THE SECOND DATALOGGER SHALL BE PLACED IN THE SUN.

2 DATALOGGERS SHALL NOT BE REMOVED UNTIL AFTER THE NEST HATCHES.

3. HATCHLINGS SHALL BE CAPTURED BY HAND OR WITH TONGS AFTER THEY HATCH AND EMERGE FROM THE NEST.

A CAPTURED HATCHLINGS SHALL BE TRANSPORTED TO THE ONSITE LABORATORY, EXAMINED, WEIGHED, AND MEASURED.

B THE HATCHLINGS SHALL BE TRANSPORTED IN BOXES OR PILLOWCASES TO KEEP THEM IN THE DARK AND CALM

C. EACH CLUTCH SHALL BE MAINTAINED IN A SEPARATE AQUARIUM AT TEMPERATURES IN THE MID 80'F RANGE FOR UP TO 2 DAYS.

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D. CONTINUED

4 EACH HATCHLING SHALL BE PERMANENTLY MARKED FOR IDENTIFICATION THROUGH SCUTE MARKING, WHICH INVOLVES CLIPPING THE SCUTES ON THE UNDERSIDE OF THE TAIL BELOW THE VENT TO IDENTIFY THE LOCATION AND YEAR OF CAPTURE.

A NUMERICAL VALUES SHALL BE ASSIGNED TO THE SINGLE CAUDAL WHORL SCALES AND TO THE LEFT AND RIGHT DOUBLE CAUDAL WHORLS.

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A CHIPS SHALL BE INSERTED WITH A NEEDLE INTO THE 6TH OR 7TH SCUTE ROW POSTERIOR TO THE CLOACA. PRIOR TO INSERTING THE INSERTING THE CHIP, THE CROCODILE, CHIP, AND THE NEEDLE SHALL BE SPRAYED WITH ISOPROPYL ALCOHOL.

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A DURING ATTEMPTED CAPTURES, CROCODILES SHALL NOT BE PURSUED OR HARASSED FOR EXTENDED PERIODS. ADDITIONALLY, IF A CROCODILE IS NOT CAPTURED ON ITS INITIAL ATTEMPTS, CAPTURE ATTEMETS SHALL BE CEASED TO PREVENT OVER STRESSING.

B LARGE (ADULT) CROCODILES THAT MAY BE BREEDING SHALL NOT BE CAPTURED IMMEDIATELY PRIOR TO NESTING SEASON TO AVOID OVER STRESSING THEM AND TO MINIMIZE THE CHANCE OF NEST-SITE ABANDONMENT

7. JUVENILES UP TO 1 METER (3.3 FEET) IN TOTAL LENGTH SHALL BE CAPTURED BY HAND BY GRABBING DIRECTLY BEHIND THE NECK OR BY USING PILSTROM TONGS. CROCODILES 1 TO 5 METERS (3.3 TO 16.4 FEET) MAY BE CAPTURED USING A SELF-LOCKING WIRE SNARE ATTACHED TO A NOOSE POLE 3 TO 5 METERS (9.8 TO 16.4 FEET) LONG AND A ROPE 8 TO 10 METERS LONG.

8 FOR SAFETY, THE MOUTHS OF ALL CAPTURED JUVENILES AND ADULTS SHALL BE SECURED USING DUCT TAPE OR RUBBER BANDS

9. TAGGED HATCHLINGS MAY BE RELOCATED WITHIN THE COOLING CANAL SYSTEM FROM 38-58 PARTS PER THOUSAND SALINITY TO ONE OF SIX LOW SALINITY SITES SELECTED FOR THEIR COVER, SHALLOW WATER, AND FOOD AVAILABILITY

10 TISSUE SAMPLES MAY BE SENT TO DR. MICHAEL FORSTNER, SOUTHWEST TEXAS STATE UNIVERSITY, DR. LOU DENSMORE, TEXAS TECH UNIVERSITY, AND OTHER QUALIFIED RESEARCHERS FOR GENETIC STUDIES.

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E. THE SERVICE ANTICIPATES THAT INCIDENTAL TAKE OF THE AMERICAN CROCODILE WILL BE DIFFICULT TO DETECT DUE TO THE SECRETIVE NATURE OF THE SPECIES, THE DIFFICULTY OF ACCESSING HABITAT TO CONDUCT DETAILED MONITORING, AND THE DIFFICULTY OF SEPARATING NATURAL MORTALITY FROM THAT RELATED TO THE RESEARCH. THE INCIDENTAL TAKE IS EXPECTED TO BE IN THE FORM OF HARASS, HARM, PURSUE, TRAP, AND CAPTURE. NONE OF THE PROPOSED ACTIVITIES ARE EXPECTED TO ROUTINELY RESULT IN INJURY OR DEATH TO ANY INDIVIDUALS. CAPTURE, HANDLING, TAGGING, AND MONITORING OF CROCODILES MAY RESULT IN INJURY OR DEATH TO A MINIMUM NUMBER OF THE INDIVIDUALS CAPTURED PER YEAR. WHILE IT IS VERY DIFFICULT TO ESTIMATE THE EFFECTS OF MONITORING ON THE SUCCESS OF NESTS, WE EXPECT THAT ONE CROCODILE NEST MAY BE LOST PER YEAR AS A RESULT OF NEST MONITORING ACTIVITIES. IF ANY MORTALITY OR INJURY SHOULD OCCUR, THE PERMITTEE SHALL CONTACT BY THE NEXT WORKDAY THE FIELD SUPERVISOR OF THE U.S. FISH AND WILDLIFE SERVICE'S OFFICE NOTED IN CONDITION M., BELOW. THE PERMITTEE SHALL ALSO CONTACT THE REGIONAL PERMIT COORDINATOR, AT THE ADDRESS AND TELEPHONE NUMBER LISTED IN CONDITION L., BELOW. BASED UPON DISCUSSIONS BETWEEN THESE OFFICES A DECISION WILL BE MADE AS TO WHETHER OR NOT THE AUTHORIZED ACTIVITIES WILL BE ALLOWED TO CONTINUE. A DECISION WILL ALSO BE MADE REGARDING THE DISPOSITION OF ANY INJURED OR KILLED SPECIES.

F THIS PERMIT IS NON-TRANSFERABLE, BUT OTHER QUALIFIED PERSONNEL MAY ASSIST IN THE AUTHORIZED ACTIVITIES, SUBJECT TO THE REQUIREMENTS OF §13.25. WHEN ANY SUCH ASSISTANCE IS TO BE PROVIDED, THOSE DESIGNATIONS ARE TO BE MADE BY LETTER FROM THE PERMITTEE TO EACH AGENT. THE LETTER(S) MUST IDENTIFY THE SCOPE AND DURATION OF THE ASSISTANCE TO THE PERMITTEE. COPIES OF SUCH LETTERS SHALL BE PROVIDED IMMEDIATELY TO THE U.S. FISH AND WILDLIFE SERVICE'S REPORTING ADDRESSES LISTED IN CONDITIONS L. AND M., BELOW.

G PERMITTEE MUST CARRY A COPY OF THIS PERMIT AT ALL TIMES WHEN CONDUCTING THE AUTHORIZED ACTIVITIES. SHIPMENTS OF COLLECTED BIOLOGICAL MATERIALS SHOULD ALSO BE ACCOMPANIED BY A COPY OF THIS PERMIT. NOTE THAT THIS PERMIT IS LIMITED TO THE ABOVE ACTIVITIES AND IDENTIFIED SPECIES

H. ISSUANCE OF THIS PERMIT DOES NOT CONSTITUTE PERMISSION TO CONDUCT THESE ACTIVITIES ON NATIONAL WILDLIFE REFUGES OR ANY OTHER PUBLIC OR PRIVATE LANDS; SUCH PERMISSION MUST BE OBTAINED SEPARATELY FROM THE APPROPRIATE LANDOWNER OR LAND MANAGER BEFORE BEGINNING THESE AUTHORIZED ACTIVITIES.

I. UPON LOCATING A DEAD, INJURED, OR SICK AMERICAN CROCODILE UNDER CIRCUMSTANCES NOT ADDRESSED IN THIS PERMIT, OR ANY OTHER THREATENED OR ENDANGERED SPECIES, INITIAL NOTIFICATION MUST BE MADE IMMEDIATELY TO THE U.S. FISH AND WILDLIFE SERVICE LAW ENFORCEMENT OFFICE (9549 KOGER BOULEVARD, SUITE 111, SAINT PETERSBURG, FLORIDA 33702; TELEPHONE: 727-570-5398). SECONDARY NOTIFICATION SHALL BE MAKE TO THE FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION; SOUTH REGION, 3900 DRANE FIELD ROAD, LAKELAND, FLORIDA 33811-1299; TELEPHONE: 1-800-282-8002. CARE SHOULD BE TAKEN IN HANDLING SICK, INJURED, OR DEAD SPECIMENS TO ENSURE EFFECTIVE TREATMENT OR TO PRESERVE BIOLOGICAL MATERIALS FOR LATER ANALYSIS. IN CONJUNCTION WITH THE CARE OF SICK OR INJURED ENDANGERED OR THREATENED SPECIES, AND THE PRESERVATION OF BIOLOGICAL MATERIALS FROM A DEAD ANIMAL, THE FINDER SHOULD TAKE RESPONSIBLE STEPS TO ENSURE THAT THE SITE IS NOT UNNECESSARILY DISTURBED

J. ACCEPTANCE OF THIS PERMIT SERVES AS EVIDENCE THAT THE PERMITTEE AND ITS AUTHORIZED AGENTS UNDERSTAND AND AGREE TO ABIDE BY THE TERMS OF THIS PERMIT AND ALL SECTIONS OF TITLE 50 CODE OF FEDERAL REGULATIONS, PARTS 13 AND 17, PERTINENT TO ISSUED PERMITS. SECTION 11 OF THE ENDANGERED SPECIES ACT OF 1973, AS AMENDED, PROVIDES FOR CIVIL AND CRIMINAL PENALTIES FOR FAILURE TO COMPLY WITH PERMIT CONDITIONS.

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TE077258-0

K AN ANNUAL REPORT SUMMARIZING THE AUTHORIZED ACTIVITIES MUST BE SUBMITTED BY DECEMBER 31, OF EACH YEAR THIS PERMIT IS VALID TO THE OFFICES IDENTIFIED IN CONDITIONS L. AND M., BELOW. NO ACTIVITIES CONDUCTED AND NEGATIVE DATA IS ALSO REQUESTED. IF ACTIVITIES WERE CONDUCTED, EACH REPORT SHOULD INCLUDE, AT A MINIMUM, THE FOLLOWING INFORMATION:

1. LOCATION OF THE SURVEY SITES. LOCATIONS SHALL BE NOTED USING FIGURES, MAPS, AND BY REFERENCING A COMMON COORDINATE SYSTEM (E.G., LATITUDE LONGITUDE, UNIVERSAL TRANSVERSE MERCATOR SYSTEM, ETC.)

2. SAMPLING METHODOLOGY. INCLUDE A DESCRIPTION OF AREA SAMPLED, NOTING BIOTIC AND ABIOTIC FEATURES THAT MIGHT INFLUENCE SAMPLE COMPOSITION.

3. THE RESULTS WITH DISCUSSION OF ALL ACTIVITIES CONDUCTED UNDER THIS AUTHORIZATION AND RECOMMENDATIONS FOR THE RECOVERY TO THE SPECIES.

4. LIST OF ALL RESEARCHER'S NAMES, PROJECT PROPOSALS, ADDRESSES, TISSUE SAMPLES, UNHATCHED EGGS, AND EGG SHELLS TRANSFERRED.

5. THE NUMBERS AND CONDITION OF ALL MARKED CROCODILES AND THEIR DISPOSITION.

6. COPIES OF ALL PUBLISHED REPORTS AND PAPERS THAT RESULT FROM ACTIVITIES AUTHORIZED IN THIS PERMIT.

L FOR PURPOSES OF MONITORING COMPLIANCE AND ADMINISTRATION OF THE TERMS AND CONDITIONS OF THIS PERMIT, THE CONTACT OFFICE OF THE U.S. FISH AND WILDLIFE SERVICE IS:

U.S. FISH AND WILDLIFE SERVICE
ATTN: PERMIT COORDINATOR
1875 CENTURY BOULEVARD, SUITE 200
ATLANTA, GEORGIA 30345-3301
TELEPHONE: 404/679-4176
FACSIMILE: 404/679-7081

M. A COPY OF ANNUAL REPORTS SHALL ALSO BE SENT TO THE FOLLOWING U.S. FISH AND WILDLIFE SERVICE OFFICES:

FIELD SUPERVISOR
U.S. FISH AND WILDLIFE SERVICE
1339 20TH STREET
VERO BEACH, FLORIDA 32960
TELEPHONE: 772/562-3909
FACSIMILE: 772/562-4288

END

APPENDIX 10.1.7.5

USFWS ENDANGERED SPECIES PERMIT #TE092945-1 (AMERICAN CROCODILE)

DEPARTMENT OF THE INTERIOR
U S FISH AND WILDLIFE SERVICE

3-201
(1/97)

FEDERAL FISH AND WILDLIFE PERMIT

2 AUTHORITY-STATUTES

16 USC 1539(a)(1)(A)

REGULATIONS (Attached)

50 CFR §§ 13, 17

3 NUMBER

TE092945-1

1 PERMITTEE

FLORIDA POWER & LIGHT COMPANY
700 UNIVERSE BOULEVARD
JUNO BEACH, FLORIDA 33408

TELEPHONE: 561/691-7032
FACSIMILE: 567/691-7070

4 RENEWABLE	5 MAY COPY
[X] YES	[X] YES
[ ] NO	[ ] NO

6 EFFECTIVE	7 EXPIRES
7/10/06	9/30/09

8 NAME AND TITLE OF PRINCIPAL OFFICER (if # 1 is a business)

JAMES ROBERT LINDSAY, PRINCIPAL ENVIRONMENTAL SPECIALIST

9 TYPE OF PERMIT

ENDANGERED SPECIES

10 LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED

FLORIDA POWER & LIGHT TURKEY POINT POWER PLANT COOLING CANALS, DADE COUNTY, 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 THE PERMITTEE NAMED ABOVE, WILLIAM A. TUCKER, FRANK J. MAZZOTTI, JON HOLDERMAN, BEN ENLOE, BOB BERTLESON, AND JOSEPH A. WASILEWSKI, JR.

D PERMITTEE IS AUTHORIZED TO TAKE (CAPTURE, EXAMINE, WEIGH, SEX, COLLECT TISSUE SAMPLES, MARK, RADIO-TAG, RADIO-TRACK, RELOCATE, RELEASE) THE ENDANGERED AMERICAN CROCODILE (Crocodylus acutus) WHILE CONDUCTING DAYTIME AND NIGHTTIME MONITORING SURVEYS TO DOCUMENT NESTING ACTIVITY AND UTILIZATION OF THE COOLING CANAL SYSTEM AND WHILE MONITORING THE NUMBER AND LOCATION OF CROCODILE NESTS, PRODUCTION OF HATCHLINGS, AND GROWTH AND SURVIVAL RATES, AS CONDITIONED BELOW:

1 SURVEYS MAY BE CONDUCTED DURING THE BREEDING, NESTING, HATCHING, AND POST-HATCHING PHASES OF THE AMERICAN CROCODILE'S LIFE. NEST MONITORING SHALL BE LIMITED TO A MINIMUM AMOUNT OF MONITORING NEEDED TO DETERMINE THE STATUS OF NESTS.

A NIGHT SURVEYS MAY BE CONDUCTED IN THE COOLING CANALS BY AIRBOATS; IN THE INTERCEPTOR DITCH BY TRUCK, JON BOAT, OR CANOE; AND IN THE L-31, C-107, AND SEA DADE CANALS BY JON BOAT OR CANOE

1 AMERICAN CROCODILES MAY BE LOCATED THROUGH EYESHINES USING A HIGH POWERED QUARTZ HALOGEN SPOT LIGHT WHILE CONDUCTING SURVEYS FROM AN AIRBOAT OR WITH HEAD LAMPS OR FLASHLIGHTS WHEN SURVEYING FROM A JON BOAT OR CANOE.

BLOCK 11 OF THIS PERMIT CONSISTS OF ITEMS A - M (5 PAGES TOTAL)

12 REPORTING REQUIREMENTS

REPORTS WILL BE PROVIDED TO THE U S. FISH AND WILDLIFE SERVICE OFFICES APPEARING IN CONDITIONS L AND M OF THIS PERMIT. REPORTING CONTENT, FORMAT, SUFFICIENCY, AND FREQUENCY IS OUTLINED IN CONDITION K OF THIS PERMIT.

ISSUED BY:	TITLE	DATE
Glenn Ball	CHIEF, ENDANGERED SPECIES, SOUTHEAST REGION	7/7/06

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JUNO BEACH, FLORIDA 33408
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D 1. A. CONDITIONED

2 DURING NON-NESTING PERIODS, ANIMALS LESS THAN 200 CENTIMETERS (CM) IN TOTAL LENGTH MAY BE CAPTURED FOR ASSESSMENT OF GROWTH AND SURVIVAL RATES.

3 DURING THE NESTING SEASON, NESTS MAY BE LOCATED AND HATCHLINGS SHALL BE CAPTURED, MEASURED AND TAGGED WITH AMERICAN VETERINARY IDENTIFICATION DEVICES (AVID) MICROCHIPS.

4. NIGHTTIME SURVEYS MAY BE CONDUCTED 4 TIMES PER WEEK FROM MAY THROUGH MID JUNE.

5. DURING MARCH AND APRIL, SURVEYS MAY BE CONDUCTED 2 TIMES PER WEEK.

6. SURVEYS MAY ALSO BE CONDUCTED THROUGHOUT THE YEAR

B DAYTIME NEST SURVEYS MAY BE CONDUCTED TO LOCATE ALL POSSIBLE NEST SITES.

1. ALL PREVIOUSLY ACTIVE NESTING AREAS AND NEST SITE SANCTUARIES MAY BE SURVEYED.

2. ALL IDENTIFIED NESTS SHALL BE MONITORED ONCE PER WEEK THROUGHOUT THE NESTING SEASON.

3 FINAL SURVEYS SHALL BE CONDUCTED AFTER THE NEST HAS HATCHED.

4. UNHATCHED EGGS AND EGGSHELLS MAY BE REMOVED FROM THE SITE. THE COLLECTED UNHATCHED EGGS AND EGGSHELLS SHALL BE USED FOR SCIENTIFIC STUDIES. ALSO, THE UNHATCHED EGGS MAY PRESERVED AND TRANSFERRED TO OTHER QUALIFIED RESEARCHERS WITH VALID RESEARCH PROPOSALS.

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D CONTINUED.

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TELEPHONE: 954/577-6304
TE077258-1

K. AN ANNUAL REPORT SUMMARIZING THE AUTHORIZED ACTIVITIES MUST BE SUBMITTED BY DECEMBER 31, OF EACH YEAR THIS PERMIT IS VALID TO THE OFFICES IDENTIFIED IN CONDITIONS L. AND M., BELOW. NO ACTIVITIES CONDUCTED AND NEGATIVE DATA IS ALSO REQUESTED IF ACTIVITIES WERE CONDUCTED, EACH REPORT SHOULD INCLUDE, AT A MINIMUM, THE FOLLOWING INFORMATION:

1. LOCATION OF THE SURVEY SITES. LOCATIONS SHALL BE NOTED USING FIGURES, MAPS, AND BY REFERENCING A COMMON COORDINATE SYSTEM (E.G., LATITUDE LONGITUDE, UNIVERSAL TRANSVERSE MERCATOR SYSTEM, ETC.)

2. SAMPLING METHODOLOGY. INCLUDE A DESCRIPTION OF AREA SAMPLED, NOTING BIOTIC AND ABIOTIC FEATURES THAT MIGHT INFLUENCE SAMPLE COMPOSITION.

3. THE RESULTS WITH DISCUSSION OF ALL ACTIVITIES CONDUCTED UNDER THIS AUTHORIZATION AND RECOMMENDATIONS FOR THE RECOVERY TO THE SPECIES.

4 LIST OF ALL RESEARCHER'S NAMES, PROJECT PROPOSALS, ADDRESSES, TISSUE SAMPLES, UNHATCHED EGGS, AND EGG SHELLS TRANSFERRED

5. THE NUMBERS AND CONDITION OF ALL MARKED CROCODILES AND THEIR DISPOSITION.

6. COPIES OF ALL PUBLISHED REPORTS AND PAPERS THAT RESULT FROM ACTIVITIES AUTHORIZED IN THIS PERMIT.

L. FOR PURPOSES OF MONITORING COMPLIANCE AND ADMINISTRATION OF THE TERMS AND CONDITIONS OF THIS PERMIT, THE CONTACT OFFICE OF THE U.S. FISH AND WILDLIFE SERVICE IS:

U.S. FISH AND WILDLIFE SERVICE
ATTN: PERMIT COORDINATOR
1875 CENTURY BOULEVARD, SUITE 200
ATLANTA, GEORGIA 30345-3301
TELEPHONE: 404/679-4176
FACSIMILE: 404/679-7081

M. A COPY OF ANNUAL REPORTS SHALL ALSO BE SENT TO THE FOLLOWING U.S. FISH AND WILDLIFE SERVICE OFFICES:

FIELD SUPERVISOR
U.S. FISH AND WILDLIFE SERVICE
1339 20TH STREET
VERO BEACH, FLORIDA 32960
TELEPHONE: 772/562-3909
FACSIMILE: 772/562-4288

END

APPENDIX 10.1.7.6

USFWS 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

2 AUTHORITY-STATUTES
16 USC 703-712

REGULATIONS *(Attached)*
50 CFR Part 13
50 CFR 21 27

1 PERMITTEE

FLORIDA POWER AND LIGHT COMPANY
700 UNIVERSE BOULEVARD
JUNO BEACH, FL 33408

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 addled 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	TITLE	DATE
Carmen P. Semalulu	FOR: ARD-MIGRATORY BIRDS & STATE PROGRAMS	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 10.1.7.7

USFWS DEPREDATION 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. Simarro

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.

(9/12/2005;webaddress 12/18/2006)

APPENDIX 10.2.1

LETTER FROM MIAMI-DADE COUNTY PLANNING AND ZONING COMMISSION

MIAMI-DADE
Carlos Alvarez, Mayor

Planning and Zoning
111 NW 1st Street • Suite 1210
Miami, Florida 33128-1902
T 305-375 2800

miamidade.gov

January 17, 2008

Ms. Barbara P. Linkiewicz
Director of Environmental Licensing
Florida Power and Light Company
700 Universe Boulevard
Juno Beach, Florida 33408

Subject: Land Use Consistency Determination for FPL Turkey Point Units 3 and 4 Nuclear Uprate Project

Dear Ms. Linkiewicz:

This letter is in response to your request of January 10, 2008 in which you request confirmation that FPL's proposed changes to the power generation equipment within the existing power block area of Units 3 and 4 are consistent with the Adopted 2015 and 2025 Land Use Plan (LUP) map and Land Use Element interpretive text of the Comprehensive Development Master Plan (CDMP).

The two nuclear units were built at Turkey Point in the 1970s and are situated on lands that are currently designated Institutions, Utilities and Communications on the County's LUP map. The Land Use Element text of the CDMP states "the full range of institutions, communications and utilities are allowed in this map category." Units 3 and 4 are existing facilities that have been in operation for over 30 years. As stated in your letter request, FPL is proposing a project that will upgrade the power generation equipment in Units 3 and 4 thus increasing the electrical output of the facilities. This increase electrical generation increase would necessitate the units to be re-rated. This project, known as the Uprate Project, will go through the Site Certification Process for approval. The proposed Uprate Project will not expand the footprint of these units and construction will only involve changes to equipment with no expansion of facilities anticipated. Therefore, the current electrical generation plant use is consistent with the current CDMP Land Use Plan map designation of Institutions, Utilities and Communications.

The zoning of this property is Industry-Unlimited Manufacturing District 3 (IU-3), which allows major electrical generation facilities including atomic reactors. Therefore, the current use and the proposed project are consistent in the current zoning designation.

Notwithstanding the above, information received through discussions with FPL indicates that the Uprate Project would increase the water utilization by approximately 200,000 gallons of water a day and that this water would come from the existing cooling canal system. It is important that FPL address the issue of water use and identify the source of water and impacts on the surrounding vegetative communities. Additionally, it was represented that the additional proposed discharge of cooling water to the existing canal system, as a result of the proposed Uprate Project, would increase the temperature of the cooling canal waters. Since this is a major habitat area for the American Crocodile, the impacts of this temperature increase this and other endangered and threatened species must be addressed. Until these and possibly other issues regarding the impacts of the Uprate Project can be analyzed, full consistency with the CDMP cannot be determined.

It is understood that Miami-Dade County will have an active roll in the review of and comment on the proposed Uprate Project during the Site Certification process. Furthermore, this process allows the County to address the matter of consistency with the full text of the CDMP and conformity with all prevailing environmental regulations once the application is filed.

For additional information or clarification regarding this transmittal, please contact me at 305-375-2840 or Mark R. Woerner, Acting Assistant Director of Planning at 305-375-2832.

Sincerely,

Subrata Basu, AIA, AICP
Interim Director

SB:MRW:phc

APPENDIX 10.2.2

MIAMI-DADE COUNTY ZONING CODE

(Excerpt)

MIAMI DADE COUNTY ZONING CODE
(obtained 9-28-07) municode.com

ARTICLE XXXI. IU-3, INDUSTRIAL, UNLIMITED MANUFACTURING DISTRICT*

*__Editor's note:__ Barbed-wire fences in IU Districts, § 33-11(f); height of fences, walls and hedges in IU Districts, § 33-11(i); fence in lieu of wall in IU Districts, § 33-11(j); metal buildings in IU Districts, § 33-32.

Sec. 33-264. Uses permitted.

No land, body of water or structure shall be used or permitted to be used, and no structure shall be hereafter erected, constructed, moved or reconstructed, structurally altered or maintained for any purpose in an IU-3 District which is designed, arranged or intended to be used or occupied for any purpose, except for any one (1) or more of the uses listed in this section.

(1) Every use permitted in the IU-1 and IU-2 Districts, except adult entertainment uses as defined in Section 33-259.1, and private schools and nonpublic educational facilities as defined in Section 33-151.11 are prohibited in the IU-3 District.

(2) Residential uses as a watchman's or caretaker's quarters used in connection with an existing industrial use located on the premises concerned but for no other residential use.

(3) Uses listed below, subject to the provisions of Section 33-265.

Acetylene, generation and storage.
Acids and derivatives.
Alcohol, industrial.
Aluminum, powder and paint manufacture.
Ammonia.
Animal reduction plants.
Asphalt or asphalt products.
Atomic reactor.
Blast furnace.
Bleaching products.
Blooming mill.
Boiler manufacture (other than welded).
Brass and bronze foundries.
Calcium carbide.
Casein.
Caustic soda.
Celluloid.
Cellulose products.
Cement, lime, gypsum or plaster of Paris.
Charcoal, lampblack or fuel briquettes.
Charcoal pulverizing.

Chlorine.
Cider and vinegar.
Cleaning and polishing preparation: dressings and blackings.
Coal tar product.
Coke oven products (including fuel gas) and coke oven product storage.
Cotton wadding.
Cottonseed oil, refining.
Creosote.
Distillation, manufacture or refining of coal, tar, asphalt, wood, bones.
Distillery (alcoholic), breweries and alcoholic spirits.
Dyestuff.
Dynamite storage.
Excelsior.
Explosives.
Fat rendering.
Fertilizer, organic or inorganic, manufacture.
Film, photographic.
Fireworks.
Fish cannery or curing.
Fish oils, meal and by-products.
Flour, feed and grain milling.
Forge plant, pneumatic drop and forging hammering.
Foundries.
Gelatin products.
Glue, gelatin (animal) or glue and size (vegetable).
Graphite.
Guncotton (explosive).
Hair, felt or feathers, washing, curing and dyeing.
Hair, hides and raw fur, curing, tanning, dressing, dyeing and storage.
Hydrogen and oxygen manufacturing.
Insecticides, fungicides, disinfectants, or related industrial and household products (depending on materials and quantities used).
Ink manufacture from primary raw materials (including colors and pigments).
Jute, hemp and sisal products.
Lampblack, carbonblack and boneblack.
Lead oxide.
Linoleum and other similar hard surface floor coverings (other than wood).
Locomotive and railroad car building and repair.
Match manufacture and storage.
Metal and metal ores, reduction, refining, smelting and alloying.
Molasses.
Nitrate (manufactured and natural) of an explosive nature; and storage.
Nitroleng of cotton or other materials.
Nylon.
Oil cloth, oil treated products and artificial leather.
Oil refinery.

Oil wells.
Oils, shortening and fats (edible).
Ore pumps and elevators.
Paint manufacture, depending upon materials and quantities used.
Paper and paperboard (from paper machine only).
Paper and pulp mills.
Petroleum, gasoline and lubricating oil--refining and wholesale storage.
Phenol.
Pickles, vegetable relish and sauces, sauerkraut.
Plastic material and synthetic resins.
Potash.
Poultry slaughtering and packing (wholesale).
Pyroxylin.
Radioactive waste handling.
Rayon and rayon yarns.
Refractories (coal fired).
Refuse disposal.
Rendering and storage of dead animals, offal, garbage and waste products.
Rubber--natural or synthetic, including tires, tubes, or similar products, gutta percha, chickle and valata processing.
Sawmill.
Scrap metal reduction.
Shoddy.
Slaughterhouse.
Smelting.
Soaps (other than from vegetable by-products) or detergents, including fat rendering.
Solvent extraction.
Starch manufacture.
Steel works and rolling (ferrous).
Stockyards.
Storage batteries, wet cell.
Sugar refining.
Testing--jet engines and rockets.
Textiles bleaching.
Turpentine and resin.
Wallboard and plaster, building insulation.
Wire ropes and cable.
Wood preserving treatment.
Wool pulling or scouring.
Yeast.

(Ord. No. 57, § 25(A), 10-22-57; Ord. No. 64-66, §§ 1, 2, 12-15-64; Ord. No. 69-51, § 3, 9-3-69; Ord. No. 01-227, § 4, 12-20-01; Ord. No. 02-23, § 5, 2-12-02; Ord. No. 02-103, § 4, 6-18-02)

Cross references: Use, possession and storage of explosives, Ch. 13; circuses and carnivals permitted in IU Districts without public hearing, § 33-13(f).

Sec. 33-265. Control of uses.

Any person, firm, corporation or other legal entity desiring to use any property or premises situated in an IU-3 District for the manufacture, assembly, processing or packaging of any article or matter enumerated in Section 33-264(3), or for the storage of relatively large quantities of such article or matter (not to include storage where storage is relatively small and incidental to the use of small quantities of such article or matter in connection with manufacture, processing or use permitted in more restrictive districts), or manufacture, assembly, processing, packaging or storage of similar articles or matter, or for any use or operation enumerated in said Section 33-264(3) or for similar use or operation, shall file with the Director a written application setting forth a full description of the proposed use or occupancy, and accurate legal description of the property or premises, a description of the structure or structures to be constructed or occupied, satisfactory proof that the proposed use will conform to the requirements of the Miami-Dade County Pollution Control Ordinance, and such other information as may be reasonably required by the Director, who shall determine from such information, whether or not the proposed use will, in fact, create objectionable influences ordinarily associated with the general type of such uses. If it is found that such use because of the method of operation, or type of materials used, the usual degree of hazardous conditions will not be created, the Director may assign the use to the IU-3 District or to a less restrictive zoning district. However, if it is determined that the high hazards usually anticipated in connection with the uses listed involving fire, explosions, noise, vibration, dust or emissions of smoke, odors, or toxic gases, or other hazards to public health, safety or welfare will be created, the Director shall require approval as result of a public hearing before such use is permitted. Upon filing of the application, the Director shall transmit such application, together with his recommendations, to the Community Zoning Appeals Board, who shall consider the application in accordance with the zoning procedure prescribed by article XXXVI of this chapter, and transmit its recommendations to the County Commission. Provided, however, no use specified in Section 33-264(3) shall be established within five hundred (500) feet of any RU or EU District except after approval after public hearing. Provided, that the spacing limitation shall be two hundred fifty (250) feetif the use is confined within a building and an exterior wall or walls of the building located on the establishment is not penetrated with any openings directly facing the RU or EU District. It is further provided that, except for exterior uses, such distances shall be measured from the closest point of the subject use in the building to the RU or EU District. In connection with exterior uses, the distance of five hundred (500) feet shall be measured from the closest point of the IU District to the RU or EUDistrict. For purposes of establishing such distances, the applicant for such use shall furnish a certified survey from a registered surveyor, which shall indicate such distances. In case of dispute, the measurement scaled by the Director of the Department of Planning and Zoning shall govern.

(Ord. No. 57-19, § 25(B), 10-22-57; Ord. No. 69-51, § 3, 9-3-69; Ord. No. 96-129, § 1, 9-10-96; Ord. No. 98-125, § 21, 9-3-98; Ord. No. 00-74, § 1, 6-6-00)

Sec. 33-266. Wall or dike for storage of petroleum products.

The premises used by gasoline, oil and petroleum storage tanks shall be surrounded by an unpierced fire wall or dike of such height and dimensions as to contain the maximum capacity required by current applicable Miami-Dade County codes. Where an abandoned rock pit is located in an IU-2 or IU-3 District, a permit may be issued to use such pits for oil storage tanks in which dikes may be omitted if the pit has the required capacity. All storage tanks and adjacent structures shall meet the requirements of thecurrent applicable Miami-Dade County codes.

The foregoing paragraph requiring an unpierced fire wall or dike shall not apply to storage tanks containing liquefied petroleum, commonly known as bottled gas; such tanks may be erected without said wall or dike.
(Ord. No. 57-19, § 25(C), 10-22-57; Ord. No. 69-51, § 3, 9-3-69)

Sec. 33-266.1. Uses confined to buildings or within wall enclosures.

At all manufacturing establishments or rebuildings, storage or repair places permitted in an IU-3 District, all materials and products shall be stored and all manufacturing, rebuilding, storing or renovating operations shall be carried on entirely within an enclosed building or confined and completely enclosed within masonry walls, at least six (6) feet in height but no higher than eight (8) feet, excepting only shipyards, dry docks, boat slips, and the like, where necessary frontage on the water may be open.
(Ord. No. 68-3, § 4, 2-6-68; Ord. No. 69-51, § 3, 9-3-69)

Sec. 33-266.2. Minimum landscaped open space, greenbelts, trees, maintenance.

(a) *Landscaped open space.* A minimum of ten (10) percent of the net lot area of the site shall be developed as landscaped open space; provided, however, that an industrial-zoned site that abuts residentially zoned or developed property shall provide fifteen (15) percent of the net lot area as landscaped open space. It is further provided, however, that if the industrial-zoned site abuts property which is depicted as "Industrial & Office" on the Land Use Plan map of the Comprehensive Development Master Plan, is zoned GU and no building permit has been issued for a residence at the time of the approval of the building permit for the industrial use, the landscape open space requirement shall be ten (10) percent of the net lot area. Said landscaped open space may include entrance features, greenbelts, unpaved passive and active recreation areas, and other similar landscaped open space at ground level. Open space areas may also include tree preservation zones of "natural forest communities" as defined in Section 26B-1, Code of Miami-Dade County. Tree preservation zones shall be delineated on all plans submitted to Miami-Dade County for site plan review under Section 33-266.3 of the Code of Miami-Dade County, for the purpose of determining overall preservation area and percent of overall landscaped area. The requirements

contained herein do not replace or substitute for any requirements contained within Chapter 18A, Code of Miami-Dade County.

Water bodies may be used as part of the required landscaped open space, but such water areas shall not be credited for more than twenty (20) percent of the required open space. The specific areas within enclosed or unenclosed malls which are landscaped with grass, trees and/or shrubbery, water areas therein and areas therein with permanent landscaped open space, but such areas shall not be credited for more than ten (10) percent of the required landscaped open space. For approved structures exceeding four (4) stories in height, additional landscaped open space shall be provided equivalent to twenty-five (25) percent of the gross floor area of each floor above four (4) stories.

(b) *Greenbelts.* Continuous, extensively planted greenbelts, penetrated only at approved points for ingress or egress to the property, shall be provided along all property lines abutting public rights-of-way or properties zoned residential, in accordance with the following minimum standards:

TABLE INSET:

Size of Net Lot Area	*Width of Greenbelts*
Up to 3 acres	8 feet
More than 3 acres	10 feet

It is provided, however, this greenbelt requirement shall not apply along property lines abutting property which is depicted as "Industrial & Office" on the Land Use Plan map of the Comprehensive Development Master Plan, is zoned GU and no building permit has been issued for a residence at the time of the approval of the building permit for the industrial use.

(c) *Trees.* Landscaping and trees shall be provided in accordance with Chapter 18A of this Code.

(d) *Maintenance.* All landscaped areas shall be continuously maintained in a good, healthy condition, and sprinkler systems of sufficient size and spacing shall be installed to serve all required landscaped areas except within tree preservation zones of "natural forest communities," as defined in Section 26B-1, Code of Miami-Dade County. Tree preservation zones shall also be maintained in a healthy natural condition free from trash, debris and disturbance of understory vegetation.

(Ord. No. 79-99, § 1, 11-20-79; Ord. No. 85-87, § 6, 10-1-85; Ord. No. 95-223, § 1, 12-5-95; Ord. No. 03-76, § 3, 4-8-03)

Sec. 33-266.3. Site plan review.

(A) *[Responsibility; purpose; procedures generally.]* The Department shall review plans for compliance with zoning regulations and for compliance with the size plan review criteria. The purpose of the site plan review is to encourage logic, imagination, innovation and variety in the design process and encourage the congruity of the proposed development and its compatibility with the surrounding area. All plans submitted to the Department shall be reviewed and approved or denied within fifteen (15) days from the

date of submission. The applicant shall have theright to extend the fifteen-day period by an additional fifteen (15) days upon request made in writing to the Department. Denials shall be in writing and shall specifically set forth the grounds for denial. Receipt of applicant's plans for fifteen (15) days without formal written denial shall constitute approval. If the plan is disapproved, the applicant may appeal to the appropriate Community Zoning Appeals Board. Appeals by the applicant shall be filed within thirty (30) days of the date the project wasdenied.

(B) *Required exhibits.* The following exhibits shall be prepared by design professionals such as architects and landscape architects and submitted to the Department of Planning and Zoning:

(1) Dimensioned site plan(s) indicating, as a minimum, the following information:

(a) Existing zoning on the site and on adjacent properties.

(b) The basic use, height, bulk and location of all buildings and other structures with setbacks.

(c) Vehicular and pedestrian circulation systems including connection(s) to existing or proposed roadway and sidewalk system and the layout of parking, service and loading areas.

(d) Graphics and/or notations indicating the site planning or structure design methods used to minimize the impact of those industrial activities that could have a negative impact on existing or proposed adjacent land uses.

(e) Sketches of design elements to be used for buffering surrounding uses.

(2) Elevation of the proposed buildings and other major design elements.

(3) Landscape plans: Landscaping and trees shall be provided in accordance with Chapter 18A of this Code.

(4) Figures indicating the following:

(a) Proposed uses.

(b) Gross floor area:..... square feet

(c) Gross floor area above four (4) floors:..... square feet

(d) Land area:

Gross:

..... square feet

..... acres

Net:

..... square feet

..... acres

(e) Landscaped open space:

Required:

..... square feet

..... % of net land area

Provided:

..... square feet

..... % of net land area

(f) Trees:

Required:.....

Provided:.....

(g) Off-street parking spaces:
Required:.....
Provided:.....
(C) *Criteria.* The following shall be considered in the plan review process:
(1) *Planning studies:* Planning studies approved by the Board of County Commissioners that include development patterns or environmental and other design criteria shall be considered in the plan review process.
(2) *Landscape:* Landscape shall be preserved in its natural state insofar as is practicable by minimizing removal of existing vegetation. Landscape shall be used to shade and cool, enhance architectural features, relate structure design to the site, visually screen noncompatible uses, and ameliorate the impact of noise.
(3) *Compatibility:* The architectural design and scale of the proposed structures shall be compatible with surrounding existing or proposed uses or shall be made compatible by the use of screening elements. Screening elements can include such devices as trees and shrubs, walls and fencing, berming or any combination of these elements. Visual buffering shall be provided between parking and service areas and adjacent nonindustrial uses.
(4) *Emergency access:* Unobstructed on-site access for emergency equipment shall be considered.
(5) *Circulation:* Internal vehicular and pedestrian circulation systems shall be designed to function with existing and/or approved systems outside the development. Vehicular traffic generated from the industrial activity should be routed in such a manner as to minimize impact on residential development.
(6) *Energy conservation:* Applicants are advised to consider requirements of Chapter 52 of the South Florida Building Code.
(7) *Visual screening for decorative walls:* In an effort to prevent graffiti vandalism, the following options shall be utilized for walls abutting zoned or dedicated rights-of-way:
(a) *Wall with landscaping.* The wall shall be setback two and one-half (2 1/2) feet from the right-of-way line and the resulting setback area shall contain a continuous extensively landscaped buffer which must be maintained in a good healthy condition by the property owner, or where applicable, by the condominium, homeowners or similar association. The landscape buffer shall contain one (1) or more of the following planting materials:
(1) *Shrubs.* Shrubs shall be a minimum of three (3) feet in height when measured immediately after planting and shall be planted and maintained to form a continuous, unbroken, solid, visual screen within one (1) year after time of planting.
(2) *Hedges.* Hedges shall be a minimum of three (3) feet in height when measured immediately after planting and shall be planted and maintained to form a continuous, unbroken, solid, visual screen within one (1) year after time of planting.
(3) *Vines.* Climbing vines shall be a minimum of thirty-six (36) inches in height immediately after planting.
(b) *Metal picket fence.* Where a metal picket fence abutting a zoned or dedicated right-of-way is constructed in lieu of a decorative wall, landscaping shall not be required.
(Ord. No. 79-99, § 1, 11-20-79; Ord. No. 95-19, § 15, 2-7-95; Ord. No. 95-215, § 1, 12-5-95; Ord. No. 95-223, § 1,, 12-5-95; Ord. No. 96-127, § 21, 9-4-96; Ord. No. 98-125, § 21, 9-3-98; Ord. No. 99-38, § 16, 4-27-99)

Sec. 33-266.4. Reserved.

Editor's note: Section 33-266.4, pertaining to expansion of existing commercial structures, has been deleted as obsolete. The section was derived from Ord. No. 79-99, § 1, adopted Nov. 20, 1979.

Sec. 33-266.5. Validity of site plans.

Where a site plan has been or is submitted to the Department for review and approval, and the same has been or is approved, and no construction has yet commenced, the site plan shall be valid for a period of twelve (12) months, within which time the applicant must file complete plans for building permit.

(Ord. No. 79-99, § 1, 11-20-79; Ord. No. 95-215, § 1, 12-5-95)

APPENDIX 10.3

MIAMI-DADE COUNTY COMPREHENSIVE LAND USE PLAN

(Excerpt)

and Recreation-designated land eligible for development shall not exceed either the gross existing density of the development in connection with which the park-designated land was originally set aside, or the gross density of all the ownership parcels immediately abutting the entire the park-designated land whichever is lower. An approval pursuant to this provision may allow the gross density of the combined new and existing development, and its existing zoning, to exceed the maximum otherwise allowed by the LUP map, but only to the extent necessary to enable reuse of the park designated land in accordance with this provision. Nothing herein shall be construed to permit development of property subject to a restrictive covenant accepted by the country or other public entity without compliance with the terms that covenant including, but not limited to, those terms governing modification or amendment thereof.

Certain commercial activities that support the recreational uses and relate to the resources of the park, such as marine supply stores, fuel docks or tennis and golf clubhouses may be considered for approval in the Parks and Recreation category. Other commercial recreational, entertainment or cultural uses may also be considered for approval in the Parks and Recreation category if authorized in accordance with Article 6 of the Miami-Dade Charter, as amended, and if they are related to, and would increase the quality, utility or enjoyment of the site and its natural, historical, and archaeological resources and facilities.

Some of the land shown for Parks is also environmentally sensitive. While most of these environmentally sensitive areas are designated on the LUP map as "Environmentally Protected Parks" some may be designated as Parks and Recreation due to graphic constraints (the environmentally sensitive portion of the park that is smaller than five acres).

Environmentally Protected Parks

The land designated as "Environmentally Protected Parks is environmentally sensitive and includes tropical hardwood hammocks, high-quality Dade County pineland and viable mangrove forests. Some sites proposed for public acquisition under Miami-Dade County Environmentally Endangered Lands (EEL), Florida's Conservation and Recreational Lands (CARL) and Florida Forever programs are identified in this category on the LUP map although they may be as small as ten acres in size. All portions of parkland designated Environmentally Protected Parks or other parkland which is characterized by valuable environmental resources shall be managed in a manner consistent with the goals, objectives and policies for development of the applicable environmental resources or protection area. Accordingly, resource enhancing facilities including boardwalks, nature trails, canoe trails and launches and interpretive facilities may be provided in these areas.

Institutions, Utilities and Communications

The Plan map illustrates, for information purposes, only the location of major institutional uses, communication facilities and utilities of metropolitan significance. Depicted are such uses as major hospitals, medical complexes, colleges, universities, regional water-supply, antenna fields, radio and television broadcast towers, wastewater and solid waste utility facilities such as the resources recovery plant, major government office centers and military

installations. The full range of institutions, communications and utilities may be allowed under this land use category. Offices are also allowed in this map category. Internally integrated business areas smaller than 5 acres in size or up to 10 percent of the total floor area of an institutional, public facility or office use may also be approved in this map category. If the owner of land designated as Institutions, Utilities and Communications chooses to develop the land for a different use and no public agency intends to use the site for a public facility, the land may be developed for a use or a density comparable to and compatible with surrounding development providing that such development is consistent with the goals, objectives and policies of the CDMP especially Policies LU-4A and LU-4B.

The Homestead Air Reserve Base is also included in this category on the Land Use Plan map. The range of uses that may occur on the Base as it is redeveloped shall emphasize military aviation and related uses, national security, recreation uses, educational and other institutional uses. All future uses on the former Base will be consistent with the Record of Decision issued by the Secretary of the Air Force as it pertains to County use of the Base property.

Neighborhood or community-serving institutional uses, cell towers and utilities including schools, libraries, sanitary sewer pump stations and fire and rescue facilities in particular, and cemeteries may be approved where compatible in all urban land use categories, in keeping with any conditions specified in the applicable category, and where provided in certain Open Land subareas. Compatibility shall be determined in accordance to Policy LU-4A. Co-location of communication and utility facilities are encouraged. Major utility and communication facilities should generally be guided away from residential areas; however, when considering such approvals, the County shall consider such factors as the type of function involved, the public need, existing land use patterns in the area and alternative locations for the facility. All approvals must be consistent with the goals, objectives and policies of the Comprehensive Development Master Plan.

Electric power transmission line corridors are permitted in every land use category when located in established right-of-ways or certified under the Florida Electrical Power Plant Siting Act (Sections 403.501-403.518, F.S.) as an ancillary use to a new power plant, or the Transmission Line Siting Act (Sections 403.52-403.5365 F.S.) for individual electrical transmission lines. If an electric power transmission line corridor does not meet either of the above conditions, it shall be situated in an area designated as Institutions, Utilities and Communications; Industrial and Office; Business and Office; or Parks and Recreation on the adopted Land Use Plan map. When compatible with adjacent uses and permitted by County and State regulations, non-utility ancillary uses that may be located in transmission line corridors include agriculture, parking lots, open space, golf courses, bikeways and paths for walking and exercising.

Transportation

The LUP map includes a summarized portrayal of the major components of Miami-Dade County's existing and future transportation network. Included are roadways, rapid transit corridors, railways and major switching yards, and such major terminals as the County

APPENDIX 10.4.1.1

FOURTH SUPPLEMENTAL AGREEMENT BETWEEN FPL & SFWMD (07/15/1983)

AGREEMENT

THIS AGREEMENT made and entered into this 15th day of July, A. D., 1983, by and between FLORIDA POWER & LIGHT COMPANY, hereinafter referred to as "FPL" and SOUTH FLORIDA WATER MANAGEMENT DISTRICT, hereinafter referred to as "DISTRICT".

WITNESSETH

WHEREAS, FPL and the CENTRAL AND SOUTHERN FLORIDA FLOOD CONTROL DISTRICT, hereinafter referred to as the "CSFFCD", predecessor to the DISTRICT, entered into an agreement dated February 2, 1972, hereinafter referred to as the "Original Agreement", governing the rights and obligations of the parties concerning the construction, operation and monitoring of the cooling water system for FPL's power generating plant at Turkey Point in Dade County, Florida; and

WHEREAS, the Original Agreement has been supplemented and amended on three separate occasions; the First Supplemental Agreement having been executed on October 21, 1974; the Second Supplemental Agreement having been executed on August 14, 1975; and the Third Supplemental Agreement having been executed on September 10, 1976; and

WHEREAS, the obligations undertaken by FPL and the CSFFCD in the Original Agreement and the supplemental agreements have been satisfactorily performed to date; and construction of the cooling water system is complete; and

WHEREAS, FPL still has a continuing obligation to monitor for impacts of the cooling water system on the water resources of the DISTRICT in general and on the DISTRICT's facilities and operations in particular; and

WHEREAS, past monitoring activities indicate that any such impacts can be sufficiently determined through a modified monitoring program; and

WHEREAS, the parties desire to modify the present monitoring program to reflect current needs and conditions; and

WHEREAS, the parties desire to set forth, in one agreement, all remaining obligations existing between them by virtue of the Original Agreement, the supplemental agreements and the modified monitoring program.

NOW THEREFORE, the parties hereto agree as follows:

A. INTERCEPTOR DITCH SYSTEM

1. FPL and DISTRICT agree that the purpose of the system is to restrict movement of saline water from the cooling water system westward of Levee 31E adjacent to the cooling water system to those amounts which would occur without the existence of the cooling water system.

2. The operating criteria for the interceptor ditch system have been established by FPL to meet the objective set forth in Paragraph A.1. If at any time it is determined by DISTRICT that FPL operations are such that the objective of Paragraph A.1. is not being achieved, FPL agrees that it will immediately revise the operating criteria for the interceptor ditch system upon the written instructions of DISTRICT's Executive Director or his authorized representative. Upon approval by DISTRICT, the new operating criteria shall be immediately placed into effect. FPL shall designate an official or employee of FPL who will be responsible for the receipt of said operating criteria and for carrying them out.

3. If in the sole judgment of DISTRICT it is determined that operational changes, as specified under Paragraph A.2., are not adequate to achieve the objective of Paragraph A.1., FPL will promptly take action to find and implement other feasible engineering measures to achieve the objective of Paragraph A.1., including reasonable

alterations in the operation or design of the interceptor ditch system. Should such alterations fail to achieve said objective, other feasible engineering measures regarding the cooling water system will be undertaken. If alterations to the cooling water system become necessary, any such alterations will take into account the reasonable operational requirements of the existing power plant.

4. Nothing contained in this Agreement shall estop the DISTRICT from availing itself of all other rights and remedies it may now or hereafter have to achieve the objective of Paragraph A.1.

5. Pump operation logs of a form acceptable to the DISTRICT shall be maintained by FPL for each interceptor ditch pumping installation. The current and preceding month's logs will be maintained at a designated on-site location for examination by DISTRICT personnel.

6. FPL shall bear all costs associated with the construction, operation, maintenance, replacement, alteration, modification, or relocation of any and all existing or future interceptor ditch facilities made necessary by the cooling water system.

7. FPL shall save and hold the DISTRICT harmless and will defend against any and all claims arising from construction, operation, maintenance, replacement, alteration, modification or relocation of any existing or future interceptor ditch facilities made necessary by the cooling water system.

B. WATER TRANSFER FACILITIES

1. FPL shall accept on its lands east of Levee 31E, and be responsible for the use or disposal of all excess surface waters from the drainage basins of Canals 106 and 107, as shown on the attached Exhibit "A", made a part hereof, which can be delivered by Structures 20-A and 20 regardless of time and duration of discharge and quality. The

parties agree that the capacity of the existing water transfer facilities replaces as nearly as practical that capacity which existed prior to the construction of FPL's cooling system. FPL shall, at its expense, operate and maintain the drainage system from Structure 20 seaward to the intersection with the Seadade Canal.

2. Operation of water transfer facilities shall be in accordance with instructions given FPL by DISTRICT's Director of Field Services or his designated representative. FPL shall designate an official or employee of FPL who will be responsible for the receipt of said operating instructions and for carrying them out.

3. FPL agrees to hold and save the DISTRICT harmless and to defend against any claim arising from the construction, operation, maintenance, replacement, modification, alteration or relocation of the water transfer facilities for Canal 106 and Canal 107.

C. MONITORING PROVISIONS

1. FPL shall monitor the cooling water system and the interceptor ditch facilities to ensure that the objective specified in Paragraph A.1. is met.

2. The monitoring program outlined in the manual designated "FLORIDA POWER & LIGHT COMPANY, TURKEY POINT, FLORIDA, GROUNDWATER MONITORING AND INTERCEPTOR DITCH OPERATION PROCEDURES", revised July, 1983, hereinafter referred to as the "REVISED OPERATING MANUAL", which is incorporated herein by reference, shall be sufficient to meet the monitoring requirements imposed in Paragraph C.1.

3. Further revision or modification of the REVISED OPERATING MANUAL, shall be made in accordance with this Agreement and shall be set out in a supplement executed by both parties hereto, which supplement shall be attached to the

REVISED OPERATING MANUAL as a part of that document. Provided, however, that non-substantive changes may be accomplished by letter, which, when signed by the party requesting the change and accepted by the other party, shall be incorporated into the REVISED OPERATING MANUAL.

4. FPL shall designate an official, employee or agent of FPL who will have the responsibility for maintaining the monitoring installations in satisfactory operating condition and for collecting the required data and maintaining the record thereof.

5. FPL shall collect the data as provided in the REVISED OPERATING MANUAL; shall retain the same for a minimum of twenty-four (24) months; and shall review and analyze the data so collected consistent with the objectives of this Agreement. In August of each year, FPL shall submit to the DISTRICT a summary report evaluating the preceding year's events in terms of historic trends. The summary report shall consist of the information called for in the REVISED OPERATING MANUAL. The summary report shall not contain raw data unless specifically requested by the DISTRICT.

6. FPL shall bear all costs of installation, instrumentation, operation, maintenance, replacement, modification, alteration, or relocation of the monitoring system or any element thereof.

7. FPL shall hold and save DISTRICT harmless and will defend against any and all claims arising from installation, instrumentation, operation, maintenance, replacement, modification, alteration, or relocation of the monitoring system or any element thereof.

D. GENERAL PROVISIONS

1. This Agreement supercedes the Original Agreement between the

parties dated February 2, 1972, and the Supplemental Agreements, dated October 21, 1974, August 14, 1975, and September 10, 1976.

2. This Agreement shall be binding on the parties and their assigns and successors.

3. Should any unusual event occur or should any substantive physical, mechanical, structural or operational changes be contemplated to be made to the cooling water system, then FPL shall immediately notify the DISTRICT and, if the DISTRICT shall so request, a meeting of the representatives of both FPL and the DISTRICT, comprising the group known as the Technical Advisory Group, shall be convened at the earliest mutually convenient time to review and analyze such unusual occurrence or such contemplated substantive physical, mechanical, structural or operational changes and to determine by mutual agreement what action shall be taken in relation thereto.

4. Should any unusual event occur or should any substantive physical, mechanical, structural or operational changes be contemplated to be made with regard to DISTRICT'S operations in the vicinity of the cooling water system, then DISTRICT shall immediately notify FPL and, if FPL shall so request, a meeting of the representatives of both FPL and the DISTRICT, comprising the group known as the Technical Advisory Group, shall be convened at the earliest mutually convenient time to review and analyze such unusual occurrence or such contemplated substantive physical, mechanical, structural or operational changes and for FPL to make recommendations regarding the action to be taken in relation thereto.

5. In the event FPL discontinues the use of the feeder, collector and cooling canals as a part of its cooling system, then FPL's obligations as to interceptor ditch pumping and as to monitoring shall cease and terminate. In the event FPL

discontinues the use of a portion of the feeder, collector or cooling canals as a part of its cooling system, then, to the extent, in the judgment of DISTRICT, that interceptor ditch pumping and monitoring are no longer necessary, such obligations shall cease and terminate.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals, in duplicate originals, the day and year first above written.

FLORIDA POWER & LIGHT COMPANY

(Corporate Seal)

By Robert E. Uhrig
Title: Vice President
Advanced Systems and Technology

Executed in the presence of:

C. D. Henderson
Bonnie Taylor
As to FPL

ATTEST:

By Janice V. Kuhns
Title: Notary Public for the State of Florida at Large

SOUTH FLORIDA WATER MANAGEMENT DISTRICT, BY ITS GOVERNING BOARD

(Corporate Seal)

By
Vice Chairman

Executed in the presence of:

Elizabeth Tucker
Dawn L. Drennan
As to DISTRICT

ATTEST:

By
Assistant Secretary

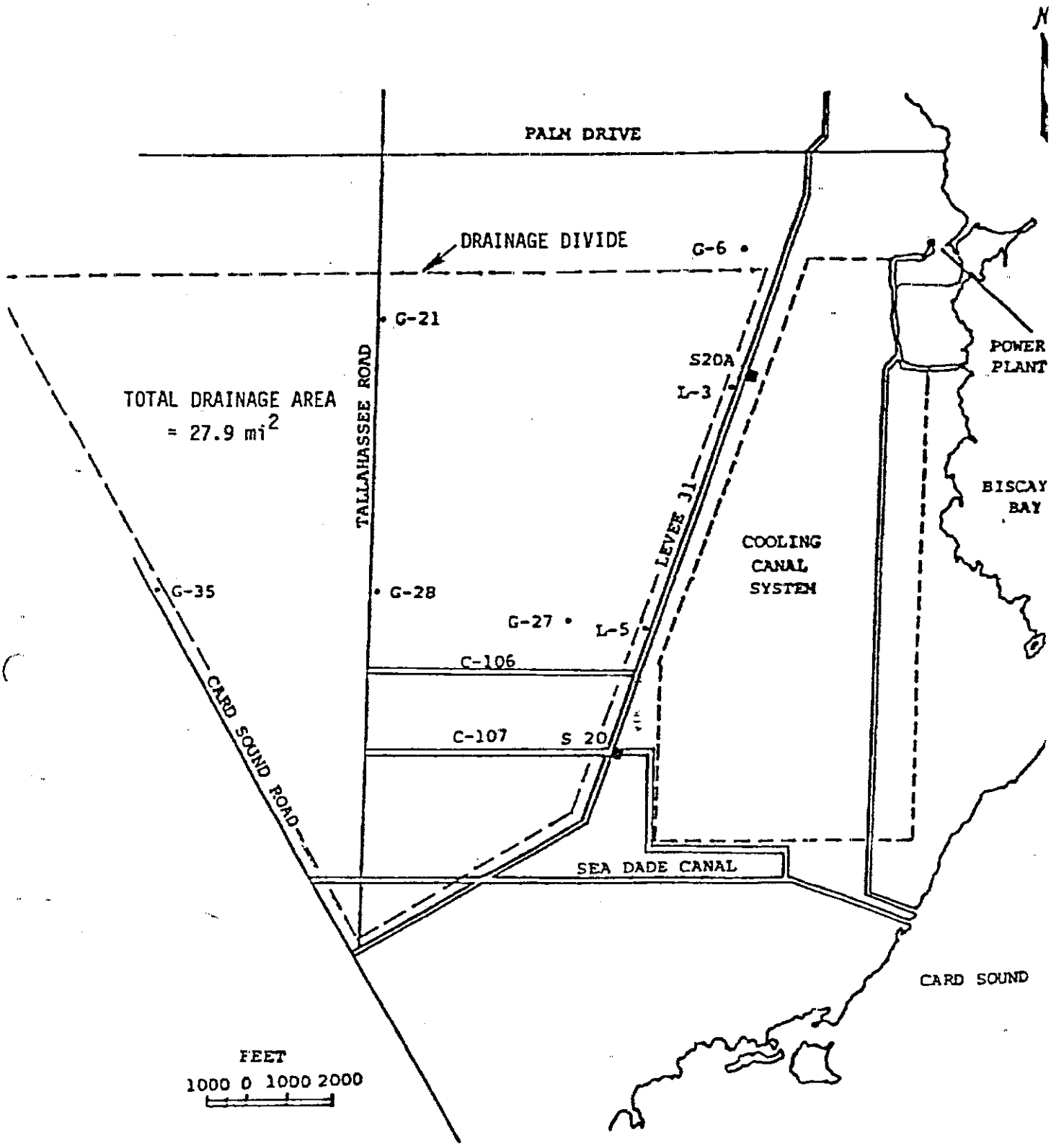

EXHIBIT A. DRAINAGE BASINS OF CANALS 106 and 107

1.0 INTRODUCTION

This procedures manual applies to field work presently being conducted at Turkey Point for the Ground water Monitoring Program west of the Cooling Canal System and Interceptor Ditch Operation.

The procedures presented in this Revised Operations Manual reflect new agreements between Florida Power & Light Company and South Florida Water Management District. Reference is also made to the 1983 Turkey Point Agreement between the above mentioned parties, dated July 15, 1983.

2.0 KEY PARTICIPANTS

The following tabulation gives the key parties involved in this project for Florida Power & Light Company and their relative responsibilities:

Company	Responsibility
Florida Power & Light Co.	
Environmental Affairs Department P. O. Box 14000 700 Universe Boulevard Juno Beach, Florida 33408 Phone: (305) 863-3624	Overall Program Direction and Contact
Land Utilization Department P. O. Box 1565 Homestead, Florida 33030 Phone: (305) 248-4740	Program Operations Data Processing
Consultant	
Dames & Moore 301 W. Camino Gardens Blvd. Plaza 6, Suite 201 Boca Raton, Florida 33432 Phone: (305) 392-9070	Data Verification and Review

3.0 GROUND WATER MONITORING PROGRAM

3.1 Monitoring Locations

The following wells shall be monitored during this program: L-3 and L-5; G-21 and G-28. G-6, G-27 and G-35 shall not be monitored, but shall be capped and maintained in a ready condition. These wells are located as shown on Figures 1 and 2.

3.2 Monitoring Frequency

The wells specified in Section 3.1 shall be monitored 4 times a year during the months of October, January, April, and July.

3.3 Parameters

The following data shall be collected at each well at the times specified in the preceding section:

a. Ground water Elevation (ft.) - Measured inside the casing from top of casing. Elevation of top of casing is known.

b. Surface Water Elevation (ft.) - Measured outside the casing from top of casing.

c. Conductivity (umhos/cm) - Measured at one (1) foot intervals for the total well depth.

d. Temperature (^{o}C) - Measured the same as conductivity.

e. Water Sample Collection - Two water samples per well will be obtained for laboratory titration of chloride ion content. Depth of sample collection is not constant, but approximately half the water samples should be obtained from within the first twenty feet of the water column in the well. Generally, this portion of the water column contains the transition from water of low chlorinity to water of higher chlorinity. These samples, in combination with water samples from deeper depths, should provide chloride data which generally spans the entire spectrum of chloride ion encountered.

3.4 Monitoring Procedure

The following procedure shall be followed in collection of field data:

a. Calibrate the Conductivity-Temperature Meter prior to each day of the monitoring using two standard saline solutions of 15,000 umhos/cm and 90,000 umhos/cm. The instrument will be calibrated in accordance with the procedures established in Section 3.7, Equipment Calibration.

b. Measure both surface water elevation and ground-water surface elevation at each well by measuring from top of well casing.

c. Insert probe to a depth of one (1) foot below water level in well; when meter needle stabilizes, read and record conductivity and temperature.

d. Repeat procedure in Step c. at intervals of one (1) foot to bottom of well.

e. Obtain water sample for chloride ion titration in accordance with recommendations in Section 3.3e. Water samples are obtained with a Masterflex Pump or equivalent system. When taking a sample with the pump, a minimum of 1000 ml of water from the desired sampling depth shall be pumped through the line to insure the sample is representative and not contaminated by water left in the line from a previous sampling station. Sample water will be pumped directly into clean, dry bottles which will be tightly capped to prevent contamination of the sample.

f. After every well is monitored, calibration of the field monitoring unit will be checked with the 90,000 umhos/cm standard saline solution in accordance with procedures described in Section 3.7. Note, however, that the instrument shall not be adjusted at this time.

g. After each day of monitoring, the conductivity of the 90,000 umhos/cm standard solution and the calibration of the field monitoring unit will be checked in accordance with procedures in Section 3.7.

3.5 Data Verification

In order to check the validity of the conductivity data, the relationship of conductivity versus chloride will be determined for each monitoring period by regression analysis. This analysis requires the use of an independent variable (true variable) and a dependent variable. Chloride content determined by laboratory titration will be used as the true variable and the conductivity variable will be adjusted to the line of best fit by the method of least squares.

In order to reduce the possibility of error, the raw titration data and raw conductivity data will be immediately plotted on the historical conductivity-chloride relationship as shown on Figure 3. The majority (75 percent) of the plotted raw data points should fall within the variance shown for the historical relationships. The remaining 25 percent of the points should be reasonably close to the historical relationship. For conductivities less than 10,000 umhos/cm, the historical relationships are less definitive. For those conductivities, the ratio of the raw titration value (parts per thousand) to the corresponding raw conductivity value (umhos/cm) should be reasonably close to the following historical ratios:

Conductivity umhos/cm	Ratio
Less than 2000	0.100
2000-6000	0.237
6000-10000	0.314

In addition to these two check methods, the raw points will be inspected for direct proportionality. In other words, the chloride content increases with increasing conductivity. Any two relative data points which reverse this relationship will be checked for probable error.

If, at any time, data are suspected to be in error, the following steps shall be taken:

a. Retitrate the suspect water sample to determine chloride content. Replot the titration data versus the corresponding conductivity data and reinspect for direct proportionality.

b. If data are still suspected to be in error after the retitration, then the well(s) in which the suspect data occur shall be remonitored in accordance with the procedures set forth in Section 3.4.

The conductivity, temperature, water level and titration data will be transmitted to FPL's consultant. The consultant will recheck the titration data for proportionality and variance from the historical relationship in accordance with methods presented in previous paragraphs. The water level, temperature and conductivity data will be compared with historical data from periods of similar seasonal conditions. (Water level fluctuations, precipitation and air temperature are among the factors to be considered when choosing times of similar seasonal conditions.) If any water level, temperature and/or conductivity data exhibit abnormal changes, the wells in which these changes occur will be remonitored in accordance with procedures set forth in Section 3.4. Suspect wells will be remonitored and checked until the consultant is satisfied that the data represent actual ground-water conditions. At this time, the data will be processed in accordance with Section 3.6.

The initiation of the monitoring each quarter will allow sufficient time for checking suspect field data. Therefore, the monitoring should be initiated at least five working days prior to the 1st of each quarterly month.

3.6. Data Processing

The raw field data shall be entered on standard forms (Figure 4).

Distribution of the data shall be in accordance with the following:

a. Original - To FPL Environmental Affairs Department

b. One Copy - Retained on file at Land Utilization Department at Turkey Point

c. One Copy - Forwarded to FPL's consultant.

3.7 Equipment Calibration

The following calibration procedures apply to the Conductivity-Temperature Meter.

Conductivity Calibration - Prior to each day of monitoring, the instrument shall be calibrated in accordance with the following procedures and the appropriate information entered on the Calibration Log (Figure 5) in the space designated "Before Monitoring".

The calibration of the conductivity meter is accomplished by the use of two potassium chloride (KCl) solutions prepared in accordance with ASTM D1125-64, Standard Methods of Test for Electrical Conductivity of Water.

The procedure is as follows:

a. Prepare one solution of approximately 90,000 umhos/cm conductivity.

1. Dissolve approximately 60.0 g of KCl to 1 liter of Category III Water.
2. Determine the conductivity of the KCl solution using a conductivity bridge and certified cell to determine the "true" conductivity of the solution.
3. Calibrate the upper end of the field units conductivity range using the KCl conductivity standard as prepared above.

b. Prepare one solution of approximately 15,000 umhos/cm conductivity.

1. Dissolve approximately 7.50 g of KCl to 1 liter of Category III Water.
2. Determine the conductivity of the KCl solution using a conductivity bridge and certified cell to determine the "true" conductivity of the solution.
3. Read conductivity of solution using the field unit.

If the reading obtained with the field unit differs from the reading for the low conductivity solution more than 1,000 umhos/cm, the conductivity of the 90,000

umhos/cm solution will be rechecked with the conductivity bridge and the procedure repeated. Calibrating the field unit with a solution of high conductivity reduces the percent error introduced when calibrating the instrument at the lower end of the conductivity range. The 15,000 umhos/cm solution serves as a check on the accuracy of calibration at 90,000 umhos/cm.

In order to insure that the instrument maintains calibration throughout each day of monitoring, the 90,000 umhos/cm standard saline solution used in the initial calibration will be carried to the field and the solution will be read after monitoring every well. The reading given by the instrument will be recorded in the Calibration Log in spaces designated "During Monitoring". However, the instrument SHALL NOT be adjusted in the field to the reading given by the standard solution.

Upon returning to the laboratory after each day of monitoring the conductivity of the 90,000 umhos/cm solution will be checked with the conductivity bridge to assure that the conductivity of the standard solution has not changed throughout the day. The standard solution shall then be read with the field unit. This calibration sequence will be entered on the Calibration Log in the space labeled "After Monitoring".

The Calibration Log can be used to develop "drift curves" in order to correct "instrument drift". If the "After Monitoring" calibration sequence yields a reading deviation exceeding five (5) percent of the total reading, the data shall be corrected using the drift curve. In summary, the maximum allowable reading deviation for a 90,000 umhos/cm solution would be $\pm$4,500 umhos/cm.

Temperature Calibration - Calibrate the field unit using the following procedure or equivalent:

a. Turn the instrument to "temperature zero" and adjust to read -5 degrees C.

b. Turn the instrument to "temperature calibrate" and adjust to read 45 degrees C.

c. Prepare two H_2O solutions at temperatures of approximately 20 degrees C and 30 degrees C respectively.

d. Compare the temperatures measured with the field unit to those obtained with a highly accurate laboratory thermometer.

e. If the field unit and the thermometer agree within 0.5 degrees C, the temperature meter is considered calibrated.

f. If the two do not agree, use the following procedure:

1. Adjust the field unit to read the results given by the thermometer in the 20 degrees C solution.

2. Read the 30 degrees C solution with the field unit and thermometer. If the readings differ, adjust the field unit to read the same as the thermometer.

3. Again read the 20 degrees C solution with both instruments. If there is a difference, adjust the field unit to equal the thermometer reading.

4. Repeat this alternating procedure until the field unit will read both solutions within 0.5 degrees C.

4.0 INTERCEPTOR DITCH OPERATION

4.1 Introduction

The purpose of the Interceptor Ditch is to restrict inland movement of cooling canal water by maintaining a seaward ground water gradient during times when a natural seaward gradient does not exist. During the wet season and the early part of the dry season, a natural seaward gradient usually does exist. During the rest of the year, however, it is necessary to artificially generate a seaward gradient east of Levee 31 Borrow Canal by pumping water out of the Interceptor Ditch. The procedure for monitoring the ground water gradient and operation of the Interceptor Ditch is presented

in the following sections.

4.2 Monitoring Locations

Surface water elevations shall be monitored at staff gages located in the West Feeder Canal of the Canal System, Levee 31 Borrow Canal and the Interceptor Ditch at five locations relative to Lines A, B, C, D and E, as shown on the inset, Figure 2. When pumping of the Interceptor Ditch commences, additional data shall be obtained at each of the two ID pump stations. Locations of the pump stations are also shown on Figure 2.

4.3 Monitoring Frequency

Water elevation data shall be collected at the fifteen locations twice a month during non-pumping periods. These elevations will be measured on or about the 1st of each month and again near the middle of the month. Non-pumping periods reflect the wet season high water levels i.e., June through November.

During the period December through May, water elevation data will be collected once a week except during periods when pumping is necessary to create a seaward gradient. When pumping is required, water surface elevation data will be collected at least twice weekly. Adequate surveillance shall be set up to assure proper Interceptor Ditch operation. Data on pump run time and segments being pumped will be recorded in the Interceptor Ditch Pump Operation Log (Figure 9).

4.4 Pumping Criteria

As long as a natural seaward ground-water gradient exists, pumping of the Interceptor Ditch is not required. The following criteria define when a natural seaward gradient exists and when the Interceptor Ditch must be pumped to create an artificial gradient east of Levee 31 Borrow Canal.

Seaward Gradient - A natural seaward gradient exists when the Levee 31 water surface elevation (ft.,MSL) minus the West Feeder Canal water surface elevation

(ft.,MSL) is greater than 0.20 ft.

If this criterion is not met, a natural seaward gradient still exists if the Levee 31 water surface elevation (ft.,MSL) minus the Interceptor Ditch water surface elevation (ft.,MSL) is greater than 0.30 ft.

Landward Gradient - If a natural seaward gradient does not exist, pumping of the Interceptor Ditch must be initiated to artificially create a seaward gradient. Pumping shall be adjusted so that the water surface elevation (ft.,MSL) in the Interceptor Ditch is maintained on the order of 0.30 feet lower than the water surface elevation (ft.,MSL) in Levee 31. Pumping can be terminated when the criteria for a natural seaward gradient is met.

The flow chart on Figure 6 depicts the requirements for pump operation. This chart should be referred to each time water elevation data are obtained in order to more easily determine when pumping is or is not required.

As can be seen on Figure 2 the pump stations divide the Interceptor Ditch into three segments. Each segment is evaluated separately with respect to the operating criteria. One segment, therefore, might require pumping while another might not. Pumping shall be initiated when any of the lines of staff gages governing that segment fails to meet the specified criteria for a seaward gradient. Adjustable intake gates (stop-logs) in each pump intake basin allow for various pump combinations to drawdown specific Interceptor Ditch segments.

4.6 Data Processing

Data shall be compiled on the forms provided (Figures 7-9). Field data will be kept for 24 months. Field data shall be distributed as follows:

a. Original- FPL Environmental Affairs Department.

b. One Copy- Retain on file at FPL Land Utilization Department at Turkey Point.

c. One Copy- Forwarded to FPL's Consultant.

4.7 Annual Report

An Annual Summary Report covering the preceding year's monitoring and operations data will be compiled and subsequently submitted to the South Florida Water Management District by the end of August of each year.

These reports, to be retained for the life of the Interceptor Ditch Program, will consist of the following elements:

a. a description of any operational or structural changes made to the Interceptor Ditch System,

b. a description of climatological conditions, including any unusual events,

c. a description of the results of the previous year's monitoring program,

d. updated time-history plots for all wells and parameters monitored and,

e. time-history plots for each Interceptor Ditch pumping station.

Distribution shall be in accordance with the following:

One Copy - Forward to South Florida Water Management District

4.8 Equipment Maintenance

Occasional cleaning of the staff gages is required when algae and other marine growths inhibit reading of the staff gages. Care must be taken when cleaning to prevent damage to or movement of the staff gages.

FIGURES

1. Groundwater Monitoring Program well locations.
2. Interceptor Ditch, Levee-31 Well and Pump Locations.
3. Historical conductivity-chloride relationship.
4. Raw Data Forms.
5. Calibration Log.
6. Interceptor Ditch Program Operational Flow Diagram.
7. Interceptor Ditch, Levee-31, Canal 32 Water Level Data.
8. Interceptor Ditch, Levee-31, Canal 32 Water Level Data.
9. Interceptor Ditch Pump Operation Log.

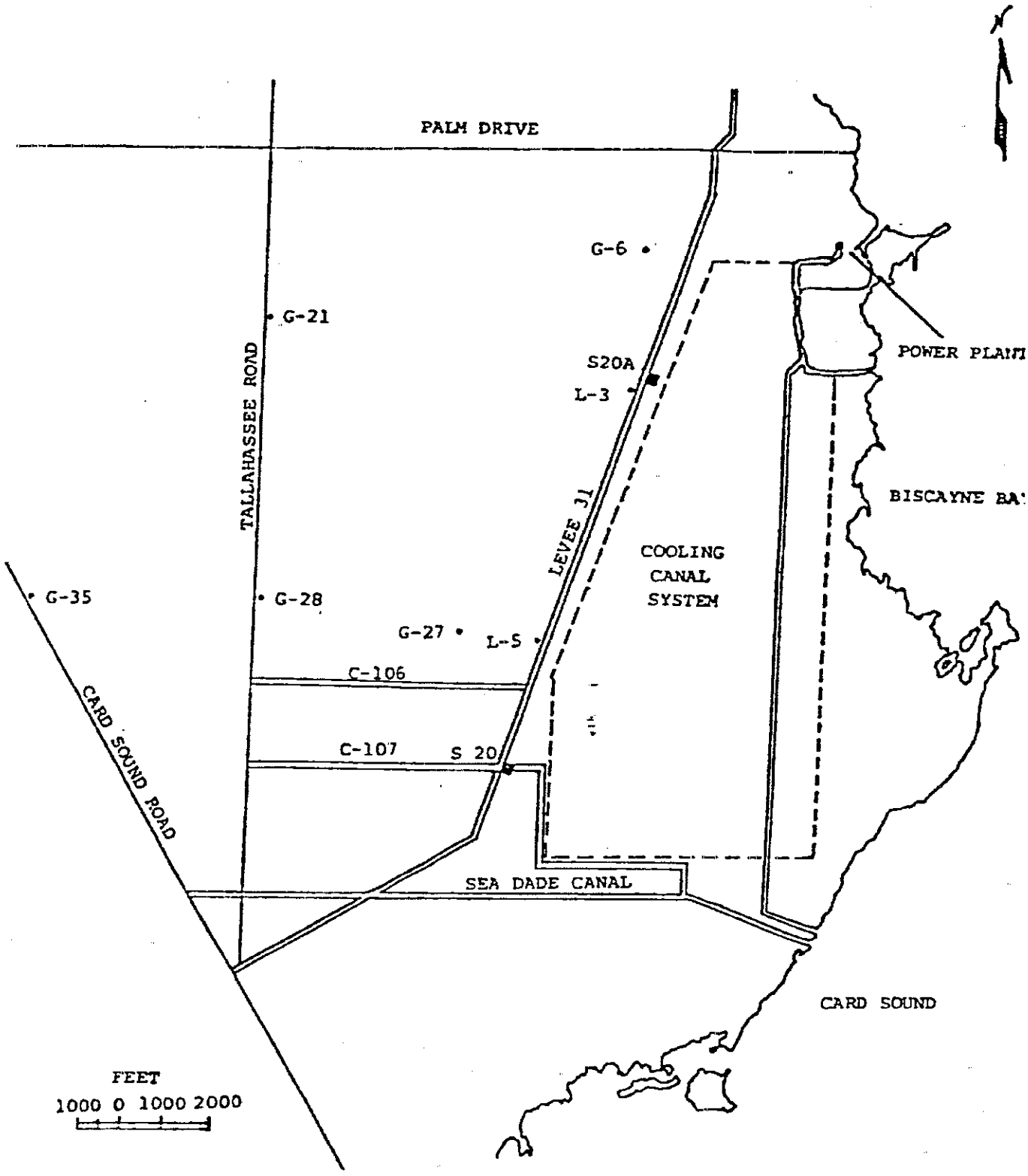

Figure 1. Groundwater Monitoring Program Well Locations

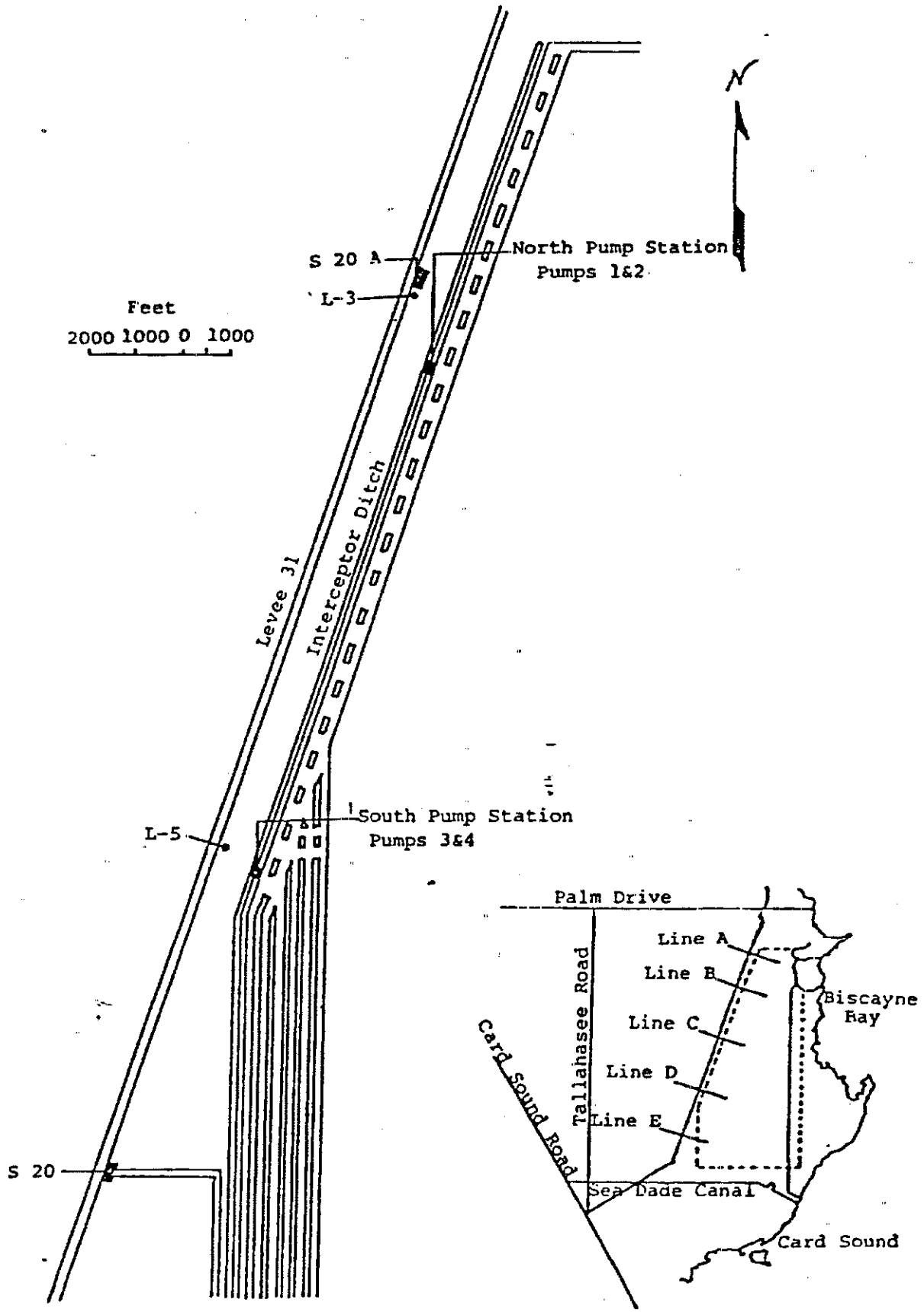

Figure 2. Interceptor Ditch, Levee-31, Well and Pump Locations

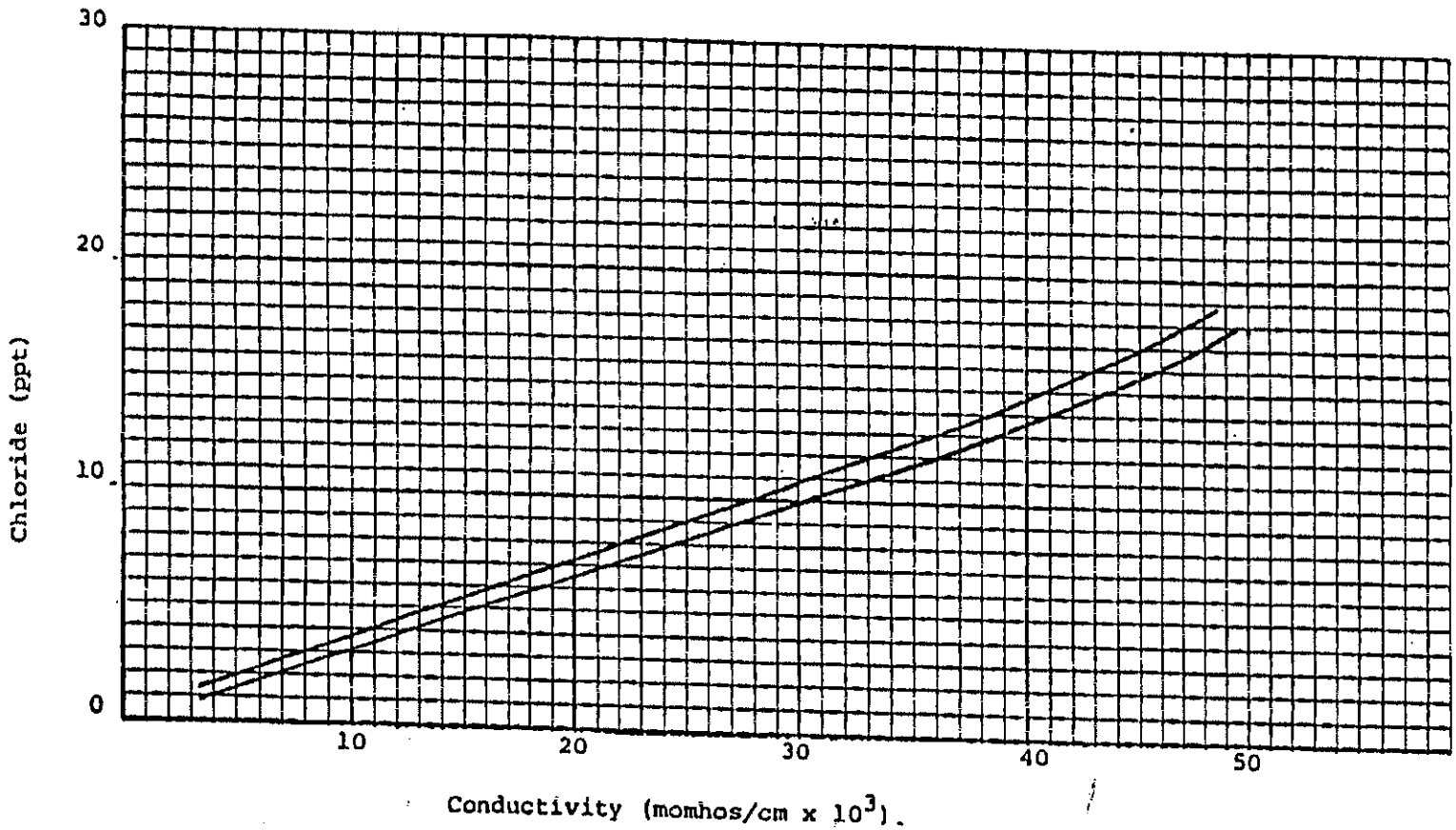

Figure 3. Conductivity-Chloride relationship, G-Wells.

GROUND WATER MONITORING PROGRAM
FCD WELL SERIES
TURKEY POINT, FLORIDA

ELL ID [| | |] (1-4)

DATE (MN/DD/YY) [| | / | | / | |] (10-17)

CHECKED BY _____

CASING ELEVATION (FT.MSL) _____

TIME [| | | |] (20-23)

RECORDER [| | |] (25-27)

WATER LEVELS (FT) (DEPTH BELOW CASING)

GROUND [| | | |] (30-33)

SURFACE [| | | |] (35-38)

CHARACTERISTIC DATE [| | | | - | |] MONTH-YY (40-46)

WATER ELEVATION (FT) GROUND _____ SURFACE _____

DEPTH BELOW CASING (FT)	COND. (UMHOS/CM)	TEMP. (°C)	DEPTH BELOW CASING (FT)	COND. (UMHOS/CM)	TEMP. (°C)	DEPTH BELOW CASING (FT)	COND. (UMHOS/CM)	TEMP. (°C)

CALIBRATION LOG

Instrument: _____

Date/Time: _____

Technician: _____

Checked By: _____

	Conductivity	Temperature
1. Before Monitoring (Laboratory)		
Calibration Standard		
Meter Reading		
Meter Adjusted to Read		
2. During Monitoring		
A.		
B.		
C.		
D.		
E.		
3. After Monitoring (Laboratory)		
Calibration Standard		
Meter Reading		
Deviation		

Correction Applied (Explain): _____

_____

_____

_____

INTERCEPTOR DITCH PROGRAM
OPERATIONAL FLOW DIAGRAM

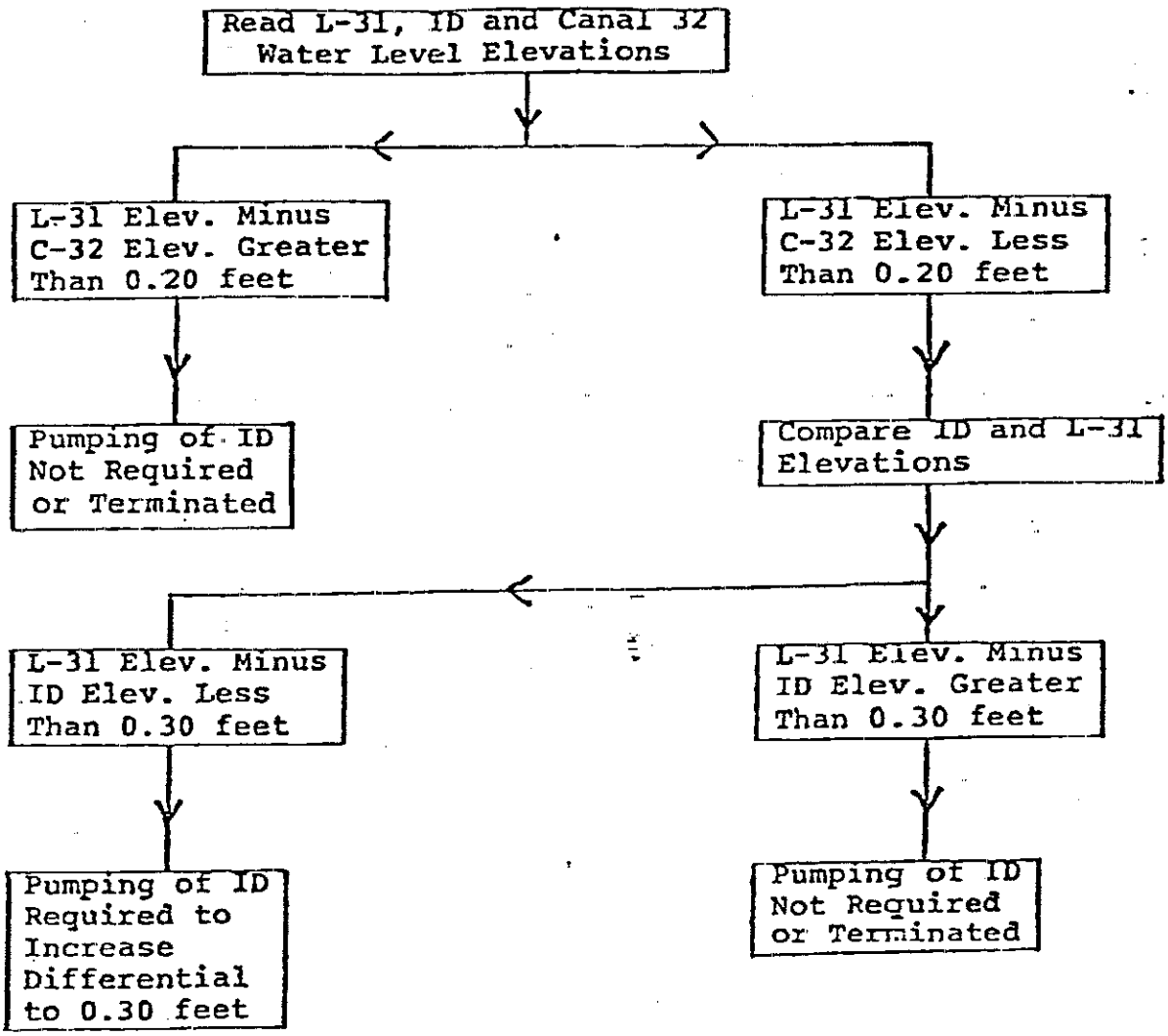

Figure 6.

WATER LEVELS - LEVEE 31, CANAL 32, INTERCEPTOR DITCH

INTERCEPTOR DITCH PROGRAM

MONTH/YEAR_____

LINE A						LINE B						LINE C						LINE D						LINE E						
L-31 FT, MSL	10 FT, MSL	C-32 FT, MSL	L-31 MINUS C-32, FT *	PUMPING RECD.	L-31 MINUS 10, FT	L-31 FT, MSL	10 FT, MSL	C-32 FT, MSL	L-31 MINUS C-32, FT *	PUMPING RECD.	L-31 MINUS 10, FT	L-31 FT, MSL	10 FT, MSL	C-32 FT, MSL	L-31 MINUS C-32, FT *	PUMPING RECD.	L-31 MINUS 10, FT	L-31 FT, MSL	10 FT, MSL	C-32 FT, MSL	L-31 MINUS C-32, FT *	PUMPING RECD.	L-31 MINUS 10, FT	L-31 FT, MSL	10 FT, MSL	C-32 FT, MSL	L-31 MINUS C-32, FT *	PUMPING RECD.	L-31 MINUS 10, FT	OBSERVER

* IF L-31 MINUS C-32 IS LESS THAN 0.2 FEET, THEN COMPLETE NEXT TWO COLUMNS

CALIBRATION LINE

Figure 7

WATER LEVELS - LEVEE 31, CANAL 32, INTERCEPTOR DITCH

INTERCEPTOR DITCH PROGRAM

MONTH/YEAR_____

DAY	LINE A						LINE B						LINE C						LINE D						LINE E						OBSERVER
	L-31 FT, MSL	10 FT, MSL	C-32 FT, MSL	L-31 MINUS C-32, FT *	PUMPING REQ'D	L-31 MINUS 10, FT	L-31 FT, MSL	10 FT, MSL	C-32 FT, MSL	L-31 MINUS C-32, FT *	PUMPING REQ'D	L-31 MINUS 10, FT	L-31 FT, MSL	10 FT, MSL	C-32 FT, MSL	L-31 MINUS C-32, FT *	PUMPING REQ'D	L-31 MINUS 10, FT	L-31 FT, MSL	10 FT, MSL	C-32 FT, MSL	L-31 MINUS C-32, FT *	PUMPING REQ'D	L-31 MINUS 10, FT	L-31 FT, MSL	10 FT, MSL	C-32 FT, MSL	L-31 MINUS C-32, FT *	PUMPING REQ'D	L-31 MINUS 10, FT	
17																															
18																															
19																															
20																															
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29																															
30																															
31																															

* IF L-31 MINUS C-32 IS LESS THAN 0.2 FEET, THEN COMPLETE NEXT TWO COLUMNS

Figure 8

INTERCEPTOR DITCH PUMP OPERATION

MONTH / YEAR _____

		PUMP NO. 1		PUMP NO. 2			PUMP NO. 3		PUMP NO. 4		
DAY OF MONTH	TIME	STAFF GAGE READING	I.D. SECTION BEING PUMPED	STAFF GAGE READING	I.D. SECTION BEING PUMPED	TIME	STAFF GAGE READING	I.D. SECTION BEING PUMPED	STAFF GAGE READING	I.D. SECTION BEING PUMPED	CROSSOVER
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
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APPENDIX 10.4.1.2

FDER AIR PERMITTING EXEMPTION LETTER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE FLORIDA 32399-2400

BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

RECEIVED
MAR 14 1988
MANAGER
PERMITTING & PROGRAMS

March 8, 1988

RECEIVED
MAR 24 1988
ENV. PERMITTING

Dr. Martin A. Smith
Florida Power & Light Company
Post Office Box 14000
Juno Beach, Florida 33408

Re: Proposed FPL Emergency Diesel Generators

Dear Dr. Smith:

The Department has reviewed the information submitted by Florida Power & Light Company regarding the two emergency diesel generating sets to be constructed at the Turkey Point Power Plant. Based upon that information, the Department has determined, pursuant to Rule 17-4.04(11), F.A.C., that the proposed diesel generators will not emit any regulated air pollutants in sufficient quantity as to contribute significantly to the air pollution problems within the State. Additionally, in view of the Department's current consideration of expansion of the specific permit exemptions in F.A.C. Rule 17-2.210(3) to include various types of standby and emergency generating units, the Department has determined that no permit action regarding the proposed diesel generators is necessary at this time. This decision will be reviewed following completion of the Department's corrective amendments rulemaking, in light of any new permit exemptions adopted as part of that effort.

This exemption does not relieve FPL from obtaining any permits that may be required by other state, federal or local laws.

Sincerely,

Dale Twachtmann

Dale Twachtmann
Secretary

DT/jp

APPENDIX 10.4.1.3

FDEP PERMIT #93-115 LETTER

~ Florida Department of ~
# Environmental Protection

Lawton Chiles
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Virginia B. Wetherell
Secretary

February 8, 1994

Mr. Mark A. Jones, Environmental Specialist
Florida Power and Light Company
Post Office Box 088801
North Palm Beach, Florida 33408

RE: File Number: 9311-0613-115ATN
Location: Turkey Point Power Plant

Dear Mr. Jones:

The Florida Marine Patrol has **amended** your request for placement of aids to navigation in the Turkey Point Power Plant Channel, within Dade County.

Permit number 93-115 has been **amended and reissued** to Florida Power and Light Company and is subject to the following conditions:

1. Permit number 93-115 is contingent upon the consent of, and if necessary, the issuance of appropriate permits by the United States Coast Guard and the United Sates Department of Army Corps of Engineers, authorizing the placement of structures for the support of the aids to navigation.

2. This permit requires Florida Power and Light Company to place twenty-seven (27) aids to navigation, exactly as indicated on the attached marker list. Each marker(s) shall be consistent with the Florida Uniform Waterway Marking System format as shown on the attached diagram.

3. All aids to navigation must be manufactured in accordance with your approved United States Coast Guard permit. Permit number 93-115 must be displayed on each aid to navigation at any location where it is readily visible. These numbers must be displayed in black block characters measuring at least one (1") inch in height.

4. The placement of aids to navigation shall be completed within a reasonable time after receipt of this permit. If the information for any marker(s) varies from the originally permitted marker list, Florida Power and Light Company must immediately provide this office with the corrected information. Such changes will require that this permit be amended.

5. All aids to navigation authorized under this permit must be maintained in proper condition at all times. Florida Power and Light Company must immediately report and correct any discrepancies of any marker to this office by calling 904-488-5600, extension 36 or 65, or by facsimile at 904-488-6425.

Printed on recycled paper

6. Permit number 93-115 does not authorize the invasion of private rights, nor grant any exclusive privileges, nor does it obviate the necessity of complying with any other state, federal, or local laws and regulations.

7. By accepting permit number 93-115 and placement of the aids to navigation, Florida Power and Light Company does hereby, to the extent authorized by law, agree and promise to hold harmless the State of Florida, its employees, agents or successors, from fault with respect to any claim or claims arising from alleged negligence in the placement, maintenance, operation, and removal of any and all markers placed by Florida Power and Light Company pursuant to this permit. Florida Power and Light Company further agrees to indemnify the State of Florida for any and all legal fees and costs incurred in defense of any suit brought against the State as a result of alleged negligence by Florida Power and Light Company in the placement, maintenance, operation, or removal of the aids to navigation.

8. Violation of any provision of this permit shall result in the revocation of the authorization to place uniform waterway markers in, on, or above the waters of this state.

If you have any questions, please contact Tara Alford or Vicki Flannagan at 904-488-5600, extensions 36 or 65.

Sincerely,

Major J. K. Thompson
Office of Waterway Management
Florida Marine Patrol

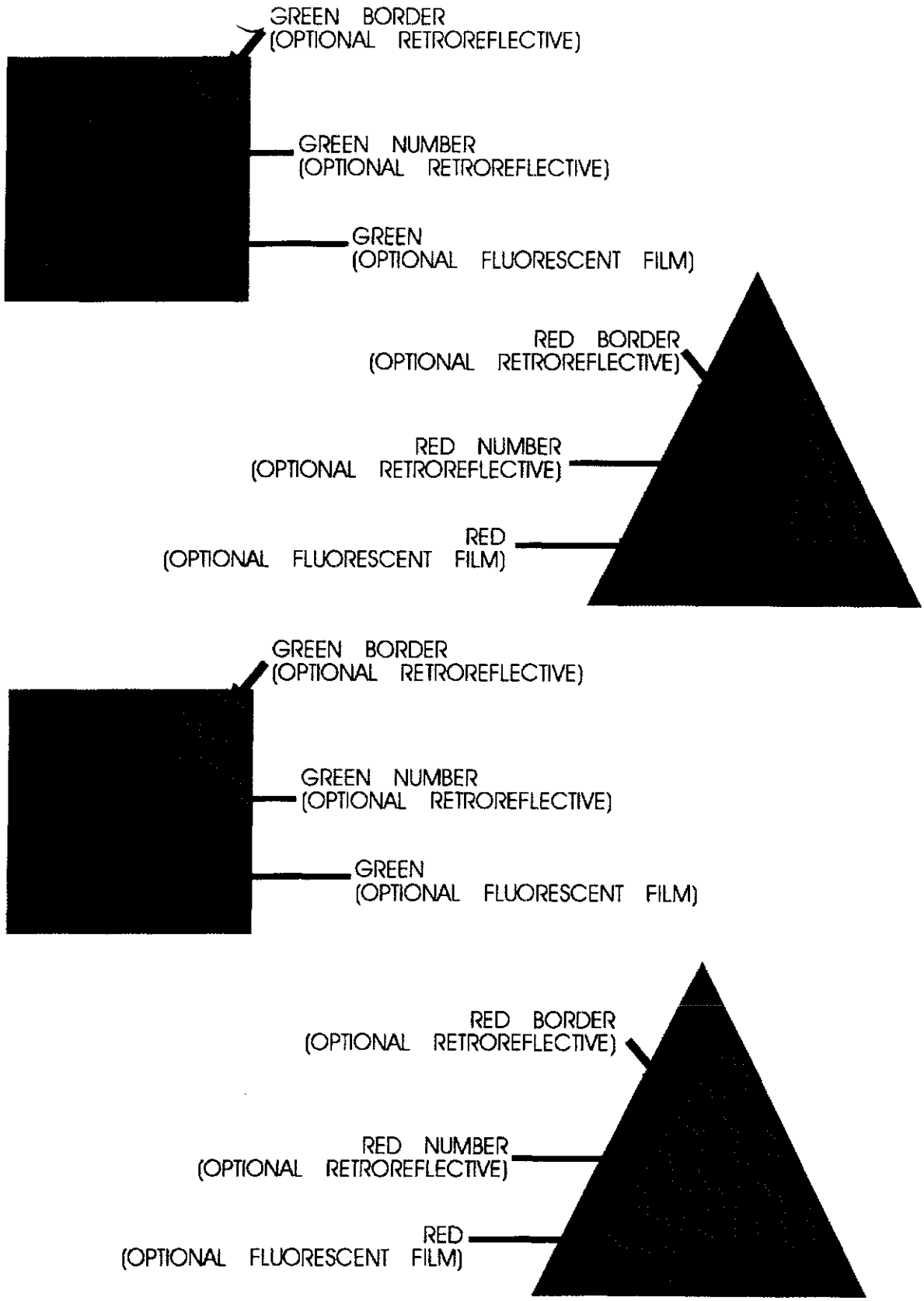
JKT/tra
Attachment
cc: Captain Brian Hadler, USCG
Mr. Bertil Heimer, USDOA
Lieutenant Colonel L. W. Shelfer, FMP
Major K. B. Clark, FMP
TURKEY3:BSI

NOTICE OF RIGHTS

A party to this proceeding has the right to request review of this order by the Governor and Cabinet, sitting as the Land and Water Adjudicatory Commission, in accordance with section 3, Chapter 93-213, Laws of Florida. To initiate such a review, your request must be filed within twenty (20) days of the date of this order with any member of the Land and Water Adjudicatory Commission at the Capitol, Tallahassee, Florida 32399-0001, or with the Secretary of the Commission at the Carlton Building, Room 213, Tallahassee, Florida 32399-8047. A copy of the request must also be served on both the Department of Environmental Protection, Agency Clerk, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee Florida 32399, and on any person named in this order, within 20 days from the date of this order if the request for review is to be effective

FILE NO: 9311-0613-115-ATN FLORIDA UNIFORM WATERWAY MARKER LIST Approved

NO.	LAT/LONG	SITE	LOCATION	MOUNTING	DIRECTION	SYMBOL	WORDAGE
1	252814/801705	Bay/Sound	Water	Piling/Pole			WHITE LIGHT (2)
2	252757/801721	Bay/Sound	Water	Buoy			GREEN DAY MARK 3
3	252758/801722	Bay/Sound	Water	Buoy			RED DAY MARK 4
4	252749/801733	Bay/Sound	Water	Buoy			GREEN DAY MARK 3A
5	252750/801734	Bay/Sound	Water	Buoy			RED DAY MARK 4A
6	252741/801744	Bay/Sound	Water	Buoy			GREEN DAY MARK 5
7	252742/801744	Bay/Sound	Water	Buoy			RED DAY MARK 6
8	252733/801755	Bay/Sound	Water	Buoy			GREEN DAY MARK 7
9	252734/801755	Bay/Sound	Water	Buoy			RED DAY MARK 8
10	252726/801805	Bay/Sound	Water	Buoy			GREEN DAY MARK 9
11	252727/801806	Bay/Sound	Water	Buoy			RED DAY MARK 10
12	252718/801816	Bay/Sound	Water	Buoy			GREEN DAY MARK 11
13	252719/801817	Bay/Sound	Water	Buoy			RED DAY MARK 12
14	252710/801827	Bay/Sound	Water	Buoy			GREEN DAY MARK 13
15	252711/801828	Bay/Sound	Water	Buoy			RED DAY MARK 14
16	252703/801838	Bay/Sound	Water	Buoy			GREEN DAY MARK 15
17	252703/801839	Bay/Sound	Water	Buoy			RED DAY MARK 16
18	252655/801849	Bay/Sound	Water	Buoy			GREEN DAY MARK 17
19	252655/801850	Bay/Sound	Water	Buoy			RED DAY MARK 18
20	252647/801900	Bay/Sound	Water	Buoy			GREEN DAY MARK 19
21	252647/801801	Bay/Sound	Water	Buoy			RED DAY MARK 20
22	252639/801911	Bay/Sound	Water	Buoy			GREEN DAY MARK 21
23	252640/801912	Bay/Sound	Water	Buoy			RED DAY MARK 22
24	252631/801922	Bay/Sound	Water	Buoy			GREEN DAY MARK 23
25	252632/801923	Bay/Sound	Water	Buoy			RED DAY MARK 24
26	252624/801933	Bay/Sound	Water	Buoy			GREEN DAY MARK 25
27	252624/801934	Bay/Sound	Water	Buoy			RED DAY MARK 26



***MINIMUM SIGN SIZE = 18 inches*

APPENDIX 10.4.1.4

TITLE V AIR OPERATION PERMIT #0250003-004-AV

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit by:

Vincent Laudato
Responsible Official
Florida Power and Light Company
9760 SW 344th Street
Florida City, FL 33035

FINAL Permit No.: 0250003-004-AV
Turkey Point Nuclear Plant

Enclosed is FINAL Title V Air Operation Permit Number 0250003-004-AV for the operation of the Turkey Point Nuclear Plant located at 9760 SW 344th Street, Florida City, Dade County, issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit) has the right to seek judicial review of the permit revision pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; 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 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Trina L Vielhauer

Trina Vielhauer, Chief
Bureau of Air Regulation

STATEMENT OF BASIS

Florida Power & Light
Turkey Point Nuclear Plant
Facility ID No. 0250003
Dade County

Title V Air Operation Permit Renewal
FINAL Permit No. 0250003-004-AV

This Title V Air Operation Permit Renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, 62-214, 62-296, and 62-297. The above named permittee is hereby authorized to perform the work or operate the facility shown in the application and approved drawings, plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

The Turkey Point Title V Source is composed of two separate co-located power plants: the Fossil Plant and the Nuclear Plant. As discussed in DEP Form No. 62-210.900(1), facilities which have emissions units subject to regulation by the Nuclear Regulatory Commission (NRC) may submit a separate application for those units. Therefore this permit, No. 0250003-004-AV, addresses only the (non-nuclear) operations at the Nuclear Plant. The operations at the Fossil Plant are addressed in a separate Title V permit, No. 0250003-005-AV.

The Nuclear Plant consists of two nuclear generating units with a combined capacity of 1,332 megawatts, nine diesel emergency generators, and miscellaneous diesel engines. The two nuclear generating units which are regulated by the NRC are not included in this application.

Emissions unit 005 consists of four Electro-Motive (GM) Model 20-645-E4 emergency diesel generators. The generators are referred to by facility personnel as units 3A, 3B, 4A, and 4B. The generators supply backup power to the nuclear power plant auxiliary equipment. These units fire low sulfur (0.5%) diesel fuel. Units 3A and 3B commenced operation in November, 1972, while units 4A and 4B commenced operation in 1991. CAM does not apply.

Emissions unit 006 consists of five other diesel emergency generators used for the plant's security system, wastewater treatment and water supply, and meteorological assessment. These generators also fire low sulfur (0.5%) diesel fuel. CAM does not apply.

Emissions unit 007, consists of the following miscellaneous diesel plant equipment:

(6) Service Air compressor diesel engines;
(3) hydrolazer diesel engines;
(2) instrument air compressor diesel engines;
(1) standby steam generator feed pump diesel engine;
(1) service water diesel pump.
CAM does not apply.

Also included in this permit are miscellaneous insignificant emissions units and activities.

Based on the Title V Permit Renewal application received May 12, 2003, this Title V Source is a major source of hazardous air pollutants (HAPs).

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the FINAL permit) was sent by certified mail (*) and copies were mailed by U.S. Mail E-Mail before the close of business on 12/18/03 to the person(s) listed, or as otherwise noted:

Vincent Laudato, Responsible Official, Turkey Point Nuclear Plant
Mary Archer, Florida Power and Light Company
Kennard F. Kosky, P.E., Golder Associates, Inc.
Patrick Wong, Dade County DERM, AWQD
U.S. EPA, Region 4

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120 52(7), Florida Statutes, with the designated agency Clerk, receipt of which is hereby acknowledged.

Barbara J. Findley (Clerk) 12/18/03 (Date)

Department of Environmental Protection

Jeb Bush
Governor

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

David B. Struhs
Secretary

Permittee:
Florida Power & Light Company
Turkey Point Nuclear Plant
9760 S.W. 344th Street
Florida City, Florida 33035

FINAL Permit No.: 0250003-004-AV
Facility ID No.: 0250003
SIC Nos.: 49, 4911
Project: Title V Air Operation Permit Renewal

This permit is for the operation of the Turkey Point Nuclear Plant, and to renew Title V Air Operation Permit No. 0250003-002-AV. This facility is located 10 miles east of Florida City on Palm Drive, Dade County; UTM Coordinates: Zone 17, 567.2 km East and 2813.2 km North; Latitude: 25° 26' 09" North and Longitude: 80° 19' 52" West.

This Title V Air Operation Permit Renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee 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 permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:
Appendix U-1, List of Unregulated Emissions Units and Activities
Appendix I-1, List of Insignificant Emissions Units and Activities
APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/07/96)
TABLE 297.310-1, CALIBRATION SCHEDULE (version dated 10/07/96)
APPENDIX TV-4, TITLE V CONDITIONS (version dated 02/12/02)

Effective Date: January 1, 2004
Renewal Application Due Date: July 5, 2008
Expiration Date: December 31, 2008

Michael G. Cooke, Director,
Division of Air Resource Management

MGC/sms/bb

Florida Power & Light
Turkey Point Nuclear Plant
Facility ID No.: 0250003
Dade County

Title V Air Operation Permit Renewal
FINAL Permit No.: 0250003-004-AV
Renewal of Title V Air Operation Permit No.: 0250003-002-AV

Permitting Authority:
State of Florida
Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
Title V Section

Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Telephone: 850/488-0114
Fax: 850/922-6979

Compliance Authority:
Dade County Department of Environmental Resources Management
33 Southwest Second Avenue, Suite 900
Miami, Florida 33130-1540

Telephone: 305/372-6925
Fax: 305/372-6954

Title V Air Operation Permit Renewal
FINAL Permit No.: 0250003-004-AV
Renewal of Title V Air Operation Permit No.: 0250003-002-AV

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Permittee:
Florida Power & Light Company
Turkey Point Nuclear Plant
9760 S.W. 344th Street
Florida City, Florida 33035

FINAL Permit No.: 0250003-004-AV
Facility ID No.: 0250003
SIC Nos.: 49, 4911
Project: Title V Air Operation Permit Renewal

This permit is for the operation of the Turkey Point Nuclear Plant, and to renew Title V Air Operation Permit No. 0250003-002-AV. This facility is located 10 miles east of Florida City on Palm Drive, Dade County; UTM Coordinates: Zone 17, 567.2 km East and 2813.2 km North; Latitude: 25° 26' 09" North and Longitude: 80° 19' 52" West.

This Title V Air Operation Permit Renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee 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 permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:
Appendix U-1, List of Unregulated Emissions Units and Activities
Appendix I-1, List of Insignificant Emissions Units and Activities
APPENDIX SS-1, STACK SAMPLING FACILITIES (version dated 10/07/96)
TABLE 297.310-1, CALIBRATION SCHEDULE (version dated 10/07/96)
APPENDIX TV-4, TITLE V CONDITIONS (version dated 02/12/02)

Effective Date: January 1, 2004
Renewal Application Due Date: July 5, 2008
Expiration Date: December 31, 2008

Michael G. Cooke, Director,
Division of Air Resource Management

MGC/sms/bb

Section I. Facility Information

Subsection A. Facility Description

The Turkey Point Title V Source is composed of two separate co-located power plants: the Fossil Plant and the Nuclear Plant. This permit, No. 0250003-004-AV, addresses only the (non-nuclear) operations at the Nuclear Plant. The operations at the Fossil Plant are addressed in a separate Title V permit, No. 0250003-005-AV.

The Nuclear Plant consists of two nuclear generating units with a combined capacity of 1,332 megawatts, nine diesel emergency generators, miscellaneous diesel engines, and miscellaneous unregulated and insignificant emissions units and/or activities. This permit does not address the two nuclear generating units which are regulated by the Nuclear Regulatory Commission (NRC).

Based on the initial Title V permit renewal application received May 12, 2003, this Title V Source is a major source of hazardous air pollutants (HAPs).

Subsection B. Summary of Emissions Unit ID No.s and Brief Descriptions

E.U. ID No.	Brief Description
-005	(4) 2.5 MW Diesel Emergency Generators
-006	(5) Other Diesel Emergency Generators
-007	Miscellaneous Diesel Plant Equipment
-008	Unregulated Emissions Units and/or Activities (See Appendix U-1)

Please reference the Permit No., Facility ID No., and appropriate Emissions Unit ID No(s). on all test report submittals, applications, and other correspondence.

Subsection C. Relevant Documents

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

These documents are provided to the permittee for information purposes only:
Table 1-1, Summary of Air Pollutant Standards and Terms
Table 2-1, Summary of Compliance Requirements
Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers
Appendix H-1, Permit History
Statement of Basis

These documents are on file with the permitting authority:
Title V Permit Renewal Application received May 12, 2003

Section II. Facility-wide Conditions
The following conditions apply facility-wide:

1. APPENDIX IV-4, TITLE V CONDITIONS, is a part of this permit. {Permitting note: APPENDIX IV-4, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided a copy when requested or otherwise appropriate.}

2. **Not Federally Enforceable.** General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. The permittee shall not 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.]

3. General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, 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 that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.
[Rule 62-296.320(4)(b)1. & 4., F.A.C.]

4. Prevention of Accidental Releases (Section 112(r) of CAA).
a. The permittee shall submit its risk management plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center when, and if, such requirement becomes applicable. Any Risk Management Plans, original submittals, revisions, or updates to submittals, should be sent to

RMP Reporting Center
Post Office Box 3346
Merriflield, VA 22116-3346
Telephone: 703/816-4434

and,
b. The permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C. [40 CFR 68]

5. Unregulated Emissions Units and/or Activities. Appendix U-1, List of Unregulated Emissions Units and/or Activities, is a part of this permit. [Rule 62-213.440(1), F.A.C.]

6. Insignificant Emissions Units and/or Activities. Appendix I-1, List of Insignificant Emissions Units and/or Activities, is a part of this permit.
[Rules 62-213.440(1), 62-213.430(6), and 62-4.040(1)(b), F.A.C.]

7. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.
[Rule 62-296.320(1)(a)]

8. Not Federally Enforceable. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include:
1. Paving of roads, parking areas and equipment yards;
2. Landscaping and planting vegetation;
3. Use of thick poly-flaps over doorways to prevent any sandblasting material from leaving the sandblast facility. The facility also constructs temporary sandblasting enclosures when necessary in order to perform sandblasting on fixed plant equipment.
4. Maintenance of paved areas;
5. Regular mowing of grass and care of vegetation;
6. Limiting access to plant property by unnecessary vehicles;
7. Bagged chemical products are stored in weather-tight buildings until they are used. Spills of powdered chemical products are cleaned up as soon as possible.
8. Vehicles are restricted to slow speeds on the plant site.
[Rule 62-296.320(4)(c)2., F.A.C.]

9. When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one.
[Rule 62-213.440, F.A.C.]

10. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3), F.A.C., shall be submitted to the Department and EPA within 60 (sixty) days after the end of the calendar year using DEP Form No. 62-213.900(7), F.A.C. [Rules 62-213.440(3) and 62-213.900, F.A.C.]

{Permitting Note: This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. (see Condition 51. of APPENDIX IV-4, TITLE V CONDITIONS)}

11. The permittee shall submit all compliance related notifications, and reports required of this permit to:

Dade County Department of Environmental Resources Management (DERM)
33 Southwest Second Avenue, Suite 900
Miami, Florida 33130-1540
Telephone: 305/372-6925
Fax: 305/372-6954

Note: if acceptable to the agency, applicable correspondence may be submitted by electronic mail.

12. Any reports, data, notification, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency
Region 4
Air, Pesticides, & Toxics Management Division
Operating Permits Section
61 Forsyth Street
Atlanta, Georgia 30303
Telephone: 404/562-9099
Fax: 404/562-9163

13. Certification by Responsible Official (R.O.). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, that statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information.
[Rule 62-213.420(4), F.A.C.]

Section III. Emissions Units and Conditions

E.U. ID No.	Brief Description
-005	(4) 2.5 MW Diesel Emergency Generators
-006	(5) Other Diesel Emergency Generators
-007	Miscellaneous Diesel Plant Equipment

Emissions unit -005 consists of four Electro-Motive (GM) Model 20-645-E4 emergency diesel generators. The generators are referred to by facility personnel as units 3A, 3B, 4A, and 4B. The generators supply backup power to the nuclear power plant auxiliary equipment. These units fire low sulfur (0.5%) diesel fuel. Units 3A and 3B commenced operation in November, 1972, while units 4A and 4B commenced operation in 1991.

Emissions unit -006 consists of five other diesel emergency generators used for the plant's security system, wastewater treatment, and meteorological assessment. These generators also fire low sulfur (0.5%) diesel fuel.

Emissions unit -007, consists of the following miscellaneous diesel plant equipment:

(6) Service Air compressor diesel engines;
(3) hydrolazer diesel engines;
(2) instrument air compressor diesel engines;
(1) standby steam generator feed pump diesel engine;
(1) service water diesel pump

{Permitting note: These units are regulated under Reasonably Available Control Technology (RACT) - Requirements for Major VOC- and NOx-Emitting Facilities Rule 62-297.570, F.A.C. Note: these emissions units exceed the fuel usage limits to qualify for exemption under Rule 62-210.300(3)(a).20. and 21., F.A.C.}

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. The maximum heat input to each generator in emissions unit -005 shall not exceed 24.89 MMBtu per hour. Heat input may be determined by using fuel flow meters in conjunction with the Btu content of the fired fuel. The maximum heat input to each generator in emissions unit -006 shall not exceed 4.08 MMBtu per hour. Emissions unit -007 heat input shall not exceed 5.85 MMBtu per hour.
[Rules 62-4.160(2) & 62-210.200 (PTE), F.A.C.]

A.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition A.13.
[Rule 62-297.310(2), F.A.C.]

A.3. Methods of Operation - Fuels. The only fuel authorized to be burned is new diesel fuel. The sulfur content shall not exceed 0.5 percent by weight.
[Rules 62-4.160(2), 62-210.200, and 62-213.440(1), F.A.C.; applicant requested per Title V application.]

A.4. Annual Hours of Operation. The units may operate continuously, i.e., for 8,760 hours per year.
[Rule 62-210.200, F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting Note: Unless otherwise specified, the averaging time(s) for Specific Condition A.5 is based upon specified averaging time of the applicable test method.}

A.5. Nitrogen Oxides. NOx emissions shall not exceed 4.75 lb. per million Btu heat input. These limits shall apply at all times except during periods of startup, shutdown, or malfunction.
[Rule 62-296.570(4)(b)7. and (c), F.A.C.]

Excess Emissions

A.6. Excess emissions resulting from malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department or DERM for longer duration.
[Rule 62-210.700(1), F.A.C.]

A.7. Excess emissions resulting from startup or shutdown shall be permitted provided that best operational practices to minimize emissions are adhered to and the duration of excess emissions shall be minimized.
[Rule 62-210.700(2), F.A.C.]

A.8. 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(4), F.A.C.]

Test Methods and Procedures

{Permitting Note: The attached Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A.9. NOx Emissions: For units that are not equipped with a continuous emissions monitoring system (CEMS) for NOx, compliance with the emission limits shall be demonstrated by annual emission testing in accordance with applicable EPA Reference Methods from Rule 62-297.401, F.A.C., or other methods approved by the Department in accordance with the requirements of Rule 62-297.620, F.A.C., except as otherwise provided in Rule 62-296.570(4)(b), F.A.C. Annual emission testing shall be conducted during each federal fiscal year (October 1 - September 30). ***Annual compliance testing while firing oil is unnecessary for units operating less than 400 hours in the current federal fiscal year.*** Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision.

For small diesel engines (heat input less than 5 million Btu per hour) operating 400 hours per year or more, compliance shall be demonstrated by a stack test on at least one representative engine for each group of identical engines within the facility.
[Rules 62-296.570(4)(a)3., and 62-297.310(7)(a)3., F.A.C.]

A.10. The test method for NOx shall be EPA Method 7 or 7E, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rules 62-296.570(4)(a)3. and 62-297.401(7), F.A.C.]

A.11. Determination of Process Variables.
(a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
(b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.]

A.12. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic

mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.
[Rule 62-297.310(1), F.A.C.]

A.13. Operating Rate During Testing. Testing of emissions shall be conducted with each emissions unit operating at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.
[Rules 62-297.310(2) & (2)(b), F.A.C.]

A.14. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the separate test runs unless otherwise specified in a particular test method or applicable rule.
[Rule 62-297.310(3), F.A.C.]

A.15. Applicable Test Procedures.
(a) Required Sampling Time.
1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
2. (Not applicable.)
(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.
(c) (Not applicable.)
(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.
(e) (Not applicable.)
[Rule 62-297.310(4), F.A.C.]

A.16. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit. Additionally, the permittee of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the permittee chooses to use temporary sampling facilities on an emissions unit, and DERM elects to test the unit, such temporary facilities shall be installed on the emissions unit within five days of a request by DERM and remain on the unit until the testing is complete.
[Rule 62-297.310(6), F.A.C.]

A.17. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

1. (Not applicable.)

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid fuel for more than 400 hours other than during startup.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

   a. Did not operate; or
   b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1 - September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

   a. Visible emissions, if there is an applicable standard;
   b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
   c. Each NESHAP pollutant, if there is an applicable emission standard.

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid fuel, other than during startup, for a total of more than 400 hours.

6. (Not applicable.)

7. (Not applicable.)

8. (Not applicable.)

9. (See Specific Condition A.22.)

10. An annual compliance test conducted for visible emissions shall not be required for units exempted from permitting at Rule 62-210.300(3)(a), F.A.C., or units permitted under the General Permit provisions at Rule 62-210.300(4), F.A.C.

(b) Special Compliance Tests. When the Department or DERM, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may 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.

(c) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department or DERM, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of Rule 62-297.310(7)(b), F.A.C., shall apply.
[Rule 62-297.310(7)(a)2., 3., 4., 5., 10., (b) & (c), F.A.C.; SIP approved]

A.18. By this permit, annual and permit renewal compliance testing for NOx emissions is not required for these emissions units while burning diesel fuel for less than 400 hours in each generator or engine in the current federal fiscal year.
[Rules 62-297.310(7)(a)3. and 4., F.A.C.]

Recordkeeping and Reporting Requirements

A.19. In the case of excess emissions resulting from malfunctions, the permittee shall notify the Dade County Department of Environmental Resources Management in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Dade County Department of Environmental Resources Management.
[Rule 62-210.700(6), F.A.C.]

A.20. Submit to the Dade County Department of Environmental Resources Management a written report of emissions in excess of emission limiting standards as set forth in Rule 62-296.405(1), F.A.C., for each calendar quarter. The nature and cause of the excess emissions shall be explained. This report does not relieve the permittee of the legal liability for violations. All recorded data shall be maintained on file by the Source for a period of five years.
[Rules 62-213.440 and 62-296.405(1)(g), F.A.C.]

A.21. Test Reports
(a) The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department and Dade County Department of Environmental Resources Management on the results of each such test.
(b) The required test report shall be filed with the Department and Dade County Department of Environmental Resources Management as soon as practical but no later than 45 days after the last sampling run of each test is completed.
(c) The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department and Dade County Environmental Resources Management to determine if the test was properly conducted and the test results properly

computed. The test report other than for an EPA or DEP Method 9 test, shall provide the following information, as appropriate:

1. The type, location, and designation of the emissions unit tested.
2. The facility at which the emissions unit is located.
3. The owner or operator of the emissions unit.
4. 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.
5. 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 emission limiting standard.
6. The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
7. A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
8. The date, starting time and duration of each sampling run.
9. The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
10. The number of points sampled and configuration and location of the sampling plane.
11. For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
12. The type, manufacturer and configuration of the sampling equipment used.
13. Data related to the required calibration of the test equipment.
14. Data on the identification, processing and weights of all filters used.
15. Data on the types and amounts of any chemical solutions used.
16. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
17. The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
18. All measured and calculated data required to be determined by each applicable test procedure for each run.
19. The detailed calculations for one run that relate the collected data to the calculated emission rate.
20. The applicable emission standard, and the resulting maximum allowable emission rate for the emissions unit, plus the test result in the same form and unit of measure.
21. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rules 62-213.440 and 62-297.310(8), F.A.C.]

A.22. The owner or operator shall notify the Department or DERM, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.
[Rule 62-297.310(7)(a)9., F.A.C.]

Appendix H-1: Permit History

Florida Power and Light
Turkey Point Nuclear Station

FINAL Permit No.: 0250003-004-AV
Facility ID No.: 0250003

E.U. ID No.	Description	Permit No.	Effective Date	Expiration Date	Project Type [1]
All	Facility	0250003-002-AV	1/1/1999	12/31/2003	Initial
All	Facility	0250003-004-AV	1/1/2004	12/31/2008	Renewal

[1] Project Type (select one): Title V: Initial, Revision, Renewal, or Admin. Correction; Construction (new or mod.); or, Extension (AC only).

Appendix I-1, List of Insignificant Emissions Units and Activities

Florida Power & Light
Turkey Point Nuclear Station
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The facilities, emissions units, or pollutant-emitting activities listed in Rule 62-210.300(3)(a), F.A.C., Categorical Exemptions, are exempt from the permitting requirements of Chapters 62-210 and 62-4, F.A.C.; provided, however, that exempt emissions units shall be subject to any applicable emission limiting standards and the emissions from exempt emissions units or activities shall be considered in determining the potential emissions of the facility containing such emissions units. Emissions units and pollutant-emitting activities exempt from permitting under Rule 62-210.300(3)(a), F.A.C., shall not be exempt from the permitting requirements of Chapter 62-213, F.A.C., if they are contained within a Title V source; however, such emissions units and activities shall be considered insignificant for Title V purposes provided they also meet the criteria of Rule 62-213.430(6)(b), F.A.C. No emissions unit shall be entitled to an exemption from permitting under Rule 62.210.300(3)(a), F.A.C., if its emissions, in combination with the emissions of other units and activities at the facility, would cause the facility to emit or have the potential to emit any pollutant in such amount as to make the facility a Title V source.

The below listed emissions units and activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

Brief Description of Emissions Unit and Activities

1. Internal combustion engines in boats, aircraft and vehicles used for transportation of passengers or freight.
2. Cold storage refrigeration equipment, except for any such equipment located at a Title V source using an ozone-depleting substance regulated under 40 CFR Part 82.
3. Vacuum pumps in laboratory operations.
4. Equipment used for steam cleaning.
5. Belt or drum sanders having a total sanding surface of five square feet or less and other equipment used exclusively on wood or plastics or their products having a density of 20 pounds per cubic foot or more.
6. Equipment used exclusively for space heating, other than boilers.
7. Laboratory equipment used exclusively for chemical or physical analyses.
8. Brazing, soldering or welding equipment.
9. One or more emergency generators located within a single facility provided:
    a. None of the emergency generators is subject to the Federal Acid Rain Program; and
    b. Total fuel consumption by all such emergency generators within the facility is limited to 32,000 gallons per year of diesel fuel, 4,000 gallons per year of gasoline, 4.4 million standard cubic feet per year of natural gas or propane, or an equivalent prorated amount if multiple fuels are used.
10. One or more heating units and general purpose internal combustion engines located within a single facility provided:
    a. None of the heating units or general purpose internal combustion engines is subject to the Federal Acid Rain Program; and
    b. Total fuel consumption by all such heating units and general purpose internal combustion engines within the facility is limited to 32,000 gallons per year of diesel

Appendix I-1, List of Insignificant Emissions Units and Activities

fuel, 4,000 gallons per year of gasoline, 4.4 million standard cubic feet per year of natural gas or propane, or an equivalent prorated amount if multiple fuels are used.

11. Fire and safety equipment.

12. Surface coating operations within a single facility if the total quantity of coatings containing greater than 5.0 percent VOCs, by volume, used is 6.0 gallons per day or less, averaged monthly, provided:

a. Such operations are not subject to a volatile organic compound Reasonably Available Control Technology (RACT) requirement of Chapter 62-296, F.A.C.; and

b. The amount of coatings used shall include any solvents and thinners used in the process including those used for cleanup.

13. Surface coating operations utilizing only coatings containing 5.0 percent or less VOCs, by volume.

14. Degreasing units using heavier-than-air vapors exclusively, except any such unit using or emitting any substance classified as a hazardous air pollutant.

15. Bakery ovens and confection cookers when the products are edible and intended for human consumption.

16. Laundry dryers, extractors or tumblers for fabrics cleaned with only water solutions of bleach or detergents.

17. Portable air curtain incinerators except any air curtain incinerator intended to be continuously operated at one site for more than six months or at any Department- permitted landfill for any length of time; provided:

a. Only land clearing debris or clean dry wood is burned;

b. Pit width, length, and side walls are properly maintained so that combustion of the waste within the pit is maintained at an adequate temperature and with sufficient air recirculation to provide enough residence time and mixing for complete combustion and control of emissions. Pit width shall not exceed twelve (12) feet, and vertical side walls shall be maintained;

c. No waste is positioned to be burned above the level of the air curtain in the pit;

d. Visible emissions do not exceed 40 percent opacity except for up to 30 minutes during periods of startup and shutdown;

e. The air curtain incinerator is located at least 300 feet away from any occupied building if it has refractory- lined walls and forced underdraft air or otherwise at least 1,000 feet away from any occupied building; and

f. The burning is ignited after 9:00 a.m. and extinguished at least one hour before sunset, except that, in the case of an air curtain incinerator with refractory-lined walls and forced underdraft air which is located at least 1,000 feet away from any off-site occupied building, the burning may commence at sunrise, and the air curtain incinerator may be charged until sunset provided it does not create a nuisance.

18. Turbine Lube Oil system components.

19. Activities and/or emission sources regulated by the Nuclear Regulatory Commission pursuant to the Atomic Energy Act.

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Appendix I-1, List of Insignificant Emissions Units and Activities

Insignificant Activities

Reactor Power Operation
Fuel Pool Cooling
Safety Injection Tanks
Misc. Primary System Cooling
Contaminant Purge
Waste Hold-up Tanks
Volume Control Tank
Surge Tank
Boric Acid Storage Tank
Control Room Toilet Vents
High Pressure Safety Injection
Laundry Rooms Vents
Chemical Hot Labs
Demineralizer Water Tank
Fuel Building Exhaust
Offices/ computer rooms
Turbine Switch Gear
Atmospheric Dumps
Steam Jet Air Ejector
Condensate Polisher
System Generator Blowdown
Chemistry Store Room
Satellite Accumulation Drum
Raw Water Storage Tank
Neutralization Tank
Brine Heating Tank
Equipment
Hydrogen tube Trailer
Lawn Maintenance
Temporary Trailer Offices
Ranger Hut Vents
Sludge Tankers
Cafeteria Vents
Break Area Vents
Speakout Vents
Backfit QC Building Vents
Switchyard Transformer Vents
Gun Range
Refueling Water Tank
Reactor Drain Tank
RCP Seal Injection
Contaminant Cleanup
Equipment Drain Tank
PCP Oil Collection Tank
Spent Resin Tank
Primary Water Tank/Degas
Control Room kitchen vents
Chemical Add Tank
Health Physics Office Vent
Containment Spray
RCS Sample System
Fuel Pool
Diesel Oil Storage Tanks
Electrical Generator CO_2
Transformer Cooling Fans
Safety Relief Valves
Water Box Priming
Chemical Addition Tanks
Chemistry Cold Lab
Turbine Lube Oil Tank
Used Oil Collection
Resin and Charcoal Vessels
Sulfuric Acid Tank
Degasifier
Gas house
Hydrolazing
Open Material Stockpiles
Port-a-johns
Machine Stop Vents
Maintenance Building Vents
ANPO Vents
Carpenter Shop/Office Vents
HP Support Office Vents
Paint Building Vents
Fitness Center Vents
Day Care Center Vents
Pressurizer
Letdown Heat Exchanger
Reactor Refueling
Laundry Drain Tank
Plant Vent
Waste Ion Exchange and Filters
Hol-up Tanks
Gas Decay Tanks
Aux Building Exhaust
Lead Acid Battery Room Vents
Low Pressure Safety Injection
Resin Transfer Operations
PASS Sample System
Chemistry/HP Counting Rooms
Dry Storage Warehouse
Electrical Generator H_2
Transformer Maintenance
Auxiliary Steam
Gland Steam Recovery Tank
Wet Lay-up System and Tank
Chemistry Operations Offices
Oily Water Separators
Screen Wash Collection Pit
Neutralization Basin
Sodium Hydroxide Tanks
AC Shop Vents
Nitrogen Dewar / Trailer
Pesticide Application
Storm Basins
Feed Pump Seal Leakoff/Tank
Sewage Plant gases
Covered Work Area Vents
Fire House Materials
Weld Test Shop Vents
Shop Vents
Oil Storage Building Vents
Picnic Pavillion Vents
'Slime Sucker' pumps @ L.U.

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Insignificant Activities Cont.

Operations Support Center Vents
Backfit Maintenance Building Vents
Security Building Vents
Radioactive Source Building Vents
Haz Waste Storage Building Vents
Liquid Radwaste Monitoring Tanks
Waste Gas Compressors
Lube Oil Vapor Extractor System
Turbine Cooling Water System
Steam Generator Wet Lay-up
Water Treatment Plant control building
Warehouse offices Vents
Steam Generator Sludge Lancing
HP/FFD/Site Med/Sec Office Vents
Nuclear Administration Building Vents
Aerosol Can Puncturing
Boric Acid Make-up Tanks
CVCS Ion Exchange and Filters
DEH System Reservoir
Excitor Cooling System
Flammable Liquid Storage Cabinets
Condenser Storage Tank and Degasifier
Use of spray cans and solvents for routine Maintenance

Appendix U-1, List of Unregulated Emissions Units and Activities
Florida Power & Light Company **FINAL Permit No.:** 0250003-004-AV
Turkey Point Nuclear Station

Unregulated Emissions Units and Activities. An emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards.

The emissions units and activities listed below are neither 'regulated emissions units' nor 'insignificant emissions units'.

E.U. ID No.	Brief Description of Emissions Unit and Activity
008	Lube oil vapor extractor system
	Turbine lube oil tank
	Sulfuric Acid Tank
	Open material stockpiles
	Wastewater treatment plant gases
	Paint building vents
	Hazardous waste storage building vents
	Aerosol can puncturing
	Miscellaneous Diesel Driven Pumps
	Slime Sucker pumps
	Chemical add tanks
	Gun Range
	70,000 gallon No. 2 light oil tank
	40,400 gallon No. 2 light oil tank
	4,000 gallon unleaded fuel tank
	(4) 2,000 gallon diesel fuel storage tanks
	(2) 4,000 gallon diesel oil storage tanks
	200 gallon unleaded fuel tank
	Unleaded gasoline dispensing facilities with monthly throughput of less than 2,000 gallons
	Fugitive emissions, Particulate matter and VOC's

APPENDIX IV-4, TITLE V CONDITIONS (version dated 02/12/02)

[Note: This attachment includes "canned conditions" developed from the "Title V Core List"]

{Permitting note: APPENDIX IV-4, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided one copy when requested or otherwise appropriate.}

Chapter 62-4, F.A.C.

1. **Not federally enforceable.** General Prohibition. Any stationary installation which will reasonably be expected to be a source of pollution shall not be operated, maintained, constructed, expanded or modified without the appropriate and valid permits issued by the Department, unless the source is exempted by Department rule. The Department may issue a permit only after it receives reasonable assurance that the installation will not cause pollution in violation of any of the provisions of Chapter 403, F.S., or the rules promulgated thereunder. A permitted installation may only be operated, maintained, constructed, expanded or modified in a manner that is consistent with the terms of the permit.
[Rule 62-4.030, Florida Administrative Code (F.A.C.); Section 403.087, Florida Statute (F.S.)]

2. **Not federally enforceable.** Procedures to Obtain Permits and Other Authorizations: Applications.
(1) Any person desiring to obtain a permit from the Department shall apply on forms prescribed by the Department and shall submit such additional information as the Department by law may require.
(2) All applications and supporting documents shall be filed in quadruplicate with the Department.
(3) To ensure protection of public health, safety, and welfare, any construction, modification, or operation of an installation which may be a source of pollution, shall be in accordance with sound professional engineering practices pursuant to Chapter 471, F.S. All applications for a Department permit shall be certified by a professional engineer registered in the State of Florida except, when the application is for renewal of an air pollution operation permit at a non-Title V source as defined in Rule 62-210.200, F.A.C., or where professional engineering is not required by Chapter 471, F.S. Where required by Chapter 471 or 492, F.S., applicable portions of permit applications and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them.
(4) Processing fees for air construction permits shall be in accordance with Rule 62-4.050(4), F.A.C.
(5)(a) To be considered by the Department, each application must be accompanied by the proper processing fee. The fee shall be paid by check, payable to the Department of Environmental Protection. The fee is non-refundable except as provided in Section 120.60, F.S., and in this section.
(c) Upon receipt of the proper application fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin.
(d) If the applicant does not submit the required fee within ten days of receipt of written notification, the Department shall either return the unprocessed application or arrange with the applicant for the pick up of the application.
(e) If an applicant submits an application fee in excess of the required fee, the permit processing time requirements of Sections 120.60(2) and 403.0876, F.S., shall begin upon receipt, and the Department shall refund to the applicant the amount received in excess of the required fee.
(6) Any substantial modification to a complete application shall require an additional processing fee determined pursuant to the schedule set forth in Rule 62-4.050, F.A.C., and shall restart the time requirements of Sections 120.60 and 403.0876, F.S. For purposes of this Subsection, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review.
(7) Modifications to existing permits proposed by the permittee which require substantial changes in the existing permit or require substantial evaluation by the Department of potential impacts of the proposed modifications shall require the same fee as a new application for the same time duration except for modification under Chapter 62-45, F.A.C.
[Rule 62-4.050, F.A.C.]

3. Standards for Issuing or Denying Permits. Except as provided at Rule 62-213.460, F.A.C., the issuance of a permit does not relieve any person from complying with the requirements of Chapter 403, F.S., or Department rules.
[Rule 62-4.070(7), F.A.C.]

4 Modification of Permit Conditions

(1) For good cause and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions The Department shall allow the permittee a reasonable time to conform to the new or additional conditions and on application of the permittee the Department may grant additional time For the purpose of this section, good cause shall include, but not be limited to any of the following: **(also, see Condition No. 38.)**

(a) A showing that an improvement in effluent or emission quality or quantity can be accomplished because of technological advances without unreasonable hardship

(b) A showing that a higher degree of treatment is necessary to effect the intent and purpose of Chapter 403 F S

(c) A showing of any change in the environment or surrounding conditions that requires a modification to conform to applicable air or water quality standards

(e) Adoption or revision of Florida Statutes, rules, or standards which require the modification of a permit condition for compliance.

(2) A permittee may request a modification of a permit by applying to the Department

(3) A permittee may request that a permit be extended as a modification of the permit Such a request must be submitted to the Department in writing before the expiration of the permit Upon timely submittal of a request for extension, unless the permit automatically expires by statute or rule, the permit will remain in effect until final agency action is taken on the request For construction permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that, upon completion the extended permit will comply with the standards and conditions required by applicable regulation For all other permits, an extension shall be granted if the applicant can demonstrate reasonable assurances that the extended permit will comply with the standards and conditions applicable to the original permit A permit for which the permit application fee was prorated in accordance with Rule 62-4 050(4)(1), F A C , shall not be extended In no event shall a permit be extended or remain in effect longer than the time limits established by statute or rule

[Rule 62-4 080 F A C]

5 Renewals Prior to 180 days before the expiration of a permit issued pursuant to Chapter 62-213, F A C , the permittee shall apply for a renewal of a permit using forms incorporated by reference in the specific rule chapter for that kind of permit A renewal application shall be timely and sufficient If the application is submitted prior to 180 days before expiration of the permit, it will be considered timely and sufficient If the renewal application is submitted at a later date, it will not be considered timely and sufficient unless it is submitted and made complete prior to the expiration of the operation permit When the application for renewal is timely and sufficient, the existing permit shall remain in effect until the renewal application has been finally acted upon by the Department or, if there is court review of the Department's final agency action, until a later date is required by Section 120 60 F S , provided that, for renewal of a permit issued pursuant to Chapter 62-213, F A C , the applicant complies with the requirements of Rules 62-213 420(1)(b)3 and 4 , F A C

[Rule 62-4 090, F A C]

6 Suspension and Revocation

(1) Permits shall be effective until suspended, revoked, surrendered, or expired and shall be subject to the provisions of Chapter 403, F S , and rules of the Department

(2) Failure to comply with pollution control laws and rules shall be grounds for suspension or revocation

(3) A permit issued pursuant to Chapter 62-4, F A C , shall not become a vested property right in the permittee The Department may revoke any permit issued by it if it finds that the permit holder or the his agent:

(a) Submitted false or inaccurate information in his application or operational reports

(b) Has violated law, Department orders, rules or permit conditions

(c) Has failed to submit operational reports or other information required by Department rules

(d) Has refused lawful inspection under Section 403 091, F S

(4) No revocation shall become effective except after notice is served by personal services, certified mail, or newspaper notice pursuant to Section 120 60(7), F S , upon the person or persons named therein and a hearing held if requested within the time specified in the notice The notice shall specify the provision of the law, or rule alleged to be violated or the permit condition or Department order alleged to be violated, and the facts alleged to constitute a violation thereof.

[Rule 62-4 100, F A C]

7 **Not federally enforceable.** Financial Responsibility The Department may require an applicant to submit proof of financial responsibility and may require the applicant to post an appropriate bond to guarantee compliance with the law and Department rules. [Rule 62-4.110, F A C]

8 Transfer of Permits
(1) Within 30 days after the sale or legal transfer of a permitted facility an Application for Transfer of Permit" (DEP Form 62-1.201(1)) must be submitted to the Department This form must be completed with the notarized signatures of both the permittee and the proposed new permittee For air permits, an 'Application for Transfer of Air Permit' (DEP Form 62-210.900(7)) shall be submitted
(2) The Department shall approve the transfer of a permit unless it determines that the proposed new permittee cannot provide reasonable assurances that conditions of the permit will be met The determination shall be limited solely to the ability of the new permittee to comply with the conditions of the existing permit, and it shall not concern the adequacy of these permit conditions If the Department proposes to deny the transfer, it shall provide both the permittee and the proposed new permittee a written objection to such transfer together with notice of a right to request a Chapter 120, F S proceeding on such determination.
(3) Within 30 days of receiving a properly completed Application for Transfer of Permit form, the Department shall issue a final determination. The Department may toll the time for making a determination on the transfer by notifying both the permittee and the proposed new permittee that additional information is required to adequately review the transfer request Such notification shall be served within 30 days of receipt of an Application for Transfer of Permit form, completed pursuant to Rule 62-4.120(1), F A C If the Department fails to take action to approve or deny the transfer within 30 days of receipt of the completed Application for Transfer of Permit form, or within 30 days of receipt of the last item of timely requested additional information, the transfer shall be deemed approved.
(4) The permittee is encouraged to apply for a permit transfer prior to the sale or legal transfer of a permitted facility However, the transfer shall not be effective prior to the sale or legal transfer
(5) Until this transfer is approved by the Department, the permittee and any other person constructing, operating or maintaining the permitted facility shall be liable for compliance with the terms of the permit. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations occurring prior to the sale or legal transfer of the facility
[Rule 62-4.120, F A C]

9 Plant Operation-Problems If the permittee 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 permittee 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 permittee from any liability for failure to comply with Department rules. **(also, see Condition No. 10.)**
[Rule 62-4.130, F A C]

10 For purposes of notification to the Department pursuant to Condition No 9 , Condition No 12.(8) and Rule 62-4.130, F A C , Plant Operation-Problems, "immediately" shall mean the same day, if during a workday (i e , 8:00 a m - 5:00 p m), or the first business day after the incident, excluding weekends and holidays; and, for purposes of 40 CFR 70.6(a)(3)(iii)(B), "prompt" shall have the same meaning as "immediately" **[also, see Conditions Nos. 9. and 12.(8).]**
[40 CFR 70.6(a)(3)(iii)(B)]

11 **Not federally enforceable.** Review Failure to request a hearing within 14 days of receipt of notice of proposed or final agency action on a permit application or as otherwise required in Chapter 62-103, F A C , shall be deemed a waiver of the right to an administrative hearing.
[Rule 62-4.150, F A C]

12 Permit Conditions All permits issued by the Department shall include the following general conditions:

(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, 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 403.087(7) 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 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.

(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 F.S. 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: **(also, see Condition No. 10.)**

(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 may be used by the Department as evidence in any enforcement case involving the permitted source arising under the F.S. 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 F.S. after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by F.S. or Department rules.

(11) This permit is transferable only upon Department approval in accordance with Rule 62-4.120, 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.

(14) 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 five (5) 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

(15) 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
[Rules 62-4 160 and 62-213 440(1)(b) F A C]

13 Construction Permits.
(1) No person shall construct any installation or facility which will reasonably be expected to be a source of air or water pollution without first applying for and receiving a construction permit from the Department unless exempted by statute or Department rule In addition to the requirements of Chapter 62-4, F A C , applicants for a Department Construction Permit shall submit the following as applicable:

(a) A completed application on forms furnished by the Department
(b) An engineering report covering:
1 plant description and operations,
2 types and quantities of all waste material to be generated whether liquid, gaseous or solid,
3 proposed waste control facilities,
4 the treatment objectives,
5 the design criteria on which the control facilities are based, and,
6 other information deemed relevant

Design criteria submitted pursuant to Rule 62-4 210(1)(b)5 , F A C , shall be based on the results of laboratory and pilot-plant scale studies whenever such studies are warranted The design efficiencies of the proposed waste treatment facilities and the quantities and types of pollutants in the treated effluents or emissions shall be indicated Work of this nature shall be subject to the requirements of Chapter 471 F S Where confidential records are involved, certain information may be kept confidential pursuant to Section 403 111, F S

(c) The owners' written guarantee to meet the design criteria as accepted by the Department and to abide by Chapter 403, F S and the rules of the Department as to the quantities and types of materials to be discharged from the installation The owner may be required to post an appropriate bond or other equivalent evidence of financial responsibility to guarantee compliance with such conditions in instances where the owner's financial resources are inadequate or proposed control facilities are experimental in nature.

(2) The construction permit may contain conditions and an expiration date as determined by the Secretary or the Secretary s designee
(3) When the Department issues a permit to construct, the permittee shall be allowed a period of time, specified in the permit to construct, and to operate and test to determine compliance with Chapter 403, F S , and the rules of the Department and, where applicable, to apply for and receive an operation permit The Department may require tests and evaluations of the treatment facilities by the permittee at his/her expense
[Rule 62-4 210, F A C]

14 **Not federally enforceable.** Operation Permit for New Sources To properly apply for an operation permit for new sources, the applicant shall submit the appropriate fee and certification that construction was completed noting any deviations from the conditions in the construction permit and test results where appropriate
[Rule 62-4 220, F A C]

Chapters 28-106 and 62-110, F A C.

15 Public Notice, Public Participation, and Proposed Agency Action. The permittee shall comply with all of the requirements for public notice, public participation, and proposed agency action pursuant to Rules 62-110 106 and 62-210 350, F A C
[Rules 62-110 106, 62-210 350 and 62-213 430(1)(b), F A C]

16. Administrative Hearing. The permittee shall comply with all of the requirements for a petition for administrative hearing or waiver of right to administrative proceeding pursuant to Rules 28-106.201, 28-106.301 and 62-110.106, F.A.C.
[Rules 28-106.201, 28-106.301 and 62-110.106, F.A.C.]

Chapter 62-204, F.A.C.

17. Asbestos. This permit does not authorize any demolition or renovation of the facility or its parts or components which involves asbestos removal. This permit does not constitute a waiver of any of the requirements of Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, National Emission Standard for Asbestos, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Compliance with Chapter 62-257, F.A.C., and 40 CFR 61, Subpart M, Section 61.145, is required for any asbestos demolition or renovation at the source.
[40 CFR 61; Rule 62-204.800, F.A.C.; and, Chapter 62-257, F.A.C.]

Chapter 62-210, F.A.C.

18. Permits Required. The owner or operator of any emissions unit which emits or can reasonably be expected to emit any air pollutant shall obtain an appropriate permit from the Department prior to beginning construction, modification, or initial or continued operation of the emissions unit unless exempted pursuant to Department rule or statute. All emissions limitations, controls, and other requirements imposed by such permits shall be at least as stringent as any applicable limitations and requirements contained in or enforceable under the State Implementation Plan (SIP) or that are otherwise federally enforceable. Except as provided at Rule 62-213.460, F.A.C., issuance of a permit does not relieve the owner or operator of an emissions unit from complying with any applicable requirements, any emission limiting standards or other requirements of the air pollution rules of the Department or any other such requirements under federal, state, or local law.

(1) Air Construction Permits.

(a) Unless exempt from permitting pursuant to Rule 62-210.300(3)(a) or (b), F.A.C., or Rule 62-4.040, F.A.C., an air construction permit shall be obtained by the owner or operator of any proposed new or modified facility or emissions unit prior to the beginning of construction or modification, in accordance with all applicable provisions of Chapter 62-210, F.A.C., Chapter 62-212, F.A.C., and Chapter 62-4, F.A.C. Except as provided under Rule 62-213.415, F.A.C., the owner or operator of any facility seeking to create or change an air emissions bubble shall obtain an air construction permit in accordance with all the applicable provisions of Chapter 62-210, F.A.C., Chapter 62-212, F.A.C., and Chapter 62-4, F.A.C. The construction permit shall be issued for a period of time sufficient to allow construction or modification of the facility or emissions unit and operation while the new or modified facility or emissions unit is conducting tests or otherwise demonstrating initial compliance with the conditions of the construction permit.

(b) Notwithstanding the expiration of an air construction permit, all limitations and requirements of such permit that are applicable to the design and operation of the permitted facility or emissions unit shall remain in effect until the facility or emissions unit is permanently shut down, except for any such limitation or requirement that is obsolete by its nature (such as a requirement for initial compliance testing) or any such limitation or requirement that is changed in accordance with the provisions of Rule 62-210.300(1)(b)1., F.A.C. Either the applicant or the Department can propose that certain conditions be considered obsolete. Any conditions or language in an air construction permit that are included for informational purposes only, if they are transferred to the air operation permit, shall be transferred for informational purposes only and shall not become enforceable conditions unless voluntarily agreed to by the permittee or otherwise required under Department rules.

1. Except for those limitations or requirements that are obsolete, all limitations and requirements of an air construction permit shall be included and identified in any air operation permit for the facility or emissions unit. The limitations and requirements included in the air operation permit can be changed, and thereby superseded, through the issuance of an air construction permit, federally enforceable state air operation permit, federally enforceable air general permit, or Title V air operation permit; provided, however, that:

a. Any change that would constitute an administrative correction may be made pursuant to Rule 62-210.360, F.A.C.;

b. Any change that would constitute a modification, as defined at Rule 62-210.200, F.A.C., shall be accomplished only through the issuance of an air construction permit; and

c. Any change in a permit limitation or requirement that originates from a permit issued pursuant to 40 CFR 52.21, Rule 62-204.800(10)(d)2., F.A.C., Rule 62-212.400, F.A.C., Rule 62-212.500, F.A.C., or any former codification of Rule 62-212.400 or Rule 62-212.500, F.A.C., shall be accomplished only through the issuance of a new or revised air construction permit under Rule 62-204.800(10)(d)2., Rule 62-212.400, or Rule 62-212.500, F.A.C., as appropriate.

2. The force and effect of any change in a permit limitation or requirement made in accordance with the provisions of Rule 62-210.300(1)(b)1., F.A.C., shall be the same as if such change were made to the original air construction permit.

3. Nothing in Rule 62-210.300(1)(b), F.A.C., shall be construed as to allow operation of a facility or emissions unit without a valid air operation permit.

(2) Air Operation Permits Upon expiration of the air operation permit for any existing facility or emissions unit, subsequent to construction or modification or subsequent to the creation of or change to a bubble, and demonstration of compliance with the conditions of the construction permit for any new or modified facility or emissions unit, any air emissions bubble, or as otherwise provided in Chapter 62-210 F A C , or Chapter 62-213, F A C , the owner or operator of such facility or emissions unit shall obtain a renewal air operation permit, an initial air operation permit or general permit or an administrative correction or revision of an existing air operation permit, whichever is appropriate, in accordance with all applicable provisions of Chapter 62-210, F A C , Chapter 62-213 F A C , and Chapter 62-4 F A C

(a) Minimum Requirements for All Air Operation Permits At a minimum, a permit issued pursuant to this subsection shall:

1 Specify the manner, nature volume and frequency of the emissions permitted and the applicable emission limiting standards or performance standards, if any;

2 Require proper operation and maintenance of any pollution control equipment by qualified personnel, where applicable in accordance with the provisions of any operation and maintenance plan required by the air pollution rules of the Department

3 Contain an effective date stated in the permit which shall not be earlier than the date final action is taken on the application and be issued for a period, beginning on the effective date, as provided below

a The operation permit for an emissions unit which is in compliance with all applicable rules and in operational condition, and which the owner or operator intends to continue operating, shall be issued or renewed for a five-year period except that, for Title V sources subject to Rule 62-213 420(1)(a)1 F A C , operation permits shall be extended until 60 days after the due date for submittal of the facility's Title V permit application as specified in Rule 62-213 420(1)(a)1 , F A C

b Except as provided in Rule 62-210 300(2)(a)3 d , F A C , the operation permit for an emissions unit which has been shut down for six months or more prior to the expiration date of the current operation permit, shall be renewed for a period not to exceed five years from the date of shutdown, even if the emissions unit is not maintained in operational condition, provided:

(i) the owner or operator of the emissions unit demonstrates to the Department that the emissions unit may need to be reactivated and used, or that it is the owner's or operator's intent to apply to the Department for a permit to construct a new emissions unit at the facility before the end of the extension period; and

(ii) the owner or operator of the emissions unit agrees to and is legally prohibited from providing the allowable emission permitted by the renewed permit as an emissions offset to any other person under Rule 62-212 500, F A C ; and,

(iii) the emissions unit was operating in compliance with all applicable rules as of the time the source was shut down

c Except as provided in Rule 62-210 300(2)(a)3 d , F A C , the operation permit for an emissions unit which has been shut down for five years or more prior to the expiration date of the current operation permit shall be renewed for a maximum period not to exceed ten years from the date of shutdown, even if the emissions unit is not maintained in operational condition provided the conditions given in Rule 62-210 300(2)(a)3 b , F A C are met and the owner or operator demonstrates to the Department that failure to renew the permit would constitute a hardship, which may include economic hardship

d The operation permit for an electric utility generating unit on cold standby or long-term reserve shutdown shall be renewed for a five-year period, and additional five-year periods, even if the unit is not maintained in operational condition, provided the conditions given in Rules 62-210 300(2)(a)3 b (i) through (iii), F A C , are met

4 In the case of an emissions unit permitted pursuant to Rules 62-210 300(2)(a)3 b , c , and d , F A C , include reasonable notification and compliance testing requirements for reactivation of such emissions unit and provide that the owner or operator demonstrate to the Department prior to reactivation that such reactivation would not constitute reconstruction pursuant to Rule 62-204 800(7), F A C

[Rules 62-210 300(1) & (2), F A C]

19 **Not federally enforceable.** Notification of Startup The owner or operator of any emissions unit or facility which has a valid air operation permit which has been shut down more than one year shall notify the Department in writing of the intent to start up such emissions unit or facility, a minimum of 60 days prior to the intended startup date

(a) The notification shall include information as to the startup date, anticipated emission rates or pollutants released, changes to processes or control devices which will result in changes to emission rates, and any other conditions which may differ from the valid outstanding operation permit

(b) If, due to an emergency, a startup date is not known 60 days prior thereto, the owner shall notify the Department as soon as possible after the date of such startup is ascertained

[Rule 62-210 300(5) F A C]

20 Emissions Unit Reclassification

(a) Any emissions unit whose operation permit has been revoked as provided for in Chapter 62-4, F A C., shall be deemed permanently shut down for purposes of Rule 62-212 500, F A C Any emissions unit whose permit to operate has expired without timely renewal or transfer may be deemed permanently shut down, provided, however, that no such emissions unit shall be deemed permanently shut down if, within 20 days after receipt of written notice from the Department, the emissions unit owner or operator demonstrates that the permit expiration resulted from inadvertent failure to comply with the requirements of Rule 62-4 090, F A C , and that the owner or operator intends to continue the emissions unit in operation, and either submits an application for an air operation permit or complies with permit transfer requirements, if applicable

(b) If the owner or operator of an emissions unit which is so permanently shut down applies to the Department for a permit to reactivate or operate such emissions unit, the emissions unit will be reviewed and permitted as a new emissions unit.

[Rule 62-210 300(6), F A C]

21 Transfer of Air Permits

(a) An air permit is transferable only after submission of an Application for Transfer of Air Permit (DEP Form 62-210 900(7)) and Department approval in accordance with Rule 62-4 120, F A C For Title V permit transfers only, a complete application for transfer of air permit shall include the requirements of 40 CFR 70 7(d)(1)(iv), adopted and incorporated by reference at Rule 62-204 800, F A C Within 30 days after approval of the transfer of permit, the Department shall update the permit by an administrative permit correction pursuant to Rule 62-210 360, F A C.

(b) For an air general permit, the provision of Rules 62-210 300(7)(a) and 62-4 120 F A C , do not apply Thirty (30) days before using an air general permit, the new owner must submit an air general permit notification to the Department in accordance with Rule 62-210 300(4), F A C , or Rule 62-213 300(2)(b), F A C

[Rule 62-210 300(7), F A C]

22 Public Notice and Comment

(1) Public Notice of Proposed Agency Action

(a) A notice of proposed agency action on permit application where the proposed agency action is to issue the permit, shall be published by any applicant for:

1 An air construction permit;

2 An air operation permit, permit renewal or permit revision subject to Rule 62-210 300(2)(b), F A C (i e , a FESOP), except as provided in Rule 62-210 300(2)(b)1 b , F A C ; or

3 An air operation permit, permit renewal, or permit revision subject to Chapter 62-213, F A C , except Title V air general permits or those permit revisions meeting the requirements of Rule 62-213 412(1), F A C

(b) The notice required by Rule 62-210 350(1)(a), F A C., shall be published in accordance with all otherwise applicable provisions of Rule 62-110 106, F A C A public notice under Rule 62-210.350(1)(a)1 , F A.C , for an air construction permit may be combined with any required public notice under Rule 62-210 350(1)(a)2 or 3 , F A C , for air operation permits If such notices are combined, the public notice must comply with the requirements for both notices

(c) Except as otherwise provided at Rules 62-210 350(2) and (5), F A C , each notice of intent to issue an air construction permit shall provide a 14-day period for submittal of public comments

(2) Additional Public Notice Requirements for Emissions Units Subject to Prevention of Significant Deterioration or Nonattainment - Area Preconstruction Review.

(a) Before taking final agency action on a construction permit application for any proposed new or modified facility or emissions unit subject to the preconstruction review requirements of Rule 62-212 400 or 62-212 500, F A C the Department shall comply with all applicable provisions of Rule 62-110 106, F A C , and provide an opportunity for public comment which shall include as a minimum the following:

1. A complete file available for public inspection in at least one location in the district affected which includes the information submitted by the owner or operator, exclusive of confidential records under Section 403 111, F S , and the Department's analysis of the effect of the proposed construction or modification on ambient air quality including the Department's preliminary determination of whether the permit should be approved or disapproved;

2 A 30-day period for submittal of public comments; and,

3. A notice by advertisement in a newspaper of general circulation in the county affected, specifying the nature and location of the proposed facility or emissions unit, whether BACT or LAER has been determined, the degree of PSD increment consumption expected, if applicable, and the location of the information specified in paragraph 1. above; and, notifying the public of the opportunity for submitting comments and requesting a public hearing.

(b) The notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall be prepared by the Department and published by the applicant in accordance with all applicable provisions of Rule 62-110.106, F.A.C., except that the applicant shall cause the notice to be published no later than thirty (30) days prior to final agency action.

(c) A copy of the notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall also be sent by the Department to the Regional Office of the U.S. Environmental Protection Agency and to all other state and local officials or agencies having cognizance over the location of such new or modified facility or emissions unit, including local air pollution control agencies, chief executives of city or county government, regional land use planning agencies, and any other state, Federal Land Manager, or Indian Governing Body whose lands may be affected by emissions from the new or modified facility or emissions unit.

(d) A copy of the notice provided for in Rule 62-210.350(2)(a)3., F.A.C., shall be displayed in the appropriate district, branch and local program offices.

(e) An opportunity for public hearing shall be provided in accordance with Chapter 120, F.S., and Rule 62-110.106, F.A.C.

(f) Any public comments received shall be made available for public inspection in the location where the information specified in Rule 62-210.350(2)(a)1., F.A.C., is available and shall be considered by the Department in making a final determination to approve or deny the permit.

(g) The final determination shall be made available for public inspection at the same location where the information specified in Rule 62-210.350(2)(a)1., F.A.C., was made available.

(h) For a proposed new or modified emissions unit which would be located within 100 kilometers of any Federal Class I area or whose emissions may affect any Federal Class I area, and which would be subject to the preconstruction review requirements of Rule 62-212.400, F.A.C., or Rule 62-212.500, F.A.C.:

1. The Department shall mail or transmit to the Administrator a copy of the initial application for an air construction permit and notice of every action related to the consideration of the permit application.

2. The Department shall mail or transmit to the Federal Land Manager of each affected Class I area a copy of any written notice of intent to apply for an air construction permit; the initial application for an air construction permit, including all required analyses and demonstrations; any subsequently submitted information related to the application; the preliminary determination and notice of proposed agency action on the permit application; and any petition for an administrative hearing regarding the application or the Department's proposed action. Each such document shall be mailed or transmitted to the Federal Land Manager within fourteen (14) days after its receipt by the Department.

(3) Additional Public Notice Requirements for Facilities Subject to Operation Permits for Title V Sources.

(a) Before taking final agency action to issue a new, renewed, or revised air operation permit subject to Chapter 62-213, F.A.C., the Department shall comply with all applicable provisions of Rule 62-110.106, F.A.C., and provide an opportunity for public comment which shall include as a minimum the following:

1. A complete file available for public inspection in at least one location in the district affected which includes the information submitted by the owner or operator, exclusive of confidential records under Section 403.111, F.S.; and,

2. A 30-day period for submittal of public comments.

(b) The notice provided for in Rule 62-210.350(3)(a), F.A.C., shall be prepared by the Department and published by the applicant in accordance with all applicable provisions of Rule 62-110.106, F.A.C., except that the applicant shall cause the notice to be published no later than thirty (30) days prior to final agency action. If written comments received during the 30-day comment period on a draft permit result in the Department's issuance of a revised draft permit in accordance with Rule 62-213.430(1), F.A.C., the Department shall require the applicant to publish another public notice in accordance with Rule 62-210.350(1)(a), F.A.C.

(c) The notice shall identify:

1. The facility;

2. The name and address of the office at which processing of the permit occurs;

3. The activity or activities involved in the permit action;

4. The emissions change involved in any permit revision;

5. The name, address, and telephone number of a Department representative from whom interested persons may obtain additional information, including copies of the permit draft, the application, and all relevant supporting materials, including any permit application, compliance plan, permit, monitoring report, and compliance statement required pursuant to Chapter 62-213, F.A.C. (except for information entitled to confidential treatment pursuant to Section 403.111, F.S.), and all other materials available to the Department that are relevant to the permit decision;

6 A brief description of the comment procedures required by Rule 62-210 350(3), F A C ;

7 The time and place of any hearing that may be held, including a statement of procedure to request a hearing (unless a hearing has already been scheduled); and,

8 The procedures by which persons may petition the Administrator to object to the issuance of the proposed permit after expiration of the Administrator's 45-day review period

[Rule 62-210 350, F A C]

23 Administrative Permit Corrections

(1) A facility owner shall notify the Department by letter of minor corrections to information contained in a permit Such notifications shall include:

(a) Typographical errors noted in the permit;

(b) Name, address or phone number change from that in the permit;

(c) A change requiring more frequent monitoring or reporting by the permittee;

(d) A change in ownership or operational control of a facility, subject to the following provisions:

1 The Department determines that no other change in the permit is necessary;

2. The permittee and proposed new permittee have submitted an Application for Transfer of Air Permit, and the Department has approved the transfer pursuant to Rule 62-210.300(7), F A C ; and

3 The new permittee has notified the Department of the effective date of sale or legal transfer

(e) Changes listed at 40 CFR 72 83(a)(1), (2), (6), (9) and (10), adopted and incorporated by reference at Rule 62-204 800, F A C , and changes made pursuant to Rules 62-214 340(1) and (2), F A C , to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss. 7651-7651o;

(f) Changes listed at 40 CFR 72 83(a)(11) and (12), adopted and incorporated by reference at Rule 62-204 800, F A C , to Title V sources subject to emissions limitations or reductions pursuant to 42 USC ss 7651-7651o, provided the notification is accompanied by a copy of any EPA determination concerning the similarity of the change to those listed at Rule 62-210 360(1)(e), F A.C ; and,

(g) Any other similar minor administrative change at the source

(2) Upon receipt of any such notification the Department shall within 60 days correct the permit and provide a corrected copy to the owner.

(3) After first notifying the owner, the Department shall correct any permit in which it discovers errors of the types listed at Rules 62-210 360(1)(a) and (b), F A C., and provide a corrected copy to the owner

(4) For Title V source permits, other than general permits, a copy of the corrected permit shall be provided to EPA and any approved local air program in the county where the facility or any part of the facility is located

(5) The Department shall incorporate requirements resulting from issuance of a new or revised construction permit into an existing Title V source permit, if the construction permit or permit revision incorporates requirements of federally enforceable preconstruction review, and if the applicant requests at the time of application that all of the requirements of Rule 62-213 430(1), F A C , be complied with in conjunction with the processing of the construction permit application

[Rule 62-210 360, F A C]

24 Reports

(3) Annual Operating Report for Air Pollutant Emitting Facility

(a) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No 62-210 900(5)) shall be completed each year

(c) The annual operating report shall be submitted to the appropriate Department District or Department approved local air pollution control program office by March 1 of the following year unless otherwise indicated by permit condition or Department request

[Rule 62-210 370(3), F A C]

25 Circumvention No person shall circumvent any air pollution control device or allow the emission of air pollutants without the applicable air pollution control device operating properly

[Rule 62-210 650, F A C]

26 Forms and Instructions The forms used by the Department in the stationary source control program are adopted and incorporated by reference in this section. The forms are listed by rule number, which is also the form number, with the subject, title and effective date. Forms 62-210 900(1),(3),(4) and (5), F A.C , including instructions, are available from the Department as hard-copy documents or executable files on computer diskettes. Copies of forms (hard-copy or diskette) may be obtained by writing to the Department of Environmental Protection, Division of Air Resource Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 Notwithstanding the requirement of Rule 62-4 050(2), F.A C , to file application forms in quadruplicate, if an air permit application is submitted using the Department's electronic application form, only one copy of the diskette and signature pages is required to be submitted.

(1) Application for Air Permit - Title V Source, Form and Instructions (Effective 02/11/1999)
  (a) Acid Rain Part (Phase II), Form and Instructions (Effective 04/16/2001).
    1 Repowering Extension Plan, Form and Instructions (Effective 07/01/1995)
    2 New Unit Exemption, Form and Instructions (Effective 04/16/2001).
    3 Retired Unit Exemption, Form and Instructions (Effective 04/16/2001).
    4 Phase II NOx Compliance Plan, Form and Instructions (Effective 01/06/1998).
    5. Phase II NOx Averaging Plan, Form (Effective 01/06/1998)
  (b) Reserved.
(5) Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions (Effective 02/11/1999)
(7) Application for Transfer of Air Permit – Title V and Non-Title V Source, (Effective 04/16/2001)

[Rule 62-210 900, F A C]

Chapter 62-213, F A C.

27 Annual Emissions Fee Each Title V source permitted to operate in Florida must pay between January 15 and March 1 of each year, upon written notice from the Department, an annual emissions fee in an amount determined as set forth in Rule 62-213 205(1), F A C.

[Rules 62-213 205 and 62-213 900(1), F A C]

28 Annual Emissions Fee Failure to pay timely any required annual emissions fee, penalty, or interest constitutes grounds for permit revocation pursuant to Rule 62-4 100, F A C

[Rule 62-213 205(1)(g) F A C]

29 Annual Emissions Fee Any documentation of actual hours of operation, actual material or heat input actual production amount, or actual emissions used to calculate the annual emissions fee shall be retained by the owner for a minimum of five (5) years and shall be made available to the Department upon request

[Rule 62-213 205(1)(i) F A C]

30 Annual Emissions Fee A completed DEP Form 62-213 900(1), F A C , "Major Air Pollution Source Annual Emissions Fee Form", must be submitted by the responsible official with the annual emissions fee

[Rule 62-213 205(1)(j), F A C]

31 Air Operation Permit Fees No permit application processing fee, renewal fee modification fee or amendment fee is required for an operation permit for a Title V source

[Rule 62-213 205(4), F A C]

32 Permits and Permit Revisions Required All Title V sources are subject to the permit requirements of Chapter 62-213, F A C

(1) No Title V source may operate except in compliance with Chapter 62-213, F A C

(2) Except as provided in Rule 62-213 410, F A C , no source with a permit issued under the provisions of this chapter shall make any changes in its operation without first applying for and receiving a permit revision if the change meets any of the following:
  (a) Constitutes a modification;
  (b) Violates any applicable requirement;
  (c) Exceeds the allowable emissions of any air pollutant from any unit within the source;
  (d) Contravenes any permit term or condition for monitoring, testing recordkeeping, reporting or of a compliance certification requirement;
  (e) Requires a case-by-case determination of an emission limitation or other standard or a source specific determination of ambient impacts, or a visibility or increment analysis under the provisions of Chapters 62-212 or 62-296, F A.C ;
  (f) Violates a permit term or condition which the source has assumed for which there is no corresponding underlying applicable requirement to which the source would otherwise be subject;
  (g) Results in the trading of emissions among units within a source except as specifically authorized pursuant to Rule 62-213 415, F A.C.;
  (h) Results in the change of location of any relocatable facility identified as a Title V source pursuant to paragraph (a)-(e), (g) or (h) of the definition of "major source of air pollution" at Rule 62-210 200, F A C ;

(i) Constitutes a change at an Acid Rain Source under the provisions of 40 CFR 72 81(a)(1),(2) or (3),(b)(1) or (b)(3), hereby incorporated by reference;
(j) Constitutes a change in a repowering plan, nitrogen oxides averaging plan, or nitrogen oxides compliance deadline extension at an Acid Rain Source;
(k) Is a request for industrial-utility unit exemption pursuant to Rule 62-214.340, F.A.C.
[Rules 62-213.400(1) & (2), F.A.C.]

33. Changes Without Permit Revision. Title V sources having a valid permit issued pursuant to Chapter 62-213, F.A.C., may make the following changes without permit revision, provided that sources shall maintain source logs or records to verify periods of operation in each alternative method of operation:
(1) Permitted sources may change among those alternative methods of operation allowed by the source's permit as provided by the terms of the permit;
(2) Permitted sources may implement the terms or conditions of a new or revised construction permit if;
(a) The application for construction permit complied with the requirements of Rule 62-213.420(3) and (4), F.A.C.;
(b) The terms or conditions were subject to federally enforceable preconstruction review pursuant to Chapter 62-212, F.A.C.; and,
(c) The new or revised construction permit was issued after the Department and the applicant complied with all the requirements of Rule 62-213.430(1), F.A.C.;
(3) A permitted source may implement operating changes, as defined in Rule 62-210.200, F.A.C., after the source submits any forms required by any applicable requirement and provides the Department and EPA with at least 7 days written notice prior to implementation. The source and the Department shall attach each notice to the relevant permit;
(a) The written notice shall include the date on which the change will occur, and a description of the change within the permitted source, the pollutants emitted and any change in emissions, and any term or condition becoming applicable or no longer applicable as a result of the change;
(b) The permit shield described in Rule 62-213.460, F.A.C., shall not apply to such changes;
(4) Permitted sources may implement changes involving modes of operation only in accordance with Rule 62-213.415, F.A.C.
[Rule 62-213.410, F.A.C.]

34. Immediate Implementation Pending Revision Process.
(1) Those permitted Title V sources making any change that constitutes a modification pursuant to the definition of modification at Rule 62-210.200, F.A.C., but which would not constitute a modification pursuant to 42 USC 7412(a) or to 40 CFR 52.01, 60.2, or 61.15, adopted and incorporated by reference at Rule 62-204.800, F.A.C., may implement such change prior to final issuance of a permit revision in accordance with this section, provided the change:
(a) Does not violate any applicable requirement;
(b) Does not contravene any permit term or condition for monitoring, testing, recordkeeping or reporting, or any compliance certification requirement;
(c) Does not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a visibility or increment analysis under the provisions of Chapter 62-212 or 62-296, F.A.C.;
(d) Does not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and which the source has assumed to avoid an applicable requirement to which the source would otherwise be subject including any federally enforceable emissions cap or federally enforceable alternative emissions limit.
(2) A Title V source may immediately implement such changes after they have been incorporated into the terms and conditions of a new or revised construction permit issued pursuant to Chapter 62-212, F.A.C., and after the source provides to EPA, the Department, each affected state and any approved local air program having geographic jurisdiction over the source, a copy of the source's application for operation permit revision. The Title V source may conform its application for construction permit to include all information required by Rule 62-213.420, F.A.C., in lieu of submitting separate application forms.

(3) The Department shall process the application for operation permit revision in accordance with the provisions of Chapter 62-213, F A C , except that the Department shall issue a draft permit revision or a determination to deny the revision within 60 days of receipt of a complete application for operation permit revision or, if the Title V source has submitted a construction permit application conforming to the requirements of Rule 62-213 420, F A C the Department shall issue a draft permit or a determination to deny the revision at the same time the Department issues its determination on issuance or denial of the construction permit application The Department shall not take final action until all the requirements of Rules 62-213 430(1)(a), (c), (d), and (e), F A C , have been complied with

(4) Pending final action on the operation permit revision application, the source shall implement the changes in accordance with the terms and conditions of the source's new or revised construction permit

(5) The permit shield described in Rule 62-213 460, F A C , shall not apply to such changes until after the Department takes final action to issue the operation permit revision

(6) If the Department denies the source's application for operation permit revision, the source shall cease implementation of the proposed changes

[Rule 62-213 412, F A C]

35 Permit Applications

(1) Duty to Apply For each Title V source, the owner or operator shall submit a timely and complete permit application in compliance with the requirements of Rules 62-213 420, F A C , and Rules 62-4 050(1) through (3), F A C

(a) Timely Application

3 For purposes of permit renewal, a timely application is one that is submitted in accordance with Rule 62-4 090, F A C

(b) Complete Application

1 Any applicant for a Title V permit, permit revision or permit renewal must submit an application on DEP Form No 62-210 900(1), which must include all the information specified by Rule 62-213 420(3), F A C , except that an application for permit revision must contain only that information related to the proposed change The applicant shall include information concerning fugitive emissions and stack emissions in the application Each application for permit, permit revision or permit renewal shall be certified by a responsible official in accordance with Rule 62-213 420(4), F A C

2 For those applicants submitting initial permit applications pursuant to Rule 62-213 420(1)(a)1 , F A C , a complete application shall be an application that substantially addresses all the information required by the application form number 62-210 900(1), and such applications shall be deemed complete within sixty days of receipt of a signed and certified application unless the Department notifies the applicant of incompleteness within that time For all other applicants, the applications shall be deemed complete sixty days after receipt, unless the Department, within sixty days after receipt of a signed application for permit, permit revision or permit renewal, requests additional documentation or information needed to process the application An applicant making timely and complete application for permit, or timely application for permit renewal as described by Rule 62-4 090(1), F A C shall continue to operate the source under the authority and provisions of any existing valid permit or Florida Electrical Power Plant Siting Certification, and in accordance with applicable requirements of the Acid Rain Program, until the conclusion of proceedings associated with its permit application or until the new permit becomes effective, whichever is later, provided the applicant complies with all the provisions of Rules 62-213 420(1)(b)3 and 4 F A C Failure of the Department to request additional information within sixty days of receipt of a properly signed application shall not impair the Department's ability to request additional information pursuant to Rules 62-213 420(1)(b)3 and 4 , F A C

3 For those permit applications submitted pursuant to the provisions of Rule 62-213 420(1)(a)1 , F A C , the Department shall notify the applicant if the Department becomes aware at any time during processing of the application that the application contains incorrect or incomplete information The applicant shall submit the corrected or supplementary information to the Department within ninety days unless the applicant has requested and been granted additional time to submit the information Failure of an applicant to submit corrected or supplementary information requested by the Department within ninety days or such additional time as requested and granted shall render the application incomplete

4 For all applications other than those addressed at Rule 62-213 420(1)(b)3 , F A C , should the Department become aware, during processing of any application that the application contains incorrect information, or should the Department become aware, as a result of comment from an affected State, an approved local air program, EPA, or the public that additional information is needed to evaluate the application, the Department shall notify the applicant within 30 days When an applicant becomes aware that an application contains incorrect or incomplete information, the applicant shall submit the corrected or supplementary information to the Department If the Department notifies an applicant that corrected or supplementary information is necessary to process the permit, and requests a response, the applicant shall provide the information to the Department within ninety days of the Department request unless the applicant has requested

and been granted additional time to submit the information or, the applicant shall, within ninety days submit a written request that the Department process the application without the information Failure of an applicant to submit corrected or supplementary information requested by the Department within ninety days, or such additional time as requested and granted, or to demand in writing within ninety days that the application be processed without the information shall render the application incomplete Nothing in this section shall limit any other remedies available to the Department
[Rules 62-213 420(1)(a)3 and 62-213 420(1)(b)1 2 3 & 4 F A C]

36 Confidential Information Whenever an applicant submits information under a claim of confidentiality pursuant to Section 403 111, F S , the applicant shall also submit a copy of all such information and claim directly to EPA **(also, see Condition No. 50.)**
[Rule 62-213 420(2) F A C]

37 Standard Application Form and Required Information Applications shall be submitted under Chapter 62-213, F A C on forms provided by the Department and adopted by reference in Rule 62-210 900(1) F A C The information as described in Rule 62-210 900(1) F A C , shall be included for the Title V source and each emissions unit An application must include information sufficient to determine all applicable requirements for the Title V source and each emissions unit and to evaluate a fee amount pursuant to Rule 62-213 205, F A C
[Rule 62-213 420(3), F A C]

38 a Permit Renewal and Expiration Permits being renewed are subject to the same requirements that apply to permit issuance at the time of application for renewal Permit renewal applications shall contain that information identified in Rules 62-210 900(1) and 62-213 420(3), F A C Unless a Title V source submits a timely application for permit renewal in accordance with the requirements of Rule 62-4 090(1), F A C , the existing permit shall expire and the source's right to operate shall terminate No Title V permit will be issued for a new term except through the renewal process

b Permit Revision Procedures Permit revisions shall meet all requirements of Chapter 62-213, F A C , including those for content of applications, public participation review by approved local programs and affected states, and review by EPA, as they apply to permit issuance and permit renewal, except that permit revisions for those activities implemented pursuant to Rule 62-213 412, F A C , need not meet the requirements of Rule 62-213 430(1)(b), F A C The Department shall require permit revision in accordance with the provisions of Rule 62-4 080, F A C and 40 CFR 70 7(f), whenever any source becomes subject to any condition listed at 40 CFR 70 7(f)(1), hereby adopted and incorporated by reference The below requirements from 40 CFR 70 7(f) are adopted and incorporated by reference in Rule 62-213 430(4), F A C :

o 40 CFR 70 7(f): Reopening for Cause **(also, see Condition No. 4.)**

(1) This section contains provisions from 40 CFR 70 7(f) that specify the conditions under which a Title V permit shall be reopened prior to the expiration of the permit A Title V permit shall be reopened and revised under any of the following circumstances:

(i) Additional applicable requirements under the Act become applicable to a major Part 70 source with a remaining permit term of 3 or more years Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 40 CFR 70 4(b)(10)(i) or (ii)

(ii) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program Upon approved by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit

(iii) The permitting authority or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit

(iv) The Administrator or the permitting authority determines that the permit must be revised or revoked to assure compliance with the applicable requirements

(2) Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists Such reopening shall be made as expeditiously as practicable

(3) Reopenings under 40 CFR 70 7(f)(1) shall not be initiated before a notice of such intent is provided to the Part 70 source by the permitting authority at least 30 days in advance of the date that the permit is to be reopened, except that the permitting authority may provide a shorter time period in the case of an emergency
[Rules 62-213 430(3) & (4), F A C ; and, 40 CFR 70 7(f)]

39 Insignificant Emissions Units or Pollutant-Emitting Activities

(a) All requests for determination of insignificant emissions units or activities made pursuant to Rule 62-213 420(3)(m), F A C , shall be processed in conjunction with the permit, permit renewal or permit revision application submitted pursuant to Chapter 62-213 F A C Insignificant emissions units or activities shall be approved by the Department consistent with the provisions of Rule 62-4 040(1)(b), F A C Emissions units or activities which are added to a Title V source after issuance of a permit under Chapter 62-213 F A C , shall be incorporated into the permit at its next renewal provided such emissions units or activities have been exempted from the requirement to obtain an air construction permit and also qualify as insignificant pursuant to Rule 62-213 430(6), F A C

(b) An emissions unit or activity shall be considered insignificant if all of the following criteria are met:

1 Such unit or activity would be subject to no unit-specific applicable requirement;

2 Such unit or activity, in combination with other units or activities proposed as insignificant would not cause the facility to exceed any major source threshold(s) as defined in Rule 62-213 420(3)(c)1 F A C unless it is acknowledged in the permit application that such units or activities would cause the facility to exceed such threshold(s);

3 Such unit or activity would not emit or have the potential to emit:

a 500 pounds per year or more of lead and lead compounds expressed as lead;

b 1,000 pounds per year or more of any hazardous air pollutant;

c 2 500 pounds per year or more of total hazardous air pollutants; or

d 5 0 tons per year or more of any other regulated pollutant

[Rule 62-213 430(6) F A C]

40 Permit Duration Permits for sources subject to the Federal Acid Rain Program shall be issued for terms of five years provided that the initial Acid Rain Part may be issued for a term less than five years where necessary to coordinate the term of such part with the term of a Title V permit to be issued to the source Operation permits for Title V sources may not be extended as provided in Rule 62-4 080(3), F A C , if such extension will result in a permit term greater than five years
[Rule 62-213 440(1)(a), F A C]

41 Monitoring Information All records of monitoring information shall specify the date, place, and time of sampling or measurement and the operating conditions at the time of sampling or measurement, the date(s) analyses were performed, the company or entity that performed the analyses, the analytical techniques or methods used, and the results of such analyses
[Rule 62-213 440(1)(b)2 a F A C]

42 Retention of Records, Retention of records of all monitoring data and support information shall be for a period of at least 5 years from the date of the monitoring sample, measurement report, or application Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit
[Rule 62-213 440(1)(b)2 b F A C]

43 Monitoring Reports The permittee shall submit reports of any required monitoring at least every six (6) months All instances of deviations from permit requirements must be clearly identified in such reports
[Rule 62-213 440(1)(b)3 a F A C]

44 Deviation from Permit Requirements Reports The permittee shall report in accordance with the requirements of Rules 62-210 700(6) and 62-4 130, F A C , deviations from permit requirements including those attributable to upset conditions as defined in the permit Reports shall include the probable cause of such deviations, and any corrective actions or preventive measures taken
[Rule 62-213 440(1)(b)3 b , F A C]

45 Reports, All reports shall be accompanied by a certification by a responsible official, pursuant to Rule 62-213 420(4), F A C
[Rule 62-213 440(1)(b)3 c, F A C]

46 If any portion of the final permit is invalidated, the remainder of the permit shall remain in effect
[Rule 62-213 440(1)(d)1 , F A C]

47 It shall not be a defense for a permittee in an enforcement action that maintaining compliance with any permit condition would necessitate halting of or reduction of the source activity
[Rule 62-213 440(1)(d)3 , F A C]

48 Any Title V source shall comply with all the terms and conditions of the existing permit until the Department has taken final action on any permit renewal or any requested permit revision except as provided at Rule 62-213 412(2), F A C
[Rule 62-213 440(1)(d)4 , F A C]

49 A situation arising from sudden and unforeseeable events beyond the control of the source which causes an exceedance of a technology-based emissions limitation because of unavoidable increases in emissions attributable to the situation and which requires immediate corrective action to restore normal operation, shall be an affirmative defense to an enforcement action in accordance with the provisions and requirements of 40 CFR 70 6(g)(2) and (3), hereby adopted and incorporated by reference
[Rule 62-213 440(1)(d)5 , F A C]

50 Confidentiality Claims. Any permittee may claim confidentiality of any data or other information by complying with Rule 62-213 420(2), F A C **(also, see Condition No. 36.)**
[Rule 62-213 440(1)(d)6 , F A C]

51 Statement of Compliance. (a)2. The permittee shall submit a Statement of Compliance with all terms and conditions of the permit using DEP Form No 62-213 900(7) Such statements shall be accompanied by a certification in accordance with Rule 62-213 420(4), F A C. Such statement shall be submitted (postmarked) to the Department and EPA:

a Annually, within 60 days after the end of each calendar year during which the Title V permit was effective or more frequently if specified by Rule 62-213 440(2), F A C , or by any other applicable requirement; and

b. Within 60 days after submittal of a written agreement for transfer of responsibility as required pursuant to 40 CFR 70.7(d)(1)(iv), adopted and incorporated by reference at Rule 62-204.800, F A C , or within 60 days after permanent shutdown of a facility permitted under Chapter 62-213, F A C.; provided that, in either such case the reporting period shall be the portion of the calendar year the permit was effective up to the date of transfer of responsibility or permanent facility shutdown, as applicable

3. The statement of compliance status shall include all the provisions of 40 CFR 70 6(c)(5)(iii), incorporated by reference at Rule 62-204.800, F A C

(b) The responsible official may treat compliance with all other applicable requirements as a surrogate for compliance with Rule 62-296 320(2), Objectionable Odor Prohibited

[Rules 62-213 440(3)(a)2 & 3 and (b) F A C]

52 Permit Shield Except as provided in Chapter 62-213, F A C , compliance with the terms and conditions of a permit issued pursuant to Chapter 62-213 F A C , shall as of the effective date of the permit, be deemed compliance with any applicable requirements in effect, provided that the source included such applicable requirements in the permit application Nothing in Rule 62-213 460, F A C , or in any permit shall alter or affect the ability of EPA or the Department to deal with an emergency, the liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance or the requirements of the Federal Acid Rain Program
[Rule 62-213 460, F A C]

53 Forms and Instructions The forms used by the Department in the Title V source operation program are adopted and incorporated by reference in Rule 62-213 900 F A C. The form is listed by rule number, which is also the form number, and with the subject, title, and effective date Copies of forms may be obtained by writing to the Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or by contacting the appropriate permitting authority

(1) Major Air Pollution Source Annual Emissions Fee Form (Effective 01/03/2001)

(7) Statement of Compliance Form (Effective 01/03/2001)

[Rule 62-213 900, F A C : Forms (1) and (7)]

Chapter 62-256, F A C

54 **Not federally enforceable.** Open Burning This permit does not authorize any open burning nor does it constitute any waiver of the requirements of Chapter 62-256, F A C Source shall comply with Chapter 62-256, F A C for any open burning at the source [Chapter 62-256, F A C]

Chapter 62-281, F A C.

55 Refrigerant Requirements. Any facility having refrigeration equipment, including air conditioning equipment which uses a Class I or II substance (listed at 40 CFR 82 Subpart A, Appendices A and B), and any facility which maintains, services, or repairs motor vehicles using a Class I or Class II substance as refrigerant must comply with all requirements of 40 CFR 82, Subparts B and F, and with Rule 62-281 100, F A C Those requirements include the following restrictions:
(1) Any facility having any refrigeration equipment normally containing 50 (fifty) pounds of refrigerant, or more, must keep servicing records documenting the date and type of all service and the quantity of any refrigerant added pursuant to 40 CFR 82 166;
(2) No person repairing or servicing a motor vehicle may perform any service on a motor vehicle air conditioner (MVAC) involving the refrigerant for such air conditioner unless the person has been properly trained and certified as provided at 40 CFR 82 34 and 40 CFR 82 40, and properly uses equipment approved pursuant to 40 CFR 82 36 and 40 CFR 82 38, and complies with 40 CFR 82 42;
(3) No person may sell or distribute, or offer for sale or distribution, any substance listed as a Class I or Class II substance at 40 CFR 82, Subpart A, Appendices A and B, except in compliance with Rule 62-281 100, F A C and 40 CFR 82 34(b), 40 CFR 82 42, and/or 40 CFR 82 166;
(4) No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the atmosphere any Class I or Class II substance used as a refrigerant in such equipment and no other person may open appliances (except MVACs as defined at 40 CFR 82 152) for service, maintenance or repair unless the person has been properly trained and certified pursuant to 40 CFR 82 161 and unless the person uses equipment certified for that type of appliance pursuant to 40 CFR 82 158 and unless the person observes the practices set forth at 40 CFR 82 156 and 40 CFR 82 166;
(5) No person may dispose of appliances (except small appliances, as defined at 40 CFR 82 152) without using equipment certified for that type of appliance pursuant to 40 CFR 82 158 and without observing the practices set forth at 40 CFR 82 156 and 40 CFR 82 166;
(6) No person may recover refrigerant from small appliances, MVACs and MVAC-like appliances (as defined at 40 CFR 82 152), except in compliance with the requirements of 40 CFR 82, Subpart F
[40 CFR 82; and, Chapter 62-281, F A C **(Chapter 62-281, F.A.C., is not federally enforceable)**]

Chapter 62-296, F.A.C.

56 Industrial, Commercial, and Municipal Open Burning Prohibited Open burning in connection with industrial, commercial, or municipal operations is prohibited, except when:

(a) Open burning is determined by the Department to be the only feasible method of operation and is authorized by an air permit issued pursuant to Chapter 62-210 or 62-213 F A C ; or,

(b) An emergency exists which requires immediate action to protect human health and safety; or,

(c) A county or municipality would use a portable air curtain incinerator to burn yard trash generated by a hurricane, tornado, fire or other disaster and the air curtain incinerator would otherwise be operated in accordance with the permitting exemption criteria of Rule 62-210 300(3), F A C

[Rule 62-296 320(3), F A C]

57 Unconfined Emissions of Particulate Matter
(4)(c)1. 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

3 Reasonable precautions include the following:

a Paving and maintenance of roads, parking areas and yards

b Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction and land clearing

c Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities

d 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.

e Landscaping or planting of vegetation

f Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter

g Confining abrasive blasting where possible

h Enclosure or covering of conveyor systems

4 In determining what constitutes reasonable precautions for a particular facility, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice

[Rules 62-296.320(4)(c)1., 3., & 4., F.A.C.]

[electronic file name: tv-4.doc]

APPENDIX 10.4.1.5

FDEP PERMIT #FLA013612

Department of Environmental Protection

Jeb Bush
Governor

Southeast District
400 N. Congress Avenue Suite 200
West Palm Beach, Florida 33401

Colleen M. Castille
Secretary

January 18, 2006 ELECTRONIC CORRESPONDENCE

In the Matter of an
Application for Permit by:

FPL, Turkey Point Power Plant
Mr. Dan J. Poirier
Maintenance Manager
9760 S.W.44 Street
Florida City, FL 33035
EMAIL: dan_poirier@fpl.com

PA File No. FLA013612-002-DW3P
Miami-Dade County
Florida Power &Light Turkey Point Power Plant
WWTF/Permit Renewal

NOTICE OF PERMIT ISSUANCE

Enclosed is Permit Number FLA013612 to operate an existing domestic wastewater treatment facility, issued under Florida Administrative Code Chapters 62-600, 62-601, 62-602, 62-620, 62-640 and 62-699 and Florida Statute Chapter 403.

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

The Department's proposed agency action shall become final unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, Florida Statutes, within fourteen days of receipt of notice. 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, 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), Florida Administrative Code, a person may request enlargement of the time for filing a petition for an administrative hearing. The request must be filed (received by the clerk) in the Office of General Counsel before the end of the time period for filing a petition for an administrative hearing.

Petitions by the applicant or any of the persons listed below must be filed within fourteen days of receipt of this written notice. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), Florida Statutes, must be filed within fourteen days of publication of the notice or within fourteen days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), Florida Statutes, however, any person who has asked the Department for notice of agency action may file a petition within fourteen 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 enlargement of time within fourteen days of receipt of notice shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, 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, 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 name, address, and telephone number of the petitioner's representative, if any; 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 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.

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.

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, Florida Administrative Code. 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, Florida Statutes, the timely agreement of all parties to mediate will toll the time limitations imposed by Sections 120.569 and 120.57, Florida Statutes, 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 fourteen 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, Florida Statutes. 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, Florida Statutes, 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 permit is final and effective on the date filed with the clerk of the Department unless a petition (or request for enlargement of time) is filed in accordance with the above. Upon the timely filing of a petition (or request for enlargement of time) this permit will not be effective until further order of the Department.

Any party to this permit has the right to seek judicial review 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 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 this permit is filed with the clerk of the Department

Executed in West Palm Beach, FL, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Linda A, Horne, P G.
Water Facilities Administrator

LAH/TP/mwb

FILING AND ACKNOWLEDGMENT

FILED, on this date, under Section 120.52, Florida Statutes, with the designated deputy clerk, receipt of which is hereby acknowledged.

Clerk 1/18/06 Date

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this NOTICE OF PERMIT ISSUANCE and all copies were emailed before the close of business on January 18, 2006 to the listed persons.

Name 1/18/06 Date

ec: Todd Brown, DEP/WPB, Todd.Brown@dep.state.fl.us
Mark Peters, DEP/WPB, Marc.Peters@dep.state.fl.us
Jose Lopex, DERM, LopezJ@miamidade.gov
Linda M. Bell, Civil Works, Inc., cwi@civilworks.com
Bob Bertelson, FP&L/Turkey Point, bob_bertelson@fpl.com

FACI SHEET
FOR
SIATE OF FLORIDA
DOMESTIC WASTEWATER FACILITY PERMIT

January 18, 2006

PERMIT NUMBER: FLA013612 002-DW3P

FACILITY NAME: Florida Power &Light Turkey Point Power Plant
WWTF

FACILITY LOCATION: Florida City
Miami-Dade County

NAME OF PERMITTEE: FP&L, Turkey Point Power Plant

PERMIT WRITER: Michael W. Bechtold, P E

1. SYNOPSIS OF APPLICATION

a. Chronology of Application

Application Date:	August 2, 2005
Additional Information:	October 12, 2005
Public Notice Date:	N/A

b. Type of Facility

Domestic Wastewater Treatment Plant
Privately-owned treatment works
Standard Industrial Classification Code: 4952

c Facility Capacity

Existing Design Capacity:	0 035	mgd	MADF
Proposed Increase in Design Capacity:	0.0	mgd	MADF
Proposed Total Design Capacity:	0.035	mgd	MADF
Existing Permitted Capacity:	0 035	mgd	MADF
Proposed Increase in Permitted Capacity:	0.0	mgd	MADF
Proposed Total Permitted Capacity:	0.035	mgd	MADF

The facility is located at a nuclear power plant. The Latitude and Longitude are not included in the permit due to federal requirements.

2. BASIS FOR EFFLUENT AND RECLAIMED WATER LIMITS AND MONITORING REQUIREMENTS (INCLUDING EFFLUENT MONITORING REQUIREMENTS)

The following table provides the basis for Part I A. provisions.

UIC System U-01 (Class V wells to Class G-III waters):

Parameter	Limit	Basis	Rationale
Flow (mgd)	0.035	Monthly Average	62-600.400(3)(b) FAC
BOD, Carbonaceous 5 day, 20C (mg/L)	20.0	Annual Average	403.085(2) & .086(1)(b) FS & 62-600.740(1)(b)1.a. FAC
	30.0	Monthly Average	62-600.740(1)(b)1.b. FAC
	45.0	Weekly Average	62-600.740(1)(b)1.c. FAC
	60.0	Single Sample Max.	62-600.740(1)(b)1.d. FAC
Solids, Total Suspended (mg/L)	20.0	Annual Average	62-600.540(1) & 62-600.740(1)(b)1.a. FAC
	30.0	Monthly Average	62-600.740(1)(b)1.b. FAC
	45.0	Weekly Average	62-600.740(1)(b)1.c. FAC
	60.0	Single Sample Max.	62-600.740(1)(b)1.d FAC
pH (su)	6.0 to 8.5	Minimum and Maximum	62-600.445 FAC

The following table provides the basis for Part I. B. provisions.

Other Limitations and Monitoring Requirements:

Parameter	Limit	Basis	Rationale
BOD, Carbonaceous 5 day, 20C (mg/L)	Report	Monthly Average	62-601.300(1)FAC
Solids, Total Suspended (mg/L)	Report	Monthly Average	62-601.300(1)FAC
Flow (mgd)	0.035	Monthly Average	62-600.400(3)(b)FAC
Percent Capacity, (TMADF/Permitted Capacity) x 100 (PERCENT)	Report	Monthly Average	62-600.405(4) FAC
Monitoring Frequency and Sample Type	-	All Parameters	62-601 FAC & 62-699 FAC and/or BPJ of permit writer
Sampling Location	-	All Parameters	62-601, 62-610.412, 62-610.463(1), 62-610.568, 62-610.613 FAC and/or BPJ of permit writer

3 RESIDUALS MANAGEMENT

The method of residuals use or disposal by this facility are transport to Miami-Dade, South District Wastewater Treatment Plant, or disposal in a Class I or II solid waste landfill

4. GROUND WATER MONITORING REQUIREMENTS

Ground water monitoring requirements have been established in accordance with Rules 62-601 and 62-522, F.A.C.

5. SCHEDULES FOR IMPROVEMENT ACTIONS, CONSTRUCTION, AND ENGINEERING STUDIES

The following improvement actions shall be completed according to the following schedule:

	Improvement Action	Completion Date
1	The steel tanks shall be renovated to eliminate metal corrosion	January 1, 2007

The metal tanks have signs of corrosion. When the power plant is taken out of service for periodical maintenance, tanks in need of repair will be taken out of service to make the repairs. The wastewater treatment plant will not be required to be completely taken out of service. This permit does not authorize the plant to be completely taken out of service and raw wastewater hauled to another plant. If the Permittee wants to do this, a report must be submitted showing no other way to make the repairs are possible except to take the entire plant out of service.

6 INDUSTRIAL PRETREATMENT REQUIREMENTS

At this time, the facility is not required to develop an approved industrial pretreatment program. However, the Department reserves the right to require an approved program if future conditions warrant.

7 APPLICABLE RULES

The following were used as the basis of the permit limitations/conditions:

a.	FAC refers to various portions of the Florida Administrative Code. The effective date of FAC Rule Chapter Numbers 62-4, 62-302, 62-520, 62-550, 62-600, 62-601, 62-602, 62-610, 62-620, 62-640, 62-650 and 62-699 are the last effective date of the rule prior to the date of this FACT Sheet
b.	FS refers to various portions of the Florida Statutes
c.	CFR refers to various portions of the Code of Federal Regulations, Title 40
d.	BPJ refers to Best Professional Judgment

8 DEPARTMENT CONTACT

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

Michael W. Bechtold, P.E.
Department's Southeast District Office
400 North Congress Avenue, Suite 200
West Palm Beach, FL, FL 33401 -
Telephone Number: (561) 681-6600
Fax Number: (561) 681-6760

9 THE ADMINISTRATIVE RECORD

The administrative record including application, , fact sheet and additional information is available for public inspection during normal business hours at the location specified in item 8

10. PROPOSED SCHEDULE FOR PERMIT ISSUANCE

Notice of Agency Action (Notice of Permit): January 18, 2006

Proposed Effective Date of Permit : January 18, 2006

11 PROCEDURES FOR THE FORMULATION OF FINAL DECISION ON PERMIT ISSUANCE

Issuance of the Permit

The Department's proposed agency action shall become final unless a timely petition for an administrative hearing is filed under Sections 120 569 and 120.57, Florida Statutes, within fourteen days of receipt of notice. If an administrative hearing is convened, final agency action will be based on the outcome of the hearing.

Administrative Hearing

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative hearing in accordance with sections 120.569 and 120.57 of the Florida Statutes, or all parties may reach a written agreement on mediation as an alternative remedy under section 120 573 before the deadline for filing a petition Choosing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement. The procedures for petitioning for a hearing are set forth below, followed by the procedures for pursuing mediation.

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 officers 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 must contain the information set forth below and must be filed (received) in the Department's Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any other person must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. A petitioner must 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 a request for mediation, as discussed below) 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, or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the discretion of the presiding officer upon the filing of a motion in compliance with rule 28-5.207 of the Florida Administrative Code.

A petition must contain the following information:
(a) The name, address, and telephone number of each petitioner; the Department's 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's action;
(c) a statement of how each petitioner's substantial interests are affected by the department's 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's action;
(f) a statement of which rules or statutes the petitioner contends require reversal or modification of the Department's action; and

(g) and a statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

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 of intent. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Any person may elect to pursue mediation by reaching a mediation agreement with all parties to the proceeding (which includes the Department and any person who has filed a timely and sufficient petition for a hearing) and by showing how the substantial interests of each mediating party are affected by the Department's action or proposed action. The agreement must be filed in (received by) the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, by the same deadline as set forth above for the filing of a petition.

The agreement to mediate must include the following:
(a) the names, addresses, and telephone numbers of any persons who may attend the mediation;
(b) the name, address, and telephone number of the mediator selected by the parties, or a provision for selecting a mediator within a specified time;
(c) the agreed allocation of the costs and fees associated with the mediation;
(d) the agreement of the parties on the confidentiality of discussions and documents introduced during mediation;
(e) the date, time, and place of the first mediation session, or a deadline for holding the first session, if no mediator has yet been chosen;
(f) the name of each party's representative who shall have authority to settle or recommend settlement;
(g) either an explanation of how the substantial interests of each mediating party will be affected by the action or proposed action addressed in this action or a statement clearly identifying the petition for hearing that each party has already filed, and incorporating it by reference; and
(h) the signatures of all parties or their authorized representatives.

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 section 120.569 and 120.57 for requesting and holding an administrative hearing. 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 whose substantial interests will be affected by such a modified final decision of the Department have a right to petition for a hearing only in accordance with the requirements for such petitions set forth above, and must therefore file their petitions within fourteen days of receipt of this notice. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under section 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.

Department of Environmental Protection

Jeb Bush
Governor

Southeast District
400 N Congress Avenue, Suite 200
West Palm Beach, Florida 33401

Colleen M. Castille
Secretary

STATE OF FLORIDA
DOMESTIC WASTEWATER FACILITY PERMIT

PERMITTEE:

FP&L, Turkey Point Power Plant

PERMIT NUMBER: FLA013612
PA FILE NUMBER: FLA013612-002-DW3P
ISSUANCE DATE: **January 18, 2006**
EXPIRATION DATE: **January 17, 2011**

RESPONSIBLE AUTHORITY:

Mr. Dan J. Poirier
Maintenance Manager
9760 S.W.44 Street
Florida City, FL 33035

(305) 246-7496

FACILITY:

Florida Power &Light Turkey Point Power Plant WWTF
9760 S.W. 344 Street
Florida City, FL 33035
Miami-Dade County

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:

TREATMENT FACILITIES:

An existing 0.035 mgd Contact Stabilization sewage treatment facility consisting of a sewage collection/transmission system containing a sewage lift station with two submersible pumps, anoxic/denitrification flow equalization, two flow equalization tanks, two aerobic digestors, two aeration tanks, secondary clarifier system, two tertiary filters, filter backwash system, flow meter, two air blowers, chlorine contact tank, gas chlorine disinfection system

DISPOSAL:

Underground Injection: An existing 0.035 mgd monthly average daily flow (MADF) permitted capacity underground gravity injection well system U-01 consisting of one (1) Class V underground injection wells permitted under Department permit number(s) UO 13-277655 discharging to Class G-III ground water. Underground injection well system U-01 is located approximately at latitude 25° 25' 58" N, longitude 80° 19' 59" W.

IN ACCORDANCE WITH: The limitations, monitoring requirements and other conditions set forth in Pages 1 through 14 of this permit.

I. RECLAIMED WATER AND EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Underground Injection Control Systems

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the Permittee is authorized to discharge effluent to Underground Injection Well Facility U-01 located at In the wastewater treatment facility area. Such discharge shall be limited and monitored by the Permittee as specified below and reported in accordance with condition I.B.7:

			Effluent Limitations				Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Annual Average**	**Monthly Average**	**Weekly Average**	**Single Sample**	**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**
Flow	mgd	Maximum	-	0.035	-	-	5 Days/Week	Recording flow meters and totalizers	EFA-1	See Cond.I.A.3
BOD, Carbonaceous 5 day, 20C	mg/L	Maximum	20.0	30.0	45.0	60.0	Monthly	Grab	EFA-2	
Solids, Total Suspended	mg/L	Maximum	20.0	30.0	45.0	60.0	Monthly	Grab	EFA-2	
pH	su	Range	-	-	-	6.0 to 8.5	5 Days/Week	Grab	EFA-2	
Coliform, Fecal	See Permit Condition I.A.4.						Monthly	Grab	EFA-2	
Total Residual Chlorine (For Disinfection)	mg/L	Minimum	-	-	-	0.5	5 Days/Week	Grab	EFA-2	See Cond.I.A.5

2. Effluent samples shall be taken at the monitoring site locations listed in Permit Condition I. A 1. and as described below:

Monitoring Location Site Number	Description of Monitoring Location
EFA-1	Recorder/Totalizer on chlorine contact tank effluent weir
EFA-2	Prior to gravity injection well

3. Recording flow meter and totalizers shall be utilized to measure flow and calibrated at least annually. *[62-601.200(17) and 500(6)]*

4 The arithmetic mean of the monthly fecal coliform values collected during an annual period shall not exceed 200 per 100 mL of effluent sample. The geometric mean of the fecal coliform values for a minimum of 10 samples of effluent each collected on a separate day during a period of 30 consecutive days (monthly), shall not exceed 200 per 100 mL of sample. No more than 10 percent of the samples collected (the 90th percentile value) during a period of 30 consecutive days shall exceed 400 fecal coliform values per 100 mL of sample. Any one sample shall not exceed 800 fecal coliform values per 100 mL of sample. Note: To report the 90th percentile value, list the fecal coliform values obtained during the month in ascending order. Report the value of the sample that corresponds to the 90th percentile (multiply the number of samples by 0.9). For example, for 30 samples, report the corresponding fecal coliform number for the 27th value of ascending order. *[62-600 440(4)(c)]*

5. A minimum of 0.5 mg/L total residual chlorine must be maintained for a minimum contact time of 15 minutes based on peak hourly flow *[62-600 440(4)(b)]*

B. Other Limitations and Monitoring and Reporting Requirements

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the treatment facility shall be limited and monitored by the Permittee as specified below and reported in accordance with condition I.B.7:

			Limitations				Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Annual Average**	**Monthly Average**	**Weekly Average**	**Single Sample**	**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**
BOD, Carbonaceous 5 day, 20C	mg/L	Maximum	-	Report	-	-	Monthly	Grab	INF-1	See Cond.I.B.3
Solids, Total Suspended	mg/L	Maximum	-	Report	-	-	Monthly	Grab	INF-1	See Cond.I.B.3
Flow	mgd	Maximum	-	0.035	-	-	5 Days/Week	Meter	INF-1	See Cond.I.B.3, 4
Percent Capacity, (TMADF/Permitted Capacity) x 100	PERCENT	Maximum	-	Report	-	-	Monthly	Calculated	-	

2. Samples shall be taken at the monitoring site locations listed in Permit Condition I. B. 1 and as described below:

Monitoring Location Site Number	Description of Monitoring Location
INF-1	Influent pump station

3. Influent samples shall be collected so that they do not contain digester supernatant or return activated sludge, or any other plant process recycled waters. *[62-601 500(4)]*

4. Elapse Time meter shall be utilized to measure flow and flow rate shall be calibrated at least annually. *[62-601 200(17) and 500(6)]*

5. Parameters which must be monitored as a result of a surface water discharge shall be analyzed using a sufficiently sensitive method to assure compliance with applicable water quality standards and effluent limitations in accordance with 40 CFR (Code of Federal Regulations) Part 136. All monitoring shall be representative of the monitored activity. *[62-620 320(6)]*

6. The Permittee shall provide safe access points for obtaining representative influent, reclaimed water, and effluent samples which are required by this permit. *[62-601 500(5)]*

7. 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 Department's 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	Monitoring Period	Due Date
Monthly or Toxicity	first day of month – last day of month	28th 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. The Permittee shall make copies of the attached DMR form(s) and shall submit the completed DMR form(s) to the Department's Southeast District Office at the address specified in Permit Condition I. B. 8 by the twenty-eighth (28th) of the month following the month of operation.

[62-620 610(18)][62-601 300(1), (2), and (3)]

8 Unless specified otherwise in this permit, all reports and other information required by this permit, including 24-hour notifications, shall be submitted to or reported to, as appropriate, the Department's Southeast District Office at the address specified below:

Southeast District Office
400 North Congress Avenue
Suite 200
West Palm Beach, Florida 33401

Phone Number - (561) 681-6600
FAX Number - (561) 681-6760
Original copies shall follow all FAX copies. All reports and other information shall be signed in accordance with the requirements of Rule 62-620.305, F.A.C. *[62-620.305]*

II. RESIDUALS MANAGEMENT REQUIREMENTS

1. The method of residuals use or disposal by this facility is transport to Miami-Dade, South District Wastewater Treatment Plant or disposal in a Class I or II solid waste landfill.

2. The Permittee shall be responsible for proper treatment, management, use, and land application or disposal of its residuals. *[62-640.300(5)]*

3. The Permittee shall not be held responsible for treatment, management, use, or land application violations that occur after its residuals have been accepted by a permitted residuals management facility with which the source facility has an agreement in accordance with Rule 62-640.880(1)(c), F.A.C., for further treatment, management, use or land application. *[62-640.300(5)]*

4. Disposal of residuals, septage, and other solids in a solid waste landfill, or disposal by placement on land for purposes other than soil conditioning or fertilization, such as at a monofill, surface impoundment, waste pile, or dedicated site, shall be in accordance with Chapter 62-701, F.A.C. *[62-640.100(6)(k)3 & 4]*

5. If the Permittee intends to accept residuals from other facilities, a permit revision is required pursuant to Rule 62-640.880(2)(d), F.A.C. *[62-640.880(2)(d)]*

6. The Permittee shall keep hauling records to track the transport of residuals between facilities. The hauling records shall contain the following information:

Source Facility
1. Date and Time Shipped
2. Amount of Residuals Shipped
3. Degree of Treatment (if applicable)
4. Name and ID Number of Residuals Management Facility or Treatment Facility
5. Signature of Responsible Party at Source Facility
6. Signature of Hauler and Name of Hauling Firm

Residuals Management Facility or Treatment Facility
1. Date and Time Received
2. Amount of Residuals Received
3. Name and ID Number of Source Facility
4. Signature of Hauler
5. Signature of Responsible Party at Residuals Management Facility or Treatment Facility

These records shall be kept for five years and shall be made available for inspection upon request by the Department. A copy of the hauling records information maintained by the source facility shall be provided upon delivery of the residuals to the residuals management facility or treatment facility. The Permittee shall report to the Department within 24 hours of discovery any discrepancy in the quantity of residuals leaving the source facility and arriving at the residuals management facility or treatment facility. *[62-640.880(4)]*

7. Storage of residuals or other solids at the permitted facility shall require prior written notification to the Department. *[62-640.300(4)]*

III. GROUND WATER REQUIREMENTS

Construction Requirements

Section Construction Requirements is not applicable to this facility.

Operational Requirements

Section Operational Requirements is not applicable to this facility.

1 The ground water minimum criteria specified in Rule 62-520.400 F.A.C., shall be met within the zone of discharge. *[62-520.400 and 62-520.420(4)]*

2 Ground water monitoring for U-01 shall be in accordance with permit number(s) UO 13-277655 or subsequent underground injection well permits.

IV. ADDITIONAL REUSE AND LAND APPLICATION REQUIREMENTS

Section IV is not applicable to this facility.

V. OPERATION AND MAINTENANCE REQUIREMENTS

1. During the period of operation authorized by this permit, the wastewater facilities shall be operated under the supervision of a(n) operator(s) certified in accordance with Chapter 62-602, F.A.C. In accordance with Chapter 62-699, F.A.C., this facility is a Category II, Class C facility and, at a minimum, operators with appropriate certification must be on the site as follows:

   A Class C or higher operator 1/2 hour/day for 5 days/week and one weekend visit. The lead operator must be a Class C operator, or higher.

   [62-620.630(3)] [62-699.310] [62-610.462]

2. An operator meeting the lead operator classification level of the plant shall be available during all periods of plant operation. "Available" means able to be contacted as needed to initiate the appropriate action in a timely manner. *[62-699.311(1)]*

3 The application to renew this permit shall include an updated capacity analysis report prepared in accordance with Rule 62-600.405, F.A.C. *[62-600.405(5)]*

4 The application to renew this permit shall include a detailed operation and maintenance performance report prepared in accordance with Rule 62-600.735, F.A.C. *[62-600.735(1)]*

5. The Permittee shall maintain the following records and make them available for inspection on the site of the permitted facility:

   a Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation and 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 required by the permit for at least three years from the date the report was prepared;

   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;

   d Monitoring information, including a copy of the laboratory certification showing the laboratory certification number, related to the residuals use and disposal activities for the time period set forth in Chapter 62-640, F.A.C., for at least three years from the date of sampling or measurement;

e. A copy of the current permit;

f. A copy of the current operation and maintenance manual as required by Chapter 62-600, F.A.C.;

g. A copy of the facility record drawings;

h. Copies of the licenses of the current certified operators; and

i. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date of the logs or schedules. The logs shall, at a minimum, include identification of the plant; the signature and certification number of the operator(s) and the signature of the person(s) making any entries; date and time in and out; specific operation and maintenance activities; tests performed and samples taken; and major repairs made. The logs shall be maintained on-site in a location accessible to 24-hour inspection, protected from weather damage, and current to the last operation and maintenance performed.

[62-620.350]

VI. SCHEDULES

1. The following improvement actions shall be completed according to the following schedule:

	Improvement Action	Completion Date
1	The steel tanks shall be renovated to eliminate metal corrosion.	January 1, 2007

[62-600.735(1)]

VII. INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS

This facility is not required to have a pretreatment program at this time. *[62-625.500]*

VIII. OTHER SPECIFIC CONDITIONS

1. The Permittee shall apply for renewal of this permit at least 180 days before the expiration date of the permit using the appropriate forms listed in Rule 62-620.910, F.A.C., including submittal of the appropriate processing fee set forth in Rule 62-4.050, F.A.C. The existing permit shall not expire until the Department has taken final action on the application renewal in accordance with the provisions of 62-620.335(3) and (4), F.A.C. *[62-620.335(1)-(4)]*

2. Florida water quality criteria and standards shall not be violated as a result of any discharge or land application of reclaimed water or residuals from this facility.

3. In the event that the treatment facilities or equipment no longer function as intended, are no longer safe in terms of public health and safety, or odor, noise, aerosol drift, or lighting adversely affects neighboring developed areas at the levels prohibited by Rule 62-600.400(2)(a), F.A.C., corrective action (which may include additional maintenance or modifications of the permitted facilities) shall be taken by the Permittee. Other corrective action may be required to ensure compliance with rules of the Department. Additionally, the treatment, management, use or land application of residuals shall not cause a violation of the odor prohibition in Rule 62-296.320(2), F.A.C. *[62-600.410(8) and 62-640.400(6)]*

4. The deliberate introduction of stormwater in any amount into collection/transmission systems designed solely for the introduction (and conveyance) of domestic/industrial wastewater; or the deliberate introduction of stormwater into collection/transmission systems designed for the introduction or conveyance of combinations of storm and domestic/industrial wastewater in amounts which may reduce the efficiency of pollutant removal by the treatment plant is prohibited, except as provided by Rule 62-610.472, F.A.C. *[62-604.130(3)]*

5. Collection/transmission system overflows shall be reported to the Department in accordance with Permit Condition IX.20 *[62-604.550] [62-620.610(20)]*

6. The operating authority of a collection/transmission system and the Permittee of a treatment plant are prohibited from accepting connections of wastewater discharges which have not received necessary pretreatment or which contain materials or pollutants (other than normal domestic wastewater constituents):

   a Which may cause fire or explosion hazards; or

   b. Which may cause excessive corrosion or other deterioration of wastewater facilities due to chemical action or pH levels; or

   c. Which are solid or viscous and obstruct flow or otherwise interfere with wastewater facility operations or treatment; or

   d Which result in the wastewater temperature at the introduction of the treatment plant exceeding 40°C or otherwise inhibiting treatment; or

   e. Which result in the presence of toxic gases, vapors, or fumes that may cause worker health or safety problems.

   [62-604 130(5)]

7. The treatment facility, storage ponds, rapid infiltration basins, and/or infiltration trenches shall be enclosed with a fence or otherwise provided with features to discourage the entry of animals and unauthorized persons. *[62-600 400(2)(b)]*

8. Screenings and grit removed from the wastewater facilities shall be collected in suitable containers and hauled to a Department approved Class I landfill or to a landfill approved by the Department for receipt/disposal of screenings and grit. *[62-701 300(1)(a)]*

9. The Permittee shall provide verbal notice to the Department as soon as practical after discovery of a sinkhole within an area for the management or application of wastewater, wastewater residuals (sludges), or reclaimed water. The Permittee shall immediately implement measures appropriate to control the entry of contaminants, and shall detail these measures to the Department in a written report within 7 days of the sinkhole discovery. *[62-4 070(3)]*

10. The Permittee shall provide adequate notice to the Department of the following:

    a. Any new introduction of pollutants into the facility from an industrial discharger which would be subject to Chapter 403, F.S., and the requirements of Chapter 62-620, F.A.C. if it were directly discharging those pollutants; and

    b. Any substantial change in the volume or character of pollutants being introduced into that facility by a source which was identified in the permit application and known to be discharging at the time the permit was issued

    Adequate notice shall include information on the quality and quantity of effluent introduced into the facility and any anticipated impact of the change on the quantity or quality of effluent or reclaimed water to be discharged from the facility.

    [62-620.625(2)]

IX. GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, Florida Statutes. Any permit noncompliance constitutes a violation of Chapter 403, Florida Statutes, and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. *[62-620.610(1)]*

2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviations 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)]*

3. As provided in subsection 403.087(7), 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 infringement 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)]*

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)]*

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)]*

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)]*

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)]*

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)]*

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)]

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, Florida Administrative Code. 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)]*

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)]*

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)]*

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)]*

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 transfer is approved by the Department. *[62-620.610(14)]*

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)]*

16. The Permittee shall apply for a revision to the Department permit in accordance with Rules 62-620.300 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) 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)]*

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)]

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), or as specified elsewhere in the permit

    b. If the Permittee monitors any contaminant 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. Except as specifically provided in Rule 62-160.300, F.A.C., any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health Environmental Laboratory Certification Program (DOH ELCP). Such certification shall be for the matrix, test method and analyte(s) being measured to comply with this permit. For domestic wastewater facilities, testing for parameters listed in Rule 62-160.300(4), F.A.C., shall be conducted under the direction of a certified operator.

    e. Field activities including on-site tests and sample collection shall follow the applicable standard operating procedures described in DEP-SOP-001/01 adopted by reference in Chapter 62-160, F.A.C.

f. Alternate field procedures and laboratory methods may be used where they have been approved in accordance with Rules 62-160.220 and 62-160.330, F.A.C.

[62-620.610(18)]

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)]*

20. The Permittee shall report to the Department 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 treated or untreated 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.

2. Oral reports, not otherwise required to be provided pursuant to subparagraph b.1 above, shall be provided to the Department 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 shall waive the written report

[62-620.610(20)]

21 The Permittee shall report all instances of noncompliance not reported under Permit Conditions IX. 17., 18. and 19. of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Permit Condition IX. 20 of this permit. *[62-620.610(21)]*

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 preventive maintenance; and

3. The Permittee submitted notices as required under Permit Condition IX. 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 Permit Condition IX. 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 Permit Condition IX. 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 provisions of Permit Condition IX. 22. a. through c. of this permit.

[62-620.610(22)]

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 Permit Condition IX. 20. of this permit; and

4. The Permittee complied with any remedial measures required under Permit Condition IX. 5. of this permit.

b In any enforcement proceeding, the burden of proof for establishing the occurrence of an upset rests with the Permittee.

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)]

FACILITY: Florida Power &Light Turkey Point Power Plant WWTF PERMIT NUMBER: FLA013612
PERMITTEE: FP&L, Turkey Point Power Plant

Executed in West Palm Beach, Florida

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

_____
Linda A, Horne, P.G.
Water Facilities Administrator

DATE: January 18, 2006

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, Southeast District, 400 North Congress Avenue, Suite 200, West Palm Beach, FL, 33401

PERMITTEE NAME: FP&L, Turkey Point Power Plant
MAILING ADDRESS: 9760 S.W.44 Street
Florida City, FL 33035

FACILITY: Florida Power &Light Turkey Point Power Plant WWTF
LOCATION: 9760 S.W. 344 Street
Florida City, FL 33035

COUNTY: Miami-Dade

PERMIT NUMBER FLA013612

LIMIT: Final
CLASS SIZE: N/A

REPORT: Monthly
GROUP: Domestic

MONITORING GROUP NUMBER: U-01
MONITORING GROUP DESC: Disposal well discharge, including Influent

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 A Mon. Site No. EFA-1	Permit Requirement	0.035 (Mo. Avg.)	Report (3-Mo. Avg.)	mgd						5 Days/Week	Flow Totalizer
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon. Site No. EFA-2	Permit Requirement				20.0 (An. Avg.)			mg/L		Monthly	Grab
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon. Site No. EFA-2	Permit Requirement				Report (Mo. Avg.)	60.0 (Max.)		mg/L		Monthly	Grab
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 Y Mon. Site No. EFA-2	Permit Requirement				20.0 (An. Avg.)			mg/L		Monthly	Grab
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 A Mon. Site No. EFA-2	Permit Requirement				Report (Mo. Avg.)	60.0 (Max.)		mg/L		Monthly	Grab
pH	Sample Measurement										
PARM Code 00400 A Mon. Site No. EFA-2	Permit Requirement				6.0 (Min.)	8.5 (Max.)		su		5 Days/Week	Grab

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)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Florida Power &Light Turkey Point Power Plant WWTF MONITORING GROUP NUMBER: U-01 PERMIT NUMBER: FLA013612

MONITORING PERIOD From: _____ To _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Coliform, Fecal	Sample Measurement										
PARM Code 74055 Y Mon. Site No. EFA-2	Permit Requirement				200 (An. Avg.)			#/100mL		Monthly	Grab
Coliform, Fecal	Sample Measurement										
PARM Code 74055 A Mon. Site No. EFA-2	Permit Requirement				Report (Mo. Geo. Mean)	800 (Max.)		#/100mL		Monthly	Grab
Total Residual Chlorine (For Disinfection)	Sample Measurement										
PARM Code 50060 A Mon. Site No. EFA-2	Permit Requirement				0.5 (Min.)			mg/L		5 Days/Week	Grab
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 P Mon. Site No. INF-1	Permit Requirement							mg/L		Monthly	Grab
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 G Mon. Site No. INF-1	Permit Requirement				Report (Mo. Avg.)			mg/L		Monthly	Grab
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 G Mon. Site No. INF-1	Permit Requirement				Report (Mo. Avg.)			mg/L		Monthly	Grab
Flow	Sample Measurement										
PARM Code 50050 G Mon. Site No. INF-1	Permit Requirement	0.035 (Mo. Avg.)	Report (3-Mo.Avg.)	mgd						5 Days/Week	Meter
Percent Capacity, (TMADF/Permitted Capacity) x 100	Sample Measurement										
PARM Code 00180 Mon. Site No.	Permit Requirement				Report			PER-CENT		Monthly	Calculated
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

DAILY SAMPLE RESULTS - PART B

Permit Number: FLA013612 Facility: Florida Power &Light Turkey Point Power Plant WWTF
Monitoring Period From: _____ To: _____

	Flow (mgd)	CBOD5 (mg/L)	Fecal Coliform Bacteria (#/100mL)	pH (su)	TSS (mg/L)	TRC (For Disinfect) (mg/L)	CBOD5 (mg/L)	Flow (mgd)	TSS (mg/L)		
Code	50050	80082	74055	00400	00530	50060	80082	50050	00530		
Mon. Site	EFA-1	EFA-2	EFA-2	EFA-2	EFA-2	EFA-2	INF-1	INF-1	INF-1		
1											
2											
3											
4											
5											
6											
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25											
26											
27											
28											
29											
30											
31											
Total											
Mo Avg											

PLANT STAFFING:

Day Shift Operator Class: _____ Certificate No: _____ Name: _____

Evening Shift Operator Class: _____ Certificate No: _____ Name: _____

Night Shift Operator Class: _____ Certificate No: _____ Name: _____

Lead Operator Class: _____ Certificate No: _____ Name: _____

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 1 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.
$CBOD_5$: Enter the average $CBOD_5$ 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 10.4.1.6

FDEP WASTEWATER PERMIT #0127512-002-UO

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 PERMIT

Dan Poirier, Maintenance Manager
FPL Turkey Point Power Plant
9760 SW 344th Street
Florida City, FL 33035

MIAMI-DADE COUNTY
UIC - FPL Turkey Point WWTP
FILE: 0127512-002-UO (Well IW-1)

Dear Mr. Poirier:

Enclosed is Permit Number 0127512-002-UO, for the continued operation of one Class V, Group 3 domestic wastewater injection (gravity flow) well, IW-1. The injection well's use is low flow rate disposal of non-hazardous secondary treated domestic wastewater (effluent) from a domestic wastewater treatment facility at the Turkey Point Power Plant, located at 9700 S.W. 344th Street, Florida City, Miami-Dade County, Florida 33035. The permit is issued pursuant to Section(s) 403.087, Florida Statutes and Florida Administrative Codes 62-4, 62-520, 62-522, and 62-528 and 62-550, 62-600 and 62-601.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, Mail Stop 35, 3900 Commonwealth Blvd., 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 this Notice is filed with the Clerk of the Department.

Should you have any questions, please contact Mark A. Silverman, P.G., or Joseph R. May, P.G., of this office at (561) 681-6778 or (561) 681-6691, respectively.

Executed in West Palm Beach, Florida

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

1/20/06
Kevin R. Neal — Date
District Director
Southeast District

KRN/LAH/JRM/mas
Copies furnished to:

Bob Bertelson, FPL/FL CITY
Jim Brawner, FPL/JUNO BCH
Nathaniel Zemel, CE/MIA BCH
Ben Enloe, FPL/FL CITY
Richard Deuerling, FDEP/TLH
Ron Reese, USGS/MIA
Tim Powell, FDEP/WPB
Nancy Marsh, USEPA/ATL
Harvey Kottke, Metro-Dade DERM
Steve Anderson, SFWMD/WPB

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on 1/23/06 (Clerk Stamp) to the listed persons.

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to the §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk — 1/23/06 Date

Department of Environmental Protection

Jeb Bush
Governor

Southeast District
400 N Congress Avenue — Suite 200
West Palm Beach Florida 33401

Colleen M. Castille
Secretary

PERMITTEE:
Dan Poirier, Maintenance Manager
FPL Turkey Point Power Plant
9760 SW 344th Street
Florida City, FL 33035

PERMIT/CERTIFICATION NUMBER: 0127512-002-UO
DATE OF ISSUANCE: 1/23/06
EXPIRATION DATE: 1/22/2011
COUNTY: Miami-Dade
PROJECT: Renewal Operation Permit for Class V, Group 3, Domestic Wastewater Injection (Gravity Flow) Well IW-1, Used for the Turkey Point WWTP

PROJECT: Renewal operation permit for Injection (gravity flow) Well IW-1, for continued low flow rate disposal of non-hazardous secondary treated domestic wastewater (effluent) from a domestic wastewater treatment facility located at the Florida Power and Light (FPL) Company's Turkey Point Power Plant.

This permit is issued under the provisions of Chapter 403.087, Florida Statutes, and Florida Administrative Code (F.A.C.) Rules 62-4, 62-520, 62-522, 62-528, and 62-550, 62-600 and 62-601. The above named permittee 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 and made a part hereof and specifically described as follows:

TO OPERATE: One Class V, Group 3, eight-inch diameter domestic wastewater injection (gravity flow) well, IW-1. The injection well will continue to be used for low volume disposal (up to 35,000 gallons per day peak hour flow) of non-hazardous secondary treated domestic wastewater (effluent) from the domestic wastewater treatment facility located at the Turkey Point Power Plant. Under gravity flow, this domestic wastewater drains into an open hole interval between 42 feet and the total depth of the injection well at 60 feet below land surface (bls). The surficial aquifer ground water at the facility is G-III ground water, as indicated by monitoring well data; the disposal well location in proximity to Biscayne Bay and cooling canals; and Monthly and Annual Cooling Canal Reports indicating cooling canal salinities of approximately 45,000 ppm

IN ACCORDANCE WITH: Application for an operation permit received May 4, 2000; Request for Information (RFI) dated June 2, 2000; response to RFI received July 5, 2000; RFI dated August 4, 2000; response to RFI received September 29, 2000; RFI dated October 27, 2000; response to RFI received February 28, 2001; RFI dated March 27, 2001; responses to RFI received June 15, 2001 and July 24, 2001; supplementary correspondence received December 4, 2001, April 30, 2002 and March 3, 2005; meeting held on August 18, 2005 at the Southeast District office of FDEP; comments from the Underground Injection Control - Technical Advisory Committee (UIC-TAC); publication of the Notice of Draft Permit 0127512-002-UO in the Miami Herald on October 23, 2005; in consideration of receipt of public comment received as a result of a public meeting held on November 29, 2005; and publication of the Notice of Intent to Issue Permit 0127512-002-UO in the Miami Herald on December 16, 2005.

LOCATED AT: FPL Turkey Point Power Plant, 9700 S.W. 344th Street, Florida City, Miami-Dade County, Florida 33035.

TO SERVE: Turkey Point Wastewater Treatment Plant with its non-hazardous secondary treated domestic wastewater (effluent) disposal needs

SUBJECT TO: General Conditions 1-24 and Specific Conditions 1-8.

GENERAL CONDITIONS:

The following **General Conditions** are referenced in Florida Administrative Code Rule 62-528.307

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit are "permit conditions" and are binding and enforceable pursuant to Section 403.141, F.S.

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.

3. As provided in Subsection 403.087(7), F.S., the issuance of this permit does not convey any vested rights or exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor 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, 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.

5. This permit does not relieve the permittee from liability for harm to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefrom; 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, or are 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 this 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 will 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 the 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.

GENERAL CONDITIONS:

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 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 proscribed 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.

11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-528.350, F.A.C. 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 shall be extended automatically unless the Department determines that the records are no longer required.
    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including 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 three 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

    d. The permittee shall furnish to the Department, within the time requested in writing, any information which the Department requests to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.
    e. If the permittee becomes aware that 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.

14. All applications, reports, or information required by the Department shall be certified as being true, accurate, and complete.

15. Reports of compliance or noncompliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each scheduled date

16. Any permit noncompliance constitutes a violation of the Safe Drinking Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

GENERAL CONDITIONS:

17. 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.

18. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

19 This permit may be modified, revoked and reissued, or terminated for cause, as provided in 40 C.F.R. Sections 144.39(a), 144.40(a), and 144.41 (1998). The filing of a request by the permittee for a permit modification, revocation or reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

20. The permittee shall retain all records of all monitoring information concerning the nature and composition of injected fluid until five years after completion of any plugging and abandonment procedures specified under Rule 62-528.435, F.A.C. The permittee shall deliver the records to the Department office that issued the permit at the conclusion of the retention period unless the permittee elects to continue retention of the records.

21. All reports and other submittals required to comply with this permit shall be signed by a person authorized under Rules 62-528.340(1) or (2), F.A.C. All reports shall contain the certification required in Rule 62-528.340(4), F.A.C.

22 The permittee shall notify the Department as soon as possible of any planned physical alterations or additions to the permitted facility. In addition, prior approval is required for activities described in Rule 62-528.410(1)(h).

23 The permittee shall give advance notice to the Department of any planned changes in the permitted facility or injection activity which may result in noncompliance with permit requirements.

24 The permittee shall report any noncompliance which may endanger health or the environment including:

a Any monitoring or other information which indicates that any contaminant may cause an endangerment to an underground source of drinking water; or
b. Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

All 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 5 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 times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance

SPECIFIC CONDITIONS:

1 General Requirements

a In accordance with Rules 62-4.090(1) and 62-528.455(3)(a), F.A.C., the permittee shall submit an application for permit renewal at least 60 days prior to expiration of this permit.

b. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.

c. The permittee shall notify the Department and obtain approval prior to any physical alterations or additions to the injection or monitoring wells, including removal of the well head.

2. Operating Requirements

a. Injection well system monitoring devices:

1) Pursuant to Rule 62-528.425(1)(b), F.A.C., the injection well shall be monitored by continuous indicating, recording and totalizing devices to monitor effluent flow rate and volume. All indicating, recording and totalizing devices associated with the injection well shall be maintained in good operating condition and calibrated annually at a minimum.

2) Pursuant to Rule 62-600.540(4), F.A.C., the surface equipment shall be such that manual backup capability to monitor flow shall be provided for systems utilizing automatic and continuous recording equipment.

b Laboratory equipment, methods, and quality control will follow United States Environmental Protection Agency (USEPA) guidelines as expressed in Standard Methods for the Examination of Water and Wastewater. All flow meter and chart records shall be calibrated using standard engineering methods

c. Operation of the injection well shall maintain compliance in the receiving G-III aquifer system with the minimum criteria for ground water, pursuant to Rule 62-520.400(1), F.A.C.

d Only non-hazardous secondary treated domestic wastewater (effluent) from the domestic wastewater treatment facility located at the FPL Turkey Point Power Plant may be discharged into the injection well.

e. The wastewater stream shall be non-hazardous in nature at all times, as defined in 40-CFR, Part 261 and as adopted in Chapter 62-730, F.A.C.

3. Testing and Reporting Requirements

a Any failure of the injection well monitoring and recording equipment for a period of more than 48 hours shall be reported to the Department within 24 hours. A written report describing the incident shall also be submitted to the Department within five days of the start of the event. The written report shall contain a complete description of the occurrence, a discussion of its cause(s), and the steps being taken to reduce, eliminate, and prevent recurrence of the event, and all other information deemed necessary by the Department

SPECIFIC CONDITIONS:

b. The injection system shall be monitored in accordance with Rules 62-528.425(1)(g) and 62-528.430(2), F.A.C. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The following injection well performance and monitoring zone data shall be collected and reported to the Department in Monthly Operating Reports (MORs) as indicated below.

1) Physical characteristics of injection well:

Flow rate parameters:

- average daily flow rate to injection well as measured from flowmeter (MGD)
- daily maximum sustained (15 minutes minimum) flow rate to injection well (MGD)
- monthly average of the daily flow rates to injection well (MGD)
- monthly maximum (peak hour) flow rate to injection well (MGD)

Volumetric parameters:

- total daily effluent to injection well from as measured from totalizer (MG)
- total monthly flow volume to injection well (MG)

2) Chemical characteristics of the wastewater effluent stream sampled from the injection well monthly:

Monthly sampling:

- residue, total filterable (total dissolved solids, TDS) (mg/L)
- chlorides (mg/L)
- specific conductance (temperature compensated, μmho/cm or μS/cm)
- total suspended solids (TSS) (mg/L)
- nitrogen, total Kjeldahl as N (TKN) (mg/L)
- nitrogen, nitrate, total as N (nitrate) (mg/L)
- pH (standard units)

The MORs shall indicate monthly averages for all parameters sampled daily.

c. All samples must be collected and analyzed in accordance with the quality assurance/quality control (QA/QC) requirements of Rule 62-160, F.A.C.

d. All injection well data submissions, including MORs, shall be clearly identified on each page with: facility name, I.D. Number, permit number, operator's name, license number, daytime phone number, date of sampling/recording and type of data. The lead plant operator or higher official shall sign and date each submittal.

e. The permittee shall submit monthly to the Department the results of all injection well and monitoring well data required by this permit (MORs) no later than the **last day of the month** immediately following the month of record. The results shall be sent to the Department of Environmental Protection's Southeast District Office (FDEP, UIC Section, 400 N. Congress Avenue, Suite 200, West Palm Beach, FL 33401). A copy of this report shall also be sent to the Department of Environmental Protection, Underground Injection Control Program, MS 3530, 2600 Blair Stone Road, Tallahassee, FL 32399-2400.

f. A wastewater effluent stream analysis (24-hour composite sample) for primary and secondary drinking water standards (Chapter 62-550, F.A.C.) and minimum criteria, see attached list, shall be submitted within six months of the expiration date of this permit. VOC parameters and biological parameters shall be sampled either in-situ or grab.

SPECIFIC CONDITIONS:

4. Signatories and Certification Requirements

a. All reports and other submittals required to comply with this permit shall be signed by a person authorized under Rules 62-528.340(1) or (2), F.A.C.

b. In accordance with Rule 62-528.340(4), F.A.C., all reports shall contain the following certification:

> "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."

5. Emergency Disposal

a. All applicable federal, state, and local permits shall be in place to allow for any alternate discharges due to emergency or planned outage conditions.

b. The emergency disposal method presented on Page 2 of correspondence from FPL dated June 30, 2000 (received July 5, 2000) and the Operations and Maintenance (O & M) Manual (received February 28, 2001) and approved by the Department as a part of this permit, shall be maintained in fully operational order at all times.

c. Any proposed changes in emergency disposal methods shall be submitted for Departmental and USEPA review for approval prior to implementation.

[SPACE INTENTIONALLY BLANK]

SPECIFIC CONDITIONS:

d. Abnormal Events

1) In the event the permittee is temporarily unable to comply with any of the conditions of a permit due to breakdown of equipment, power outages, destruction by hazard of fire, wind, or by other cause, the permittee of the facility shall notify the Department. Notification shall be made in person, by telephone, or by telegraph within 24 hours of breakdown or malfunction to the Department.

2) A written report of any noncompliance referenced in S.C. **5.d.1)** above shall be submitted to the Department within five days after its occurrence. The report shall describe the nature and cause of the breakdown or malfunction, the steps being taken or planned to be taken to correct the problem and prevent its reoccurrence, emergency procedures in use pending correction of the problem, and the time when the facility will again be operating in accordance with permit conditions

Issued this 23rd day of January, 2006

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

1/20/05

Kevin R. Neal
District Director
Southeast District

KRN/LAH/JRM/mas

PRIMARY & SECONDARY DRINKING WATER STANDARDS & MINIMUM CRITERIA

Updated May 6, 2002

PRIMARY DRINKING WATER STANDARDS

PARAMETER

Alachlor (Polychlorinated Biphenyl or PCB)
Aldicarb
Aldicarb sulfoxide
Aldicarb sulfone
Aroclors (Polychlorinated Biphenyls or PCBs)
Alpha, Gross
Antimony
Arsenic
Atrazine
Barium
Benzene
Benzo(a)pyrene
Beryllium
Bis(2-ethylhexyl) adipate (Di(2-ethylhexyl) adipate)
Bis(2-ethylhexyl) phthalate (Di(2-ethylhexyl) phthalate)
Cadmium
Carbofuran
Carbon Tetrachloride (Tetrachloromethane)
Chlordane
Chlorobenzene (Monochlorobenzene)
Chloroethylene (Vinyl Chloride)
Chromium
Coliforms, Total
Cyanide
2,4-D (2,4-Dichlorophenoxyacetic acid)
Dalapon (2,2-Dichloropropionic acid)
Dibromochloropropane (DBCP)
1,2-Dibromoethane (EDB, Ethylene Dibromide)
1,2-Dichlorobenzene (o-Dichlorobenzene)
1,4-Dichlorobenzene (p-Dichlorobenzene or Para Dichlorobenzene)
1,2-Dichloroethane (Ethylene dichloride)
1,1-Dichloroethylene (Vinylidene chloride)
1,2-Dichlorethylene (cis-1,2-Dichloroethylene or trans-1,2-Dichloroethylene)
cis-1,2-Dichloroethylene (1,2-Dichlorethylene)
trans-1,2-Dichloroethylene (1,2-Dichlorethylene)
Dichloromethane (Methylene chloride)
1,2-Dichloropropane
Di(2-ethylhexyl) adipate (Bis(2-ethylhexyl) adipate)
Di(2-ethylhexyl) phthalate (Bis(2-ethylhexyl) phthalate)
Dinoseb
Diquat
EDB (Ethylene dibromide, 1,2-Dibromoethane)
Endothall
Endrin
Ethylbenzene
Ethylene dichloride (1,2-Dichloroethane)
Fluoride
Glyphosate (Roundup)
Gross Alpha
Heptachlor
Heptachlor Epoxide
Hexachlorobenzene (HCB)
gamma-Hexachlorocyclohexane (Lindane)
Hexachlorocyclopentadiene
Lead

PRIMARY & SECONDARY DRINKING WATER STANDARDS & MINIMUM CRITERIA

Updated May 6, 2002

PRIMARY DRINKING WATER STANDARDS, CONT'D

PARAMETER

Lindane (gamma-Hexachlorocyclohexane)
Mercury
Methoxychlor
Methylene chloride (Dichloromethane)
Monochlorobenzene (Chlorobenzene)
Nickel
Nitrate (as N)
Nitrite (as N)
Total Nitrate + Nitrite (as N)
Oxamyl
p-Dichlorobenzene or Para Dichlorobenzene (1,4-Dichlorobenzene)
Pentachlorophenol
Perchloroethylene (Tetrachloroethylene)
Picloram
Polychlorinated biphenyl (PCB or Aroclors)
Radium
Roundup (Glyphosate)
Selenium
Silver
Silvex (2,4,5-TP)
Simazine
Sodium
Styrene (Vinyl benzene)
Tetrachloroethylene (Perchloroethylene)
Tetrachloromethane (Carbon Tetrachloride)
Thallium
Toluene
Toxaphene
2,4,5-TP (Silvex)
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene, TCE)
Trihalomethanes, Total
Vinyl Chloride (Chloroethylene)
Xylenes (total)

SECONDARY DRINKING WATER STANDARDS

PARAMETER

Aluminum
Chloride
Color
Copper
Ethylbenzene
Fluoride
Foaming Agents (MBAS)
Iron
Manganese
Odor
pH
Silver
Sulfate
Toluene
Total Dissolved Solids (TDS)
Xylenes
Zinc

MUNICIPAL WASTEWATER MINIMUM CRITERIA
GROUND WATER MONITORING PARAMETERS

INORGANICS

Ammonia
Nitrogen (organic)
Total Kjeldahl Nitrogen
Total Phosphorus (phosphate)

VOLATILE ORGANICS

Chloroethane
Chloroform
para-Dichlorobenzene (1,4 Dichlorobenzene)
1,2-Dichloroethylene (cis-1,2-Dichloroethylene or trans-1 2-Dichloroethylene)

BASE/NEUTRAL ORGANICS

Anthracene
Butylbenzylphthalate
Dimethylphthalate
Naphthalene
Phenanthrene

PESTICIDES AND PCBs

Aldrin
Dieldrin

ACID EXTRACTABLES

2-chlorophenol
Phenol
2,4,6-trichlorophenol

OTHER

Specific Conductance
Biological Oxygen Demand
Chemical Oxygen Demand
Temperature

APPENDIX 10.4.1.7

MULTIPLE SOURCE ANNUAL OPERATING PERMIT
#MSP-00010-2006

(Renewal application pending)

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Environmental Resources Management
Industrial Facilities Section
33 SW 2nd Avenue • 6th Floor
Miami, Florida 33130-1540
T 305-372-6600 F 305-372-6545

miamidade.gov

FILE #: 05802

MULTIPLE SOURCE ANNUAL OPERATING PERMIT

PERMITEE: Ramon Ferrer
FLORIDA POWER & LIGHT CO.
700 UNIVERSE BLVD
JUNO BEACH, FL 33408-

MULTIPLE SOURCE PERMIT NUMBER: MSP-00010-2006

DATE ISSUED: September 22, 2006
EFFECTIVE DATE: 10/01/2006
EXPIRATION DATE: 09/30/2007

LOCATION: FLORIDA POWER & LIGHT TURKEY POINT/LAND UTILIZATION
{SW 87 AVE/SW 384 ST}
FLORIDA CITY, FL 33035-

SPECIFIC SOURCE TYPES INCLUDED IN THIS PERMIT:

STRATOSPHERIC OZONE PROTECTION	APCF-01747
INDUSTRIAL WASTE (IW)	IW-00016
INDUSTRIAL WASTE (IW)	IW-00003
INDUSTRIAL WASTE 5	IW5-06229
MARINE FACILITIES	MOP-00072

The general conditions listed on the reverse side of this document apply to this facility and are made part of this operating permit. In addition to the general conditions, conditions listed within the attached operating permit(s) apply to the pollution control equipment or facilities which are the subject of the specific subsection of this operating permit.

If any of the above listed permits are not included in this package, additional information or submittals may be needed. Please feel free to contact Roberto Abrahante of the Industrial Facilities Section at 305 372-6600

MIAMI-DADE COUNTY DEPARTMENT OF
ENVIRONMENTAL RESOURCES MANAGEMENT

Carlos Espinosa, P.E., Acting Director

GENERAL CONDITIONS

1. The applicant, by acceptance of this document, agrees to operate and maintain the subject operation so as to comply with the requirements of Chapter 24 of the Code of Miami-Dade County.

2. If for any reason, the applicant does not comply with or will be unable to comply with any condition or limitation specified on this document the applicant shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps taken to reduce, eliminate, and prevent recurrence of the non-compliance. The applicant shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this document.

3. As provided in Section 24-15 of the Code of Miami-Dade County, the prior written approval of the Department of Environmental Resources Management shall be obtained for any alteration to this facility.

4. The issuance of this document does not convey any vested rights 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. Nor does it relieve the applicant from liability for harm or injury to human health or welfare or property

5. This document is required to be posted in a conspicuous location at the facility site during the entire period of operation

6. This document is not transferable. Upon sale or legal transfer of the property or facility covered by this document, the applicant shall notify the department within thirty(30) days. The new owner must apply for a permit within thirty (30) days. The applicant shall be liable for any non-compliance of the source until the transferree applies for and receives a transfer of this document

7. The applicant, by acceptance of this document, specifically agrees to allow access to the named source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this document and department rules.

8. This document does not indicate a waiver of or approval of any other department permit that may be required for other aspects of this facility.

9. This document does not constitute an approval by DERM or certification that the applicant is in compliance with applicable laws, ordinances, rules or regulations. The applicant acknowledges that separate enforcement actions may be initiated by DERM and that this document does not constitute compliance with orders issued in conjunction with enforcement actions for correction of violations.

10. Failure to comply with any condition of this document, or the requirements of Chapter 24, Code of Miami-Dade County may subject the applicant to the penalty provisions of said Chapter including civil penalties up to $25,000 per day per offense and/or criminal penalties of $500 per day or $2000 per day for violations of Section 24-42.4, Sanitary Sewer Discharge Limitations and Pretreatment Standards and/or sixty (60) days in jail.

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Environmental Resources Management
Industrial Facilities Section
33 SW 2nd Avenue • 6th Floor
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miamidade.gov

PERMIT NO: APCF-01747 (NC)-NR/MSP-00010-2006/2007
FLORIDA POWER & LIGHT TURKEY POINT/LAND UTILIZATION
{SW 87 AVE/SW 384 ST}
FLORIDA CITY, FL 33035-

PERMITTEE:
Mr. Ramon Ferrer
FLORIDA POWER & LIGHT CO.
700 UNIVERSE BLVD
JUNO BEACH, FL 33408-

STRATOSPHERIC OZONE PROTECTION ANNUAL OPERATING PERMIT

DESCRIPTION OF FACILITY/EQUIPMENT

This document, issued under the provisions of Chapter 24, Miami-Dade County Environmental Protection Ordinance, shall be valid from 01-OCT-2006 through 30-SEP-2007 The above named permittee is hereby authorized to operate the pollution control facility at the above location which consists of the following:

1 NRP Recovery unit(s) model V1
2 Thermaflo Recovery unit(s) model OZ Saver 400

The permittee is authorized to purchase refrigerant(s) R-12 R-22 R-502 from DERM approved distributors, for use during service and repair of air conditioners, refrigerators, freezers and chillers, etc Bulk sale of refrigerants is not authorized; only sale of refrigerant by the pound during repair and service is acceptable

This facility is subject to conditions listed below and in the following pages (if any) of this permit

SPECIFIC CONDITIONS

1. The permittee, by acceptance of this document, agrees to maintain the subject operation so as to comply with the requirements and standards of the Florida Administrative Code 62-281, Section(s) 608/609 of the Title VI of the Clean Air Act of 1990 and 58FR28660 and 57CFR31241 in addition to the applicable Miami-Dade County regulations

2. Releasing refrigerant into the atmosphere during installation, service, repair salvage, or dismantling of any appliance (including, but not limited to, air conditioners, refrigerators, chillers & freezers) is prohibited. All refrigerants must be recovered/recycled or recovered only using USEPA approved equipment and stored in DOI approved containers for subsequent reclamation Exceptions to this venting prohibition are covered under Section(s) 608/609 of the Clean Air Act.

3 All refrigerant recovery/recycling equipment must be properly maintained to ensure continued operating efficiency of at least 90% refrigerant recovery The permittee shall demonstrate that the refrigerant recovery/recycling equipment is in good working condition, when requested by a DERM inspector

4. Equipment that is dismantled on-site must have the refrigerant recovered in accordance with EPA requirements prior to disposal After removal of the

Section Approval: Jorge Bracho, PE

refrigerant, a sticker shall be attached to the unit stating: i) the permittee name, address and phone number ii) the DERM permit number iii) the date of refrigerant removal

5. Records regarding the service and repair of air conditioning, refrigeration and small appliances containing refrigerants must be maintained for a period of at least two years Such records shall include, but not be limited to the following: i) Amount and type of refrigerant(s) purchased, and date of purchase ii) Date of repair or service, and name and address of customer whose unit was serviced iii) Amount of refrigerant used (added to the unit), and amount of refrigerant(s) recovered/recycled iv) In the event that the recovered refrigerant is recycled and charged back into the air conditioning or refrigeration unit, a statement regarding the refrigerant recovery, recycle and recharge must be included in the service entry iv) Location address of the reclaiming facility where the refrigerant was sent for reclamation v) Dates and invoices for the transaction of the recovered refrigerants Such records must be presented to DERM inspectors for review and copies of such records must be provided to DERM upon request.

6 Technicians who handle refrigerant products during installation, service, repair, maintenance or salvaging must meet EPA's technician certification requirements.

7. This document is an authorization to handle refrigerant products in Miami-Dade County This does not reflect competency in air conditioning, refrigeration or any other trade

2006102615251700

0119 - Bob Barkelson CTP/PTN
CC - Lois Sivia JES/JTB
bcc - our files

Environmental Resources Management
Industrial Facilities Section
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miamidade.gov

PERMIT NO: APCF-01747 (NC)-NR/MSP-00010-2006/2007
FLORIDA POWER & LIGHT TURKEY POINT/LAND UTILIZATION
{SW 87 AVE/SW 384 ST}
FLORIDA CITY, FL 33035-

PERMITTEE:
Mr. Ramon Ferrer
FLORIDA POWER & LIGHT CO.
9250 W FLAGLER ST (CEA/GO)
MIAMI, FL 33174-

STRATOSPHERIC OZONE PROTECTION ANNUAL OPERATING PERMIT

DESCRIPTION OF FACILITY/EQUIPMENT

This document, issued under the provisions of Chapter 24, Miami-Dade County Environmental Protection Ordinance, shall be valid from 01-OCI-2006 through 30-SEP-2007. The above named permittee is hereby authorized to operate the pollution control facility at the above location which consists of the following:

1 ROBINAIR Recovery unit(s) model 25200
1 ROBINAIR Recovery unit(s) model 25200A
1 ROBINAIR Recovery unit(s) model 25200B

The permittee is authorized to purchase refrigerant(s) R-12 R-22 R-502 from DERM approved distributors, for use during service and repair of air conditioners, refrigerators, freezers and chillers, etc. Bulk sale of refrigerants is not authorized; only sale of refrigerant by the pound during repair and service is acceptable.

This facility is subject to conditions listed below and in the following pages (if any) of this permit

SPECIFIC CONDITIONS

1. The permittee, by acceptance of this document, agrees to maintain the subject operation so as to comply with the requirements and standards of the Florida Administrative Code 62-281, Section(s) 608/609 of the Title VI of the Clean Air Act of 1990 and 58FR28660 and 57CFR31241 in addition to the applicable Miami-Dade County regulations.

2. Releasing refrigerant into the atmosphere during installation, service, repair salvage, or dismantling of any appliance (including, but not limited to, air conditioners, refrigerators, chillers & freezers) is prohibited. All refrigerants must be recovered/recycled or recovered only using USEPA approved equipment and stored in DOI approved containers for subsequent reclamation. Exceptions to this venting prohibition are covered under Section(s) 608/609 of the Clean Air Act.

3. All refrigerant recovery/recycling equipment must be properly maintained to ensure continued operating efficiency of at least 90% refrigerant recovery. The permittee shall demonstrate that the refrigerant recovery/recycling equipment is in good working condition, when requested by a DERM inspector.

4. Equipment that is dismantled on-site must have the refrigerant recovered in

Section Approval: Joseph Bodnar, P.E.

accordance with EPA requirements prior to disposal. After removal of the refrigerant, a sticker shall be attached to the unit stating: i) the permittee name, address and phone number ii) the DERM permit number iii) the date of refrigerant removal.

5 Records regarding the service and repair of air conditioning, refrigeration and small appliances containing refrigerants must be maintained for a period of at least two years. Such records shall include, but not be limited to the following: i) Amount and type of refrigerant(s) purchased, and date of purchase ii) Date of repair or service, and name and address of customer whose unit was serviced iii) Amount of refrigerant used (added to the unit), and amount of refrigerant(s) recovered/recycled iv) In the event that the recovered refrigerant is recycled and charged back into the air conditioning or refrigeration unit, a statement regarding the refrigerant recovery, recycle and recharge must be included in the service entry iv) Location address of the reclaiming facility where the refrigerant was sent for reclamation v) Dates and invoices for the transaction of the recovered refrigerants Such records must be presented to DERM inspectors for review and copies of such records must be provided to DERM upon request.

6 Technicians who handle refrigerant products during installation, service, repair, maintenance or salvaging must meet EPA's technician certification requirements

7 This document is an authorization to handle refrigerant products in Miami-Dade County. This does not reflect competency in air conditioning, refrigeration or any other trade.

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Environmental Resources Management
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Miami, Florida 33130-1540
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PERMIT NO: IW-00016 (4)-GEN SHELL/MSP-00010-2006/2007
FLORIDA POWER & LIGHT TURKEY POINI/LAND UIILIZATION
9700 SW 344 ST (nuclear pl)
FLORIDA CITY, FL 33035-

PERMITTEE:
Mr. Ramon Ferrer
FLORIDA POWER & LIGHT CO.
700 UNIVERSE BLVD
JUNO BEACH, FL 33408-

INDUSTRIAL WASTE (IW)
ANNUAL OPERATING PERMIT

DESCRIPTION OF FACILITY/EQUIPMENT

This document issued under the provisions of Chapter 24, Miami-Dade County Code (Dade County Pollution Control Ordinance), shall be valid from 01-OCT-2006 through 30-SEP-2007 The above named permittee, is hereby authorized to operate the pollution control facility at the above location which consists of the following:

306 GPD Boiler Makeup Water Ireatment System for Electrical Power Generating Facility with two (2) nuclear units (1386 megawatt capacity) including: A Water Treatment Units with effluent discharge to the intake canal of the closed cooling canal system with the following features. 1 Multi-media filters (MMF) and a decarbonator; 2 Iriple membrane trailer (IMI) consisting of the following; a) Utrafiltration (UF) and Reverse Osmosis (RO); b) Electrodeionization (EDI) and Mixed Bed Demineralizers (DI); c) Iwo (2) Condensate Storage Ianks (CSI); d) Reject water (filter backwash, ultrafiltration, reverse osmosis and mixed bed demineralizing) to be discharged to an existing stormwater catch basin which discharges to a storm drain pipe 3 One (1) 1500 gallon above ground sulfuric acid tank secondarily contained within a heavy duty polyethylene system B Iwo (2) Solids Settling Basins (170' x 50' x 7 8' each) with 25,000 GPD discharge to closed cooling canal system Basins receive the following: 1 Economizer hopper waste 2 Dust collector cleaning waste 3 Air pre-heater wash, boiler fireside wash, and stack wash 4 Oil/water separator wastes Items C and D listed below serve as an emergency backup system for the boiler makeup water treatment described in item A. C. Neutralization Basin (75' X 115' X 5') for wastewater treatment with 100,000 GPD effluent discharged to closed cooling canal system. Basin receive the following: 1. Demineralization wastes; 2 Carbon filter backwash D Iwo (2) totally enclosed treatment facility (IEIF) tanks as follows: 1 85,000 gallon imperviously contained (containment irregular in shape, 2' high) waste neutralization tank (nuclear site) 2. 15,000 gallon waste neutralization tank (fossil site). E Oil drum and compressed gases storage facility (net volume contaiment of 11,833 gallon) with the following features (nuclear site): 1 Continuous concrete trench drain (71' X 3'), followed by one (1) three (3) inch spring loaded valve; 2. One (1) 750 gallon oil/water separator; 3 DERM approved sampling port (tee type). F. Fueling station for maintenance vehicles with the following features: 1. Impervious concrete secondary containment structure for two (2) 1,000 gallon unleaded gasoline and four (4) 1,000 gallon diesel above ground tanks; 2. Fuel dispensing island with storm drain discharging to an oil water separator

This facility is subject to conditions listed below and in the following pages (if any) of this permit.

Section Approval: _____

File Number: 05802

SPECIFIC CONDIIIONS

1. Hazardous waste, sludge and other industrial wastes and/or wastewater must be transported by DERM approved transporters Analytical data must be submitted to DERM, for all waste and/or wastewater that is disposed of locally Failure to gain approval from DERM. for disposal, will result in rejection of your waste at the disposal facility

2 Spills or Fires at the facility must be reported to this Department (372-6955) no later than four (4) hours after occurrence and a written report submitted to this Department within the following seventy-two (72) hours describing the nature of the spill/fire and steps taken to prevent future occurrences

3 The Department of Environmental Resources Management requires the submittal of a formal Closure Plan to insure the proper removal/disposal of all hazardous/non-hazardous materials and/or wastes stored on site The Closure Plan must be submitted for review and approval, a minimum of thirty (30) days prior to the cessation or relocation of operations. Please call 372-6600 for information on requirements

4 All large quantity generators (LQG's) and transfer facilities must store their ignitable or reactive wastes at least 50 feet from the nearest property line as specified in 40 CFR 265-176

5 If at any time these facilities are found to be performing inadequately, the owner must provide improvements to the operating techniques and/or additional equipment to operate in compliance with the applicable regulations.

6 Department approval shall be required prior to any modifications and/or alterations to facility operations and/or processes, including modifications to secondary containment areas

7 Reports shall be submitted in accordance with monitoring requirements stipulated in the REPORIING and SAMPLING REQUIREMENIS tables below. The information shall include, but not be limited to, sampling frequency, analytical data from a certified laboratory, industrial waste disposal receipts and hauler information

REPORTING REQUIREMENTS

Report Name: Report of operations
Frequency: monthly
Report Due By: the 15th of the following month
Parameters:

Copies of manifests and/or receipts of all hazardous waste, industrial waste and/or wastewater disposed of. Information shall include name of hauler, volume and final destination. Records shall be kept on the premises to be presented upon request

SAMPLING REQUIREMENTS

Report Name: Report of Operations
Reporting Frequency: annually
Report Due By: the 15th of December
Source:

effluent from the o/w separator located in the fuel dispensing area (nuclear plant)

Parameters:

FLPRO, EPA Methods 602 and 610

Report Name: Report of Operations
Reporting Frequency: monthly
Report Due By: the 15th of the following month
Source:

effluent from the solids settling basin

Parameters:

2006090507585250

Environmental Resources Management
Industrial Facilities Section
33 SW 2nd Avenue • 6th Floor
Miami, Florida 33130-1540
T 305-372-6600 F 305-372-6545

miamidade.gov

PERMIT NO: IW-00016 (4)-GEN SHELL/MSP-00010-2006/2007
FLORIDA POWER & LIGHT TURKEY POINT/LAND UTILIZATION
9700 SW 344 ST (nuclear pl)
FLORIDA CIIY, FL 33035-

PERMITTEE:
Mr. Ramon Ferrer
FLORIDA POWER & LIGHI CO
700 UNIVERSE BLVD
JUNO BEACH, FL 33408-

Iotal Metals (Pb, Cr, Cd, Cu and Zn) and pH

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INDUSTRIAL WASTE OPERATING REPORT FORM

PERMIT # : **IW-00016-06, File Number 5802**
CONTACT NAME: **Mr. Ramon Ferrer** **DATE:**_____
MAILING NAME: **FLORIDA POWER & LIGHT**
ADDRESS: **700 UNIVERSITY BLVD.**
JUNE BEACH, FL 33408

FACILITY: **FLORIDA POWER & LIGHT TURKEY POINT/LAND UTILIZATION**
LOCATION: **9700 SW 344 ST (Nuclear Plant)**
FLORIDA CITY, FL 33035

REPORTING FREQUENCY AND PARAMETERS REQUIRED
(Indicate which report period is being submitted by checking the appropriate box and indicating the date)

☐ Monthly report Due before the 15th of the following month for: Waste water flow, Total Metals (Cd, Cr, Cu, Pb & Zn) and pH from the solids settling basin effluent.

REPORT PERIOD: _____

Attach laboratory analysis reports

☐ Monthly report Due before the 15th of the following month for: Copies of manifests and/or receipts of all hazardous waste, industrial waste and/or wastewater disposed of. **

REPORT PERIOD: _____

☐ An annual report due on or before December 15 for: EPA Methods 602's and 610's and FLPRO from the oil water separator located in the fuel dispensing area (nuclear plant).

REPORT PERIOD: _____

AVERAGE DAILY WASTEWATER FLOW: _____ **GPD (gallons per day)**

**** Please attach proof of disposal**

I hereby certify that, to the best of my knowledge, this document and all the attachments are true, accurate and complete.

_____
Authorized Representative or Corporate Official

2006090507585327

Environmental Resources Management
Industrial Facilities Section
33 SW 2nd Avenue • 6th Floor
Miami, Florida 33130-1540
T 305-372-6600 F 305-372-6545

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PERMIT NO: IW-00003 (4)-GEN SHELL/MSP-00010-2006/2007
FLORIDA POWER & LIGHT TURKEY POINT/LAND UTILIZATION
9700 SW 344 ST (fossil fue)
FLORIDA CITY, FL 33035-

PERMITTEE:
Mr. Ramon Ferrer
FLORIDA POWER & LIGHT CO.
700 UNIVERSE BLVD
JUNO BEACH, FL 33408-

INDUSTRIAL WASTE (IW) ANNUAL OPERATING PERMIT

DESCRIPTION OF FACILITY/EQUIPMENT

This document issued under the provisions of Chapter 24, Miami-Dade County Code (Dade County Pollution Control Ordinance), shall be valid from 01-OCT-2006 through 30-SEP-2007 The above named permittee, is hereby authorized to operate the pollution control facility at the above location which consists of the following:

Number 6 Fuel Tank Farm for Electrical Power Generating Facility for two (2) fossil fuel (810 megawatt capacity) units including: A Bulk fuel storage area with stormwater and minor spills treated by oil/water separators prior to discharge, as described in the facility's SPCCP, including: 1 Two (2) 250,000 BBL (10 5 million gallon, each tank) aboveground No. 6 fuel storage tanks; 2. Impervious containment area for two (2) 11,693 BBL (491,106 gallon, each tank) metering tanks; 3 Pumphouse area for transfer of fuel from bulk storage tanks to metering tanks B. Oil/water separator systems (OS #'s 1-4) including: 1 OS #1 (located east - fossil side): VTC System treats discharges from fuel oil heater and burner pumps; discharge to solids settling basin. 2. OS #2 (located west - fossil side): treats discharges from pump and equipment floor drains; effluent discharge to cooling canal 3. OS #3: treats spills from fuel loading dock; effluent discharge to solids settling basin 4 OS #4: treats spills from pumphouse area; effluent discharge to ground C Fueling station for maintenance vehicles with the following features: 1. Fuel dispensing island with associated storm drain discharging to an oil water separator; 2. Roofed impervious secondary containment structure (23.67' X 22' X 1 46' high) containing two (2) 2,000 gallon aboveground tanks, one (1) each for diesel fuel and unleaded gasoline with associated fuel dispenser (fossil site). D. Hazdous waste storage room (24'x 20') and used oil containment area (40'x 22 75'x 0 33').

This facility is subject to conditions listed below and in the following pages (if any) of this permit

SPECIFIC CONDITIONS

1 Hazardous waste, sludge and other industrial wastes and/or wastewater must be transported by DERM approved transporters. Analytical data must be submitted to DERM, for all waste and/or wastewater that is disposed of locally Failure to gain approval from DERM, for disposal, will result in rejection of your waste at the disposal facility

2 Facilities shall be operated in compliance with the regulations and requirements of their EPA NPDES permit and their State of Florida IO permit in addition to Chapter

Section Approval: _____

File Number: 05802

24 Copies of these reports shall be submitted to DERM on a monthly basis.

3 Equipment and secondary containment facilities must be inspected daily Any leaks or signs of potential failure of the equipment and/or secondary containment facilities shall be immediately communicated to DERM

4 The Department of Environmental Resources Management requires the submittal of a formal Closure Plan to insure the proper removal/disposal of all hazardous/non-hazardous materials and/or wastes stored on site The Closure Plan must be submitted for review and approval, a minimum of thirty (30) days prior to the cessation or relocation of operations Please call 372-6600 for information on requirements

5 Spills or Fires at the facility must be reported to this Department (372-6955) no later than four (4) hours after occurrence and a written report submitted to this Department within the following seventy-two (72) hours describing the nature of the spill/fire and steps taken to prevent future occurrences.

6 If at any time these facilities are found to be performing inadequately, the owner must provide improvements to the operating techniques and/or additional equipment to operate in compliance with the applicable regulations

7 Department approval shall be required prior to any modifications and/or alterations to facility operations and/or processes, including modifications to secondary containment areas

8 Reports shall be submitted in accordance with monitoring requirements stipulated in the REPORTING and SAMPLING REQUIREMENTS tables below. The information shall include, but not be limited to, sampling frequency, analytical data from a certified laboratory, industrial waste disposal receipts and hauler information

REPORTING REQUIREMENTS

Report Name: Report of Operations
Frequency: Monthly
Report Due By: on or before December 15th
Parameters:
Copies of manifests and/or reciepts of all hazardous waste, industrial waste and/or wastewater disposed of. Information shall include name of hauler, volume and final destination Records shall be kept on site for review.

SAMPLING REQUIREMENTS

Report Name: Groudwater Quality
Reporting Frequency: annual
Report Due By: December 15
Source:
Groundwater from the facility monitoring wells
Parameters:
FLPRO

Report Name: Report of Operations
Reporting Frequency: monthly
Report Due By: the 15th of the following month
Source:
Effluent from OS#2 separator sampling point
Parameters:
IRPH (EPA Method (1664), Total Metals (Pb and Zn) and pH

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DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT

INDUSTRIAL WASTE OPERATING REPORT FORM

PERMIT # : **IW-0003-06, File Number 05802**
CONTACT NAME: **Mr Ramon Ferrer** DATE: _____
MAILING NAME: **FLORIDA POWER & LIGHT**
ADDRESS: **700 UNIVERSITY BLVD**
JUNO BEACH, FL 33408

FACILITY: **FLORIDA POWER & LIGHT TURKEY POINT/LAND UTILIZATION**
LOCATION: **9700 SW 344 ST (Fossil Fuel Plant)**
FLORIDA CITY, FL 33035

REPORTING FREQUENCY AND PARAMETERS REQUIRED
(Indicate which report period is being submitted by checking the appropriate box and indicating the date)

☐ Monthly report Due before the 15th of the following month for: Copies of manifests and/or receipts of all hazardous waste, industrial waste and/or wastewater disposed of. **

REPORT PERIOD: _____

☐ Monthly report Due before the 15th of the following month for: Waste water flow, FLPRO, Total Metals (Pb & Zn) and pH from the effluent from OS#2.

REPORT PERIOD: _____

Attach laboratory analysis reports

☐ An annual report of groundwater quality due on or before December 15 for: FLPRO from the facility monitoring wells.

REPORT PERIOD: _____

Attach laboratory analysis reports

AVERAGE DAILY WASTEWATER FLOW: _____ **GPD (gallons per day)**

** **Please attach proof of disposal**

I hereby certify that, to the best of my knowledge, this document and all the attachments are true, accurate and complete.

_____
Authorized Representative or Corporate Official

2006090507585451

Environmental Resources Management
Industrial Facilities Section
33 SW 2nd Avenue • 6th Floor
Miami, Florida 33130-1540
T 305-372-6600 F 305-372-6545

miamidade.gov

PERMIT NO: IW5-06229 (REG)-CETO/MSP-00010-2006/2007
FLORIDA POWER & LIGHT TURKEY POINT/LAND UTILIZATION
{SW 87 AVE/SW 384 ST}
FLORIDA CITY, FL 33035-

PERMITTEE:
Mr. Ramon Ferrer
FLORIDA POWER & LIGHT CO.
700 UNIVERSE BLVD
JUNO BEACH, FL 33408-

INDUSTRIAL WASTE 5
ANNUAL OPERATING PERMIT

DESCRIPTION OF FACILITY/EQUIPMENT

This document, issued under the provisions of Chapter 24, Miami-Dade County (Dade County Environmental Protection Ordinance), shall be valid from October 01, 2006 through September 30, 2007. The above named permittee, is hereby authorized to operate the pollution control facility at the above location which consists of the following:

Fleet operator generating waste oil, coolant, and used batteries, with solvent wash tank, some with steam cleaning effluent; served by septic tank and outside wellfield protection area

This facility is subject to conditions listed below and in the following pages (if any) of this permit

SPECIFIC CONDITIONS

1. All wastes from facility operation shall be stored or disposed of in compliance with county, state and federal regulations

2. Facility shall have the ability to contain and collect any spill and properly dispose of contaminated materials Accidental spills must be reported to this department within 24 hours at (305)372-6789

3. When allowed, waste oil, transmission fluids, brake fluids, solvents, sludge's, chemicals, or other industrial wastes must be collected and placed in a secure location These materials shall be disposed of in an approved manner by Miami-Dade County permitted haulers only

4. Receipts from all industrial waste and/or wastewater disposal must be maintained at the business and be available for inspection by DERM personnel. Receipts shall contain clear information as to the name of the hauler, type of material transported, and quantity of material picked up Records shall be kept for a period of three years.

5. Hazardous wastes (if allowed) shall not be stored longer than ninety (90) days, for GENERATORS, or one hundred eighty (180) days for SMALL QUANIIIY GENERAIORS, containers must be clearly labeled, and must have the date of the first day of storage marked on the outside of the container

Section Approval: _____

File Number: 05802

6. Do not discharge used coolant, flush out or test tank waters into septic tanks, storm drains, soakage pits, or onto ground surface At present, used coolant that is not recycled shall be collected and profiled for proper disposal

7. Used batteries shall be kept indoors, or on an impervious covered area sheltered from the elements Return unwanted batteries to suppliers or reclaimers promptly Receipts for disposals should be made available and kept for a period of three (3) years.

8 All above ground tanks and storage areas for hazardous materials and hazardous waste (if allowed) must have secondary containment. Design and construction must have departmental approval

9 If at any time pollution control facilities or procedures are found to be performing inadequately, the owner must provide immediate improvements to the operating techniques and/or additional equipment in order to operate in compliance with applicable regulations Additionally, any significant changes in facility operations, processes or inventory of materials must be reported to this office in writing within 10 days.

10 Industrial liquid waste discharges must meet the Miami-Dade County Standards

11 Used oil filters must be collected and handled by a permitted hauler or recycler. These filters cannot be disposed in the trash as solid waste

12 Any septic tank located at the subject property shall be provided with access for the purpose of sampling and monitoring by DERM inspectors at any time during reasonable working hours

13 Rags used in cleaning processes and contaminated with hazardous materials (ie. solvents, inks, oils & grease) must be recycled by an approved rag service or handled as hazardous waste unless proven otherwise by a hazardous waste profile.

14. The permittee, by acceptance of this certification, agrees to maintain the subject operation so as to comply with the requirements and standards of Chapter 24 of the Code of Miami-Dade County, the Florida Administrative Code 17-281, Section 609, Iitle VI of the Clean Air Act of 1990 and 57CFR31241

15. Refrigerant must be recovered/recycled or recovered only using USEPA approved equipment. Release of refrigerant into the atmosphere during installation, service, repair, salvage, or dismantling air conditioners is prohibited For further information regarding Dade County's Stratospheric Ozone Protection Program, please contact Air Section staff of DERM's Air Quality Management Division at (305)372-6925.

16. IHIS DOCUMENI ALSO AUIHORIZES THE APPLICANI IO PURCHASE REFRIGERANI R-12, CONTINGENI UPON PROOF IHAI IHE APPLICANI HAS OBIAINED FEDERAL ENVIRONMENIAL PROIECIION AGENCY (EPA) APPROVED IECHNICIAN CERTIFICAIION FOR REFRIGERANI RECOVERY IN AUIOMOBILE AIR CONDITIONERS

17 Maintain records indicating the date, name and address of clients whose motor vehicle air conditioners were serviced. Records must be maintained on-site for at least three (3) years for spot checks by DERM representatives.

18. Only properly trained and certified technicians may perform service on motor vehicle air conditioners as outlined in applicable County, State and Federal regulations.

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Environmental Resources Management
Industrial Facilities Section
33 SW 2nd Avenue • 6th Floor
Miami, Florida 33130-1540
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miamidade.gov

PERMIT NO: MOP-00072 (A)-GEN/MSP-00010-2006/2007
FLORIDA POWER & LIGHT TURKEY POINT/LAND UTILIZATION
9700 SW 344 ST
FLORIDA CITY, FL 33035-

PERMITTEE:
Mr. Ramon Ferrer
FLORIDA POWER & LIGHT CO.
700 UNIVERSE BLVD
JUNO BEACH, FL 33408-

MARINE FACILITIES
ANNUAL OPERATING PERMIT

DESCRIPTION OF FACILITY/EQUIPMENT

This document, issued under the provisions of Chapter 24, Miami-Dade County Code (Ordinance Number 89-104), shall be valid from 01-OCT-2006 through 30-SEP-2007. The above named permittee, is hereby authorized to operate the marine facility at the above location which consists of the following:

Commercial Facility.

Fueling Facilities

Total wet slips: 1
Total dry slips: 1
Total commercial vessels: 2
Total recreational vessels: 0
Number of liveaboards: 0
Days of week in operation: 7

This facility is subject to conditions listed below and in the following pages (if any) of this permit.

SPECIFIC CONDITIONS

1. This facility shall maintain a fender system or functional equivalent which provides at least four (4) feet of standoff from the seawall, bulkhead or wharf under maximum operational compression. This standoff is required in order to prevent manatees from becoming trapped, injured or crushed between a vessel and bulkhead or other structure. The standoff system shall be installed entirely above the mean high water line unless prior written approval is obtained from DERM. No vessel(s) shall be authorized at this facility at any time without the aforementioned standoff system.

2. This facility must be operated in accordance with the "Best Management Practices" attached hereto and incorporated herein by reference as part of this permit

3. All applicable conditions from previously executed local, state, and federal permits issued for the above-referenced marine facility shall be enforced

4. All fixed or floating non-water dependent structures in, on, over, or upon tidal waters, unless previously approved by a Class I permit, are prohibited

Section Approval: _____

5 All permanent sewage pumpout systems and portable pumpout systems required at this facility pursuant to DERM, state, or federal permits shall be maintained on site and in fully operable condition at all times in order to convey sewage to the sanitary sewer system. Designated slips for pumpout stations shall be kept open at all times except while a vessel is discharging sewage to the pumpout system There shall be no overboard discharge of sewage to tidal waters from vessels at this facility This prohibition also includes discharges from approved Coast Guard Type 1 or 2 flow-through marine sanitation devices All vessel occupants shall use shoreside facilities unless the vessel is equipped with a Coast Guard approved holding tank system or is directly connected to the facility's sewage pumpout system.

6 The facility owner/operator is required to maintain a submerged land lease from the state of Florida if any vessels or structures are located over state-owned submerged lands. Use of state-owned submerged lands without a lease or other form of consent from the State of Florida is prohibited

7 Unless otherwise approved by DERM, fueling of vessels at this facility shall be prohibited. Facilities approved for fueling operations shall maintain on-site spill prevention, containment, and recovery equipment and materials including, but not limited to, absorbent pads, booms, and sweeps and shall maintain staff trained in the deployment and operation of said equipment at all times. Fueling at approved facilities shall be conducted only at the designated fueling location in order to contain any spills that may occur. A floating containment boom large enough to enclose the area of the vessel being fueled, but with a minimum length of fifty (50) feet, shall be available at all times during fueling operations. Said equipment shall be deployed and operated in the most effective manner possible when spills occur.

8 The maximum number of vessels that may be stored, docked or moored at this facility may not exceed the number of slips as referenced above in this Operating Permit This condition shall not apply to appurtenant vessels such as dinghies and tenders that are associated, by ownership, design and common usage, with a primary vessel docked, moored or stored at the facility, and therefore, are affixed to/carried by and stored on the primary vessel.

MARINE FACILITIES BEST MANAGEMENT PRACTICES

Marine Facilities Are Required To Obtain An Annual Operating Permit From The Department Of Environmental Resources Management, Pursuant To Ordinance 89-104.

Ordinance 89-104, which became effective on November 17, 1989, requires that the following marine facilities obtain annual operating permits from DERM:

1 All recreational boat docking facilities with ten or more boat slips;

2 All boat storage facilities with ten or more storage spaces;

3 All commercial boat docking facilities including the Port of Miami and shipping terminals on the Miami River.

The definition of these facilities are those definitions included in Ordinance 89-104 and incorporated herein by reference. Facilities which meet these definitions shall be required to obtain this permit. This permit shall not be required of those facilities which do not meet these definitions.

The Ordinance provides for specific operating permit conditions to be included as part of each annual permit to safeguard against pollution. It was agreed upon at the time of the public hearing on the Ordinance that these annual operating conditions would include:

1 Conditions that were previously part of a Coastal Construction Permit for a particular facility;

2 Standards which are already in Chapter 24 of the Miami-Dade County Code, with specific clarifications and interpretations where applicable to the marine facility operating permit;

3 Best Management Practices for the operation of the permitted facility

Section 3 of the Ordinance established an Advisory Committee to make recommendations to DERM regarding conditions (the "Best Management Practices") which will be part of the operating permits for specific facilities. These conditions and practices were developed jointly by DERM and the Committee. Specific activities were identified (e.g. fueling, boat washing, engine repairs, sanding and painting) and these were discussed on the basis of the combined experience of members of the Committee, the existing standards of Chapter 24, and the experience of DERM'S Field Inspectors.

The Best Management Practices ("BMPs") which follow are the result. Some or all of these practices will apply to each permitted facility, depending on that facility's operations.

It is recognized that these BMPs cannot cover all possible situations, and that experience and new technologies may result in better solutions to pollution producing activities. It is understood that these BMPs may be revised, discontinued or supplemented.

In the future, if the Committee and DERM agree on a change or addition to the BMPs, then that change shall become part of the BMPs. If a change is proposed by either the Committee or DERM, and there is not an agreement as to that change, then it shall be resolved as follows:

1 DERM shall have the option of excluding that change from the BMPs.

2. The Committee shall have the option of developing an alternative practice that accomplishes the objectives of Chapter 24 and is thereby acceptable to DERM. This alternative practice may then become part of the BMPs.

3 In the event that neither of the above resolutions are possible, DERM may codify a specific Best Management Practice by proposing an ordinance which requires the approval of the Metro Commission

In addition, a permittee may propose an alternative methodology for a BMP which has been required for their particular facility DERM shall review this alternative methodology and present it, with an evaluation, to the Committee DERM and the Committee shall then either approve or disapprove the alternative methodology, as described above If approved, this alternative methodology shall become an additional BMP If disapproved, then the permittee shall conform to the BMP originally included in the operating permit Any permittee shall have the right to appeal any BMP required as an operating permit condition to the Environmental Quality Control Board, pursuant to the provisions of Chapter 24 of the Dade County Code

The purpose of the BMPs is to describe and promote "good housekeeping" practices that will enable marinas and marine facilities to materially reduce pollution generated by their activities A permittee who operates in complete compliance with the BMPs attached hereto will be in compliance, for enforcement purposes, with Ordinance 89-104, and with Chapter 24, as it pertains to those specific activities described in the BMPs However, any discharge from treatment processes specified in the BMPs must meet the applicable standards within Chapter 24 Furthermore, activities not described in the BMPs may be regulated and enforced by other ordinances and Chapter 24

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BEST MANAGEMENT PRACTICES

Code # Activity or Product

001. **Manatee Protection:** Permittees should be aware that a "Dade County Manatee Protection Plan" has been developed and adopted This plan provides insight into this endangered species' plight as well as its migratory travel paths and congregation areas As such, this plan offers valuable information for all marine facilities This plan also sets forth new requirements for the operation of marine facilities to lessen the impacts of these new facilities on the manatee These new requirements cover such items as the required retrofitting of existing berthing facilities that handle boats of 100 feet and larger with fendering systems The plan also includes guidelines for expansion and construction of new facilities

As the manatee's existence will be a key factor in how marine facilities will be allowed to operate in the future, it is recommended that each permittee familiarize themselves with the plan Copies of this plan, DERM Technical Report 95-5, can be obtained by contacting Mr Jose Diaz of DERM at (305)372-6576

All permitted facilities shall post a minimum of two (2) "Manatee Caution" signs within their facility Said signs shall be visible to vessels as they enter and exit the facility Facilities with fifty (50) or more boat slips are required to post a manatee informational display on the uplands, in an area where it shall be clearly visible by patrons of the facility In addition, all facilities shall provide vessel owners written manatee information every November Smaller MOP sources located within larger marine facilities need not provide their own additional signage

Harassment of manatees is prohibited Harassment includes, but is not limited to, feeding, watering, physical contact, and/or any interference in their normal behavior or movements Manatees may grow accustomed to receiving food or water from people, thereby losing their natural fear, and may begin approaching vessels and docks looking for handouts This behavior and the ingestion of unsuitable foods, increases their chances of injury

002. **Hurricane Preparedness Plan:** All permitted facilities shall prepare a written hurricane preparedness plan for their facility and provide a copy to all vessel owners using the permitted facility every June

003. **Pumpout Facility:** Any facility required by law or a construction permit to have a fixed or portable pumpout facility shall maintain the pumpout in operating condition and shall have appropriate signage.

004. **Discharge of Sewage from Vessels (excludes "Graywater", see BMP #016):** Marine facility operators shall advise all tenants of the following:

A It is illegal to discharge sewage from vessels into the waters of Miami-Dade County; and

B Illegal discharge of sewage from vessels is subject to stiff fines; and

C The location of the nearest public sewage pumpout facility.

005. **Waste Oil:** This includes waste engine oil, transmission fluid, hydraulic oil, gear oil Waste oil must be stored in a non-leaking container clearly marked "waste oil" on an impervious surface, and covered in a manner that will prevent rain water from entering the container Oil spills must be prevented from leaving the area by means of a berm or retaining structure Waste oil must be removed from the site by a permitted waste oil transporter and receipts retained for inspection

006. **New Oil:** This includes new engine oil, transmission fluid, hydraulic oil, gear oil These petroleum products must be kept in non-leaking containers on an impervious surface with a surrounding berm or retaining structure, and covered in a manner that will prevent rain water from entering the container Leaking containers must be emptied promptly upon detection, either by transferring the product to a non-leaking container or by disposing of it in the "waste oil" container

007 **Anti-Freeze Engine Coolant:** Anti-freeze is considered a hazardous product and when drained from an engine, it must be stored in a clearly marked container on an impervious surface with a surrounding berm or retaining structure, and covered to prevent rain water from entering the container It cannot be disposed of down a storm drain or sanitary sewer It must be removed from the site by a permitted liquid waste transporter, and receipts must be retained for inspection

008. **Waste Gasoline:** Must be stored in a non-leaking container, on an impervious surface with a surrounding berm or retaining structure, and covered to prevent rain water from entering the container The container must be clearly labeled "waste gasoline" and the storage location must conform to local Fire Codes Whenever possible, waste gasoline shall be filtered and used as a fuel Waste gasoline shall not be discharged to the ground, storm sewers or to surface waters of Dade County. Waste gasoline must be removed from the site by a waste transporter permitted to handle this waste product and receipts must be retained for inspection

009. **Waste Diesel, Kerosene and Mineral Spirits:** These must be stored in non-leaking containers on an impervious surface with a surrounding berm or retaining structure, and covered to prevent rain water from entering the container Each container must be clearly labeled with its contents. The storage locations shall conform to local Fire Codes. The disposal of these waste products must be by a waste transporter permitted to handle such wastes, and receipts must be retained for inspection. Waste petroleum products shall not be discharged to the ground, storm sewers or to the surface waters of Dade County

010. **Oil Spills on Land:** Oil spills shall be collected and put into the waste oil container. Oil residues may be absorbed with "spill-dry" or a similar product and disposed of with the regular trash.

011. **Fuel Spills on Land:**

A Spilled diesel fuel shall be collected and placed in the waste diesel container Uncollectible amounts may be absorbed using 'spill-dry" or other petroleum absorbent materials and disposed with the regular trash. If absorbent pads are used, they shall be double-bagged in plastic and disposed of with the regular trash (This BMP pertains to spills of twenty five (25) gallons or less)

B Spilled gasoline shall be collected and placed in the waste gasoline container Residues remaining on the ground may be absorbed with "spill-dry" or absorbent pads, but the absorbent material must be thoroughly aerated before disposing with the regular trash to remove gasoline vapors

012. **Grease:** Spilled or waste grease shall be collected and put into the waste oil container. Residues remaining on the ground may be absorbed with "spill-dry" or a similar product and disposed of with the regular trash.

013 **Oil Filters:** These must be drained before disposal by placing the filter in a funnel over the waste oil collection container so as to allow the excess petroleum product to drain into the container The drained filters must be stored, whole or crushed, in a DOT approved container and held for pick up by a permitted waste oil filter transporter and receipts must be retained for inspection. Gasoline and diesel filters must also be drained (they can be drained into the waste oil container) and can then be disposed of in the same waste filter container Facilities have the option to crush filters

after draining in order to reduce waste volume, and to dispose of them as solid waste if a profile testing establishing that the residue remaining in the filters is non-hazardous

014. **Petroleum Products (general):** Petroleum products shall not be discharged into a storm drain, sanitary sewer or onto the open ground or surface waters. Care must be taken in handling these products and spills cleaned up promptly at the time detected. All permitted facilities shall maintain a supply of petroleum absorbent material and "spill dry" in a readily accessible location. In addition, all marine facilities must have a written action plan to deal with large petroleum product spills. This plan must include, at a minimum, the names and telephone numbers of all agencies involved with fuel spills and a private cleanup contractor who can be contacted and hired in the event of a major spill.

015. **Fueling Operations:** Permittees with fueling operations should be aware of the Florida Statutes that pertain to their type of facility. These are Chapter 62-761 Underground and Aboveground Stationary Tank Rules. Copies of these laws may be obtained from the Department of Environmental Protection, P.O. Box 15425, West Palm Beach, Florida 33416. In addition, this State agency also operates a pollution control program pertaining to the sale of diesel (not gasoline), and information on this program can be obtained from the same address. Chapter 24 of the Dade County Statutes includes information on DERM'S requirements regarding fueling facilities, record keeping, ground water testing, tank testing, pressure testing of lines, etc. Copies of these laws can be obtained from DERM at 372-6789. There have been significant changes in governmental requirements regarding many aspects of fueling operations, and it is in the best interest of any permittee dispensing fuel to be aware of these requirements and to anticipate any upgrades that may be required.

A. Individual Boats: Fuel nozzles must have automatic back pressure shutoffs and shall only be held open by hand. In the immediate vicinity of the dispenser, there must be petroleum absorbent pads readily accessible in the event of a small spill. A petroleum absorbent pad should be held next to the nozzle while filling, to catch small accidental spills and the few drops of fuel that fall from the nozzle when it is removed from the fill fitting. If fuel accidentally spills in the water or onto the ground, the person fueling the boat shall use the absorbent pads to remove the fuel from the water surface or from the ground. These absorbent pads shall be dried in the open air under sunlight and may then be disposed of with the regular trash.

B. General: There shall be kept on hand a floating containment boom large enough to enclose the area of surface water where a fueling spill may reasonably occur, but with a minimum length of fifty feet. Petroleum absorbent materials shall also be kept available to absorb fuel spills on the surface water or on land. Reporting requirements for fuel spills shall be followed as per Coast Guard and DERM regulations. All staff at fueling facilities shall have proper training in the deployment of fuel spill equipment and materials.

C. Dispersants: The use of dispersants, including household detergents, to treat in-water fuel and oil spills is prohibited. Dispersants cause the hydrocarbons to sink to the bottom where they can damage and/or kill the bottom communities or contaminate the sediments within the affected areas.

016. **Mobile Fueling:** This new BMP is under review by the Advisory Committee and DERM.

017. **Bilge Waste Water:** Bilge wastewater and "gray" water that is not contaminated by oil, fuel or other regulated contaminants may be discharged onto surface waters or on land. Federal, state and local regulations prohibit the discharge of bilge wastewater and "gray" water that is contaminated by oil, fuel or other regulated contaminants. Boat owners shall be liable for complying with these regulations and marine facilities shall inform them of this. Marine facilities shall have supplies and

equipment available to remove oil and fuel from bilge water so that it may be legally discharged. These shall include petroleum absorbents and a written action plan to deal with larger quantities of oil, fuel or other regulated contaminants
"Gray" water shall mean wastewater from galley operations (dishwashing) and from hand basins and showers

018 **Used Lead-Acid Batteries:** These must be stored on an impervious surface, under cover, and sent to or picked up by an approved recycler. Receipts must be retained for inspection.

019 **Steam Cleaning:** Must be done on an impervious area designed to collect and contain the cleaning effluent. The system may recycle, collect or treat the effluent:

A If detergents or solvents are not used, a properly sized grease trap/oil and water separator connected to a sanitary sewer must provide adequate treatment to allow the effluent to meet sewer standards

B If detergents or solvents are used, the oil and grease are emulsified and a grease trap would no longer function properly. In these cases, treatment or recycling systems must be used. If the treated water meets sanitary sewer standards it may be discharged to sanitary sewers

C Any facility that has steam cleaning capabilities shall be required to have an IW-5 Permit from DERM in addition to the Marine Facility Permit, and will be classified as a multiple source.

020 **Pressure Cleaning:** The use of high or low pressure water cleaning equipment for the initial rinse-off of a vessel hauled from the water is acceptable. However, any accumulated algae, oyster or barnacle build-up must be properly collected and disposed of in the regular trash. The use of this equipment to remove bottom paint from hulls shall be restricted to an area with an impervious surface, where the wastewater shall be contained, collected and treated to remove paint solids to meet the sanitary sewer standards. If standards are not met, further treatment will be required prior to discharging to the sanitary sewers

021. **Washing by Hand Above Waterline:** Detergents and cleaning compounds used in washing boats shall be biodegradable. The wastewater generated by washing boats by hand shall not be considered an "industrial waste" or "other waste" as defined in Chapter 24. All industrial wastewater including sewage from vessels using the facility shall be treated to appropriate standards and discharged into the sanitary sewer system only. Unless otherwise approved by DERM, discharge to a septic tank or holding tank system is prohibited

022. **Automated Boat Washing Facilities** (similar in concept to existing automated car washing facilities): Waste wash water generated by an automated boat washing facility shall be considered an "industrial waste water" as defined in Chapter 24, and DERM shall determine the requirements for permitting the construction of such a facility

023. **Bottom Paint Removal:** Boat bottom paints contain metal compounds that are toxic to marine life and the removal of these paints from the bottom of a boat produces a waste product that is environmentally hazardous

Paints containing tin compounds are regulated by the EPA and these paints may be applied or removed only by persons or organizations licensed by the EPA. The EPA regulations regarding storage, application, disposal of paint containers and paint residues, sanding dust, etc. are incorporated herein by reference

Paint containing copper compounds shall be removed as follows:

A Wet: Removing copper bottom paint by high pressure water or with a low pressure hose and a scrubber or scraper produces an "industrial waste water" as defined in Chapter 24 As a result, this activity must be conducted over an impervious surface (not over open ground) with a retaining berm so that the wastewater can be contained This wastewater may be recycled or disposed of, but prior to disposal, it must be treated so as to reduce the levels of concentrations of heavy metals (principally copper) and meet the standards for disposal in sanitary sewers, as defined in Section 11(2) of Chapter 24 Paint solids may be collected and disposed of with the regular trash if placed in double plastic bags

B Dry: Removing copper bottom paint by dry sanding (either by hand or with power tools) produces a sanding dust containing potentially hazardous metals (principally copper) This sanding must be done over an impervious surface (not over open ground) and there must be a berm or retaining wall surrounding the area so that the sanding dust can be swept up or vacuumed up, double bagged in plastic, and disposed of with the regular trash

024 **Hand Sanding Hull or Topsides:** There are no restrictions in regard to sanding without power tools, provided that reasonable efforts are taken to control sanding dust The sanding generated may be swept up and disposed of with the regular trash Hand sanding shall not be considered to generate a hazardous waste or an industrial waste

025. **Sanding Hull or Topsides with Power Tools:** Permitted facilities shall set and enforce their own rules in regard to the use of power sanding tools However, the sanding dust generated by this activity must be swept up and disposed of with the regular trash and may not be intentionally discharged into a storm drain or onto surface waters

026 **Engine and Parts Storage:** Engines and engine parts must be stored on a covered, impervious surface Care must be taken to prevent oil and grease from leaking onto the open ground

027. **Engine Parts Washing:** Parts washing may not be done over open ground Parts washing must be done in a container or parts washer The parts must be rinsed or air dried over the parts cleaning container The dirty parts washing fluid must be recycled or disposed of by a licensed waste hauler The preferred disposal method is by a permitted parts washing contractor who brings new fluid and takes away the sludge and dirty fluid

028 **Disposal of Solid Waste:** All facilities shall provide an adequate number of leak proof containers for the disposal of solid waste and garbage

029 **U.S. Coast Guard MARPOL (Marine Pollution) Regulations:** These regulations can be obtained by contacting the U S Coast Guard Marine Safety Office at (305) 535-8701 Enforcement is by the Coast Guard, but DERM field inspectors are familiar with these regulations and will report violations to the Coast Guard

A General: The operation of a commercial dock or terminal facility must be in compliance with all applicable BMPs Activities on land or on the commercial vessel which are pollution producing, must be conducted in accord with these BMPs, in addition to the federal, state and local laws that apply It is the responsibility of the permitted facility to inform in writing, the captain of each ship utilizing the facility, of the requirements in these BMP's

B The commercial dock or terminal operator, as the holder of a Marine Facility Permit, shall be responsible for observing the actions of any commercial vessel when it is at the permitted facility This responsibility extends to foreign vessels, while docked at the permittees facility It is the responsibility of the permit holder to be familiar with the

MARPOL regulations as they apply to foreign vessels and to report any violations to the proper authorities

C Following initial inspections by Customs and Immigration, a representative of the facility shall give the Captain of a foreign vessel a copy of the facility's "Rules and Regulations" in contract form, making the Captain personally responsible for the actions of the ship while it is docked at the permitted marine facility. The facility's "Rules and Regulations" shall be in the language applicable to the Captain and crew and shall as a minimum, summarize the correct procedures for disposing of solid waste, hull and engine repairs, the disposal of sanitary waste and the disposal of contaminated bilge water or ballast water

D The permit holder shall make available adequate leak proof containers for the solid waste and garbage from a commercial vessel. Waste and garbage from a foreign vessel is regulated and must be separated and disposed of in compliance with MARPOL and U.S.D.A. regulations

E Engine and hull repairs on a commercial vessel while at the permit holders facility must be in compliance with all applicable BMPs.

F. MARPOL regulations prohibit the disposal or discharge of all solid waste into the waters of Dade County, from any marine facility and associated commercial or recreational vessels. Also prohibited is the discharge of bilge water containing waste oil so as to produce a visible sheen on the surface water, and the discharge of ballast water that produces a visible discoloration in surface water. Shipping terminal facilities shall provide storage for waste oil removed from bilge water/oil separators and also provide at a reasonable cost, oil absorbing material to be placed in the ship's bilge and a DOT approved container in which such material can be stored for pick up by a licensed waste hauler. The terminal facility shall also provide the ship's Captain with the telephone numbers of licensed pump-out truck companies and the telephone numbers of the various local governmental agencies to be contacted in the event of any emergency

030. **Spray Painting:** Marine facilities that engage in spray painting are required to obtain a permit from DERM'S Air Section. This permit will be site specific, and will require a description of the equipment to be used and the type of work to be done. If a permanent spray booth is used then engineering plans or drawings will be required. Permits are issued to a facility and not to independent contractors. For information on obtaining this permit contact Ray Gordon of DERM'S Air Section at (305) 372-6924

If spray painting is to be done outside of a spray booth, then "reasonable and adequate" measures must be taken to contain the overspray. Measures such as impervious shields, screens or tarpaulins may control the overspray, however more stringent control measures may be required for site specific applications. Spray painting can only be done over an impervious surface such as asphalt, concrete or a tarpaulin, so that the paint does not contact the open ground. When spray painting is to be done on a vessel in the water, both floats and screens must be used so that overspray or other process materials do not enter the surface waters. If winds increase to the speed where overspray cannot be controlled, the spray painting must cease until the winds diminish.

A facility that does "touch-up spray painting" will be evaluated by the Air Section to determine if a permit is required. Paint touch-up with single aerosol cans will not require an air permit. The operation of "touch-up" spray painting is subject to the same "reasonable and adequate" requirements to control the overspray through the use of shields and drop cloths. It is the responsibility of the facility to have Material Safety Data sheets on the products being used in spray painting operations. This information will determine how the waste products generated by spray painting are to be disposed of. Waste solvents, catalysts and paint mixtures should be

collected in DOT approved containers and may be recycled or disposed of by a permitted hazardous transporter

Each facility is responsible for the actions of its employees and for the actions of independent contractors and it is the responsibility of the facility to inform such persons of the possible enforcement action and citations for violations of the regulations pertaining to spray painting

031. **Sandblasting:** Marine facilities that perform sandblasting may require a permit from DERM'S Air Section. If required, this permit will be site specific, and will require engineering plans or drawings a description of the equipment to be used and the type of work to be done. For information regarding this permit contact Ray Gordon at DERM's Air Section at (305)372-6924

During sandblasting operations, the facility must provide "reasonable and adequate" measures to contain the waste generated by the sandblasting process. For example, sandblasting shall take place only over an impervious surface and not over open ground, and the waste generated shall not enter the surface waters. Screens, shields or tarpaulins shall be used to control the dust generated by sandblasting. Sandblasting shall not take place during periods of high winds when it is impossible to control the waste material.
Small amounts of sandblasting waste material (under 55 gallons) may be disposed with the regular trash. Larger quantities must be collected and disposed of in a Class I Landfill, Such as the Dade County Landfill or the Medley Landfill

Sandblasting of tin-based paints generates a RCRA Hazardous Waste subject to strict EPA regulations, including regulations controlling the disposal of the waste material

The sandblasting of steel hulls may generate a hazardous waste material. The facility can determine this by testing a composite profile sample. If the test establishes that the waste material is hazardous, then it must be disposed of as a RCRA Hazardous Waste. If the material is non-hazardous, then it can be disposed of as described above, depending on the quantity

The sandblasting of small engine parts in an enclosed container does not require a permit from the Air Section and the waste may be disposed of with the regular solid waste

032. **Asbestos Removal:** Facilities involved in the renovation or demolition of marine vessels should be aware of the very stringent Federal and State regulations relating to the disturbance of asbestos containing materials. Prior to undertaking such work on a vessel which has asbestos containing materials contact Ray Gordon of the DERM Air Section at (305) 372-6924 for information on the requirements. The regulations dealing with asbestos removal are primarily contained in 40 CFR 61, subpart M, and chapters 255 and 455, Florida Statutes. Significant penalties are mandated for violations of asbestos regulations.

033. **Storm water runoff:** (National Pollution Discharge Elimination System) the EPA "NPDES" program requires that each marine facility have a plan detailing how the facility deals with its rainwater runoff and the pollution carried by rainwater. Information on the NPDES program can be obtained from Mike Gambino, of the Stormwater Utility Program, at DERM by calling (305) 372-6473

034. **Fish Cleaning Stations:** Facilities with fish cleaning stations shall provide covered trash containers at a convenient location adjacent to each fish cleaning station for the disposal of fish carcasses. Permanent signs shall be posted at each cleaning station advising facility patrons of this disposal requirement. In-water disposal of fish carcasses is prohibited

Fish waste that is disposed of into a marina basin increases the biological oxygen demand (BOD) as the material decomposes and decreases the amount of dissolved oxygen in the water. This

reduction in the amount of dissolved oxygen results in a degradation of water quality Disposal of fish waste into the water also disrupts the feeding behavior of wild animals and can spread disease among them For example, many pelicans and other seabirds will ingest fish carcasses or parts that are larger than what they would be able to catch on their own This has been documented to cause severe injuries and death to wildlife

035 **Coastal Construction and Mangrove Trimming**: Permittees should be aware that a DERM Class I Coastal Construction permit is required for most types of work taking place in, on, over or upon any tidal waters, bay bottom lands or in wetlands supporting saltwater/coastal vegetation anywhere in Miami-Dade County Examples of work requiring a Class I permit include construction and structural repair of fixed docks, piers, and seawalls; installation of boatlifts, davits, and floating docks; dredging and filling A Class I permit may also be required for the trimming, cutting, or alteration of mangrove trees anywhere in Miami-Dade County Furthermore, additional State and Federal authorizations may be required for the above described work

Certain types of work are exempt from Class I permit requirements Permittees should contact the DERM Coastal Resources Section at (305) 372-6575 to determine if a Class I permit is required prior to performing, or allowing to be performed, any type of work in, on, over or upon tidal waters, bay bottom lands and coastal wetlands at the permitted facility

*Revised September 2002

APPENDIX 10.4.1.8

DOMESTIC WASTEWATER ANNUAL OPERATING PERMIT

(Renewal application pending)

2007041608041089

To: BOB BERGLSON CTP/PTN
cc: LOIS SIVIA - JES/JB
cc: CEA FILE

Environmental Resources Management
33 SW 2nd Avenue • 5th Floor
Miami, Florida 33130-1540
T 305-372-6524 F 305-372-6631

miamidade.gov

PERMIT NO: DWO-000010-2007/2008 (P)-DWO_STP
TURKEY POINT POWER PLANT
15800 SW 336 ST
FLORIDA CITY, FL 33034-

PERMITTEE:
Mr. Ramon Ferrer
FLORIDA POWER & LIGHT CO.
9250 W FLAGLER ST (CEA/GO)
MIAMI, FL 33174-

DOMESTIC WASTEWATER ANNUAL OPERATING PERMIT

DESCRIPTION OF FACILITY/EQUIPMENT

This document, issued under the provisions of Chapter 24, Miami-Dade County Code (Dade County Environmental Protection Ordinance), shall be valid from 15-APR-2007 through 14-APR-2008. The above name permittee, is hereby authorized to operate the pollution control facility at the above location which consists of the following:

A 0.005 MGD annual average daily flow (AADF)permitted capacity extended air activated sludge treatment plant consisting of aeration/denitrification/anoxic basins treating commercial wastewater,polished by rapid sand filters and disinfected by a hypochlorinator with effluent discharge to a rapid infiltration basin and monitored by a compliance well

A 0.035 MGD contact stabilization treatment facility consisting of a sewage collection/transmission system containing a sewage lift station with two submersible pumps, two flow equilization tanks, two aerobic digesters, two aeration tanks, secondary clarifier system, two tertiary filters, filter backwash system, flow meter, two air blowers, chlorine contact tank, gas chlorine disinfection system with effluent discharge to a disposal well, anoxic denitrification chamber

This facility is subject to conditions listed below and in the following pages (if any) of this permit

SPECIFIC CONDITIONS

1. The permittee shall submit with the completed monthly DMR forms to Department, any amount of pump out wastewater taken from: (a) the incoming flow to the treatment plant, including any pretreatment facility; (b) from the plant itself or (c) from the discharged effluent. Also include, copies of the invoices with the name of the permitted liquid waste transporter utilized to dispose of the liquid waste specifying the quantity and type of liquid.

2. The effluent discharged from this source shall be adequately chlorinated at all times so as to yield a minimum total chlorine residual of 0 5 parts per million after a contact period of thirty (30) minutes (base upon peak flow)

3. The treatment facility shall be operated continuously in such a manner that the maximum level of efficiency is maintained at all times and in full compliance with Rule 62-600, 62-601, 62-610, Florida Administrative Code (F A C.)

4. The following Dade County Chapter 24 effluent standards shall not be breached: 1. BOD 15 mg/l. 2 Total suspended solids - 15 mg/l maximum. All other applicable standards in Section 24-42(2) shall be met.

5. The wastewater facility shall be operated under the supervision of an operator certified in accordance with Chapter 62-602, F A C. The certified operator shall fulfill the time or visit requirements in accordance with Chapter 62-699 310. F A.C.

Miami-Dade County
Department of Environmental Resources Management

Carlos Espinosa, P.E., Director

6 The permittee shall submit the completed DMR forms to the Department by the twenty-eighth (28) of the month following the month of operation.

7 This interim sewage treatment facility shall be deactivated and properly abandoned upon availability of a public sanitary sewer which ultimately discharges to a regional treatment facility whenever said sewer system is located within one-quarter (1/4) mile of the property served by this interim sewage treatment facility, in accordance with Chapter 24-43 1(9) of the Miami-Dade County Code

8 All Sanitary sewer overflows for which the permittee is responsible shall be reported to DERM's twenty-four hour number (305 372-6955) within four (4) hours of the permitee becoming aware of the incident

GENERAL CONDIIIONS

9. The applicant, by acceptance of this document, agrees to operate and maintain the subject operation so as to comply with the requirements of Chapter 24 of the Code of Miami-Dade County

10. If for any reason, the applicant does not comply with or will be unable to comply with any condition or limitation specified on this document the applicant shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps taken to reduce, eliminate, and prevent recurrence of the non-compliance The applicant shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this document.

11 As provided in Section 24-15 of the Code of Miami-Dade County, the prior written approval of the Department of Environmental Resources Management shall be obtained for any alteration to this facility.

12 The issuance of this document does not convey any vested rights 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 Nor does it relieve the applicant from liability for harm or injury to human health or welfare or property.

13 This document is required to be posted in a conspicuous location at the facility site during the entire period of operation.

14. This document is not transferable. Upon sale or legal transfer of the property or facility covered by this document, the applicant shall notify the department within thirty(30) days. The new owner must apply for a permit within thirty (30) days. The applicant shall be liable for any non-compliance of the source until the transferree applies for and receives a transfer of this document.

15 The applicant, by acceptance of this document, specifically agrees to allow access to the named source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this document and department rules

16 This document does not indicate a waiver of or approval of any other department permit that may be required for other aspects of this facility.

17 This document does not constitute an approval by DERM or certification that the applicant is in compliance with applicable laws, ordinances, rules or regulations. The applicant acknowledges that separate enforcement actions may be initiated by DERM and that this document does not constitute compliance with orders issued in conjunction with enforcement actions for correction of violations

18. Failure to comply with any condition of this document, or the requirements of Chapter 24, Code of Miami-Dade County may subject the applicant to the penalty provisions of said Chapter including civil penalties up to $25,000 per day per offense and/or criminal penalties of $500 per day or $2000 per day for violations of Section 24-42 4, Sanitary Sewer Discharge Limitations and Pretreatment Standards and/or sixty (60) days in jail

APPENDIX 10.4.2.1

FFWCC SCIENTIFIC COLLECTING/INSTITUTIONAL PERMIT #WS04246

(Renewal application pending)

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 of1973 (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. itdoes 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: Bradley J. Hartman
for Thomas H. Eason, Ph D., Chief
Bureau of Wildlife Diversity Conservation

W1067/THE/cy
LIC 6-1
WS04246.per

cc: South Region

APPENDIX 10.4.2.2

FFWCC SCIENTIFIC COLLECTING/INSTITUTIONAL PERMIT #WS06468

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, Mail Station 2A, Tallahassee, FL 32399-1600, (850) 921-5990, ext 17310

Permit No. WS06468 **Issuance Date** 15 December 2006 **Expiration Date** 31 December 2009
Permit Type Scientific Collecting/Institutional **Specific Rule Authority** 68A-9.002; 68A-25.002; 68A-27.003-.005
Permittee Joseph Wasilewski **Permitted Facility** Florida Power and Light Company
Phone/FAX no. (305)962-3363/246-7305 Turkey Point Nuclear Land Utilization
9760 SW 344th Street
Florida City, FL 33035

Signature _____ **Date** 1-31-07
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.

Provisions/Conditions:

1. Carcasses of wildlife, including two (2) hatchling American crocodiles (*Crocodylus acutus*), may be salvaged upon encounter and possessed (i.e., mounted and displayed) at the Florida Power and Light Turkey Point Nuclear Land Utilization Office 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 via fax at (850) 921-1847. 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. Wildlife specimens possessed under this permit (per Provision/Condition 1 above) may be transported for use in educational programs. This permit must be readily available during transport and/or educational programs.

4. 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.

5. 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 the Turkey POint Nuclear Land Utilization Office, or upon severance of the affiliation of the Permittee with the Florida Power and Light Company.

PERMIT

Permit No: WS06468

Provisions/Conditions Continued:

6. This permit is in effect a renewal of Permit WS03357, which expires December 31, 2006, and supercedes all previous versions. 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.

7. 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.

8. This permit is nontransferable, but other qualified personnel may assist in permitted work in the absence of the Permittee's direct supervision, when those assistants are designated via letter from the Permittee to each designee, with this office provided a copy of such letter(s). This permit must be readily available for inspection at all times while engaging in the permitted activities.

9. 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.

10. This permit is subject to revocation at any time pursuant to Chapter 120, Florida Statutes.

11. 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. Requests for permit renewal should be submitted at least 45 days prior to the time it is needed.

Kenneth D. Haddad
Executive Director

By: Bradley J. Levine
for Elsa Haubold, Ph.D., Leader
Species Conservation Planning Section

ATW/EH/kd
LIC 6-1
WS06468.per

cc: Ms. Carmen Simonton (USFWS)
South Region

APPENDIX 10.4.2.3

FFWCC SPECIAL PURPOSE PERMIT #WX06467

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, Mail Station 2A Tallahassee, FL 32399-1600, (850) 921-5990 ext 17310

Permit No. WX06467 **Issuance Date** 15 December 2006 **Expiration Date** 31 December 2009
Permit Type Special Purpose **Specific Rule Authority** 68A-9.002 68A-25.002 68A-27.003
Permittee Joseph Wasilewski **Affiliation** Florida Power and Light Company
Phone/FAX no. (305)962-3363/246-7305 Turkey Point Nuclear Land Utilization
9760 SW 344th Street
Florida City, FL 33035

Signature [signature] **Date** 1-31-07
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.

Provisions/Conditions:

1. American crocodiles (*Crocodylus acutus*) may be live-captured by nonharmful means on Florida Power and Light Company properties for mark/recapture and scientific data collection purposes. AVID microchips may be injected into captured individuals for identification purposes. Captured individuals are to be released at their perspective points of capture immediately upon effecting the marking/data collection operation. Any capture of species designated by the Fish and Wildlife Conservation Commission in Rule 68A-27, F.A.C., as endangered, threatened or species of special concern must be released immediately. Any injury and/or mortality must be reported to this office within 24 hours via fax at (850) 921-1847. Ultimate disposition will be at the discretion of the Commission.

2. American alligators (*Alligator mississippiensis*) and Eastern indigo snakes (*Drymarchon corias couperi*) may be live-captured by nonharmful means, relocated short distances and immediately released, but only upon unexpected encounter in the course of Florida Power and Light Company construction and/or maintenance activities, and only as absolutely necessary to avoid their harm in the performance of those activities.

3. The Permittee may insert Hobotemp Dataloggers in the interior and exterior of American Crocodile nests per the Permittee's February 6, 2003 (and February 27, 2003 supplemental) application.

4. Scute samples collected from American Crocodiles may be sent to Dr. Micheal Forstner at Southwest Texas State University and Dr. Lou Densmore at Texas Tech University for DNA analysis per the Permittee's September 19, 2003 request. A copy of this permit must accompany those samples at all times.

5. This permit does not authorize access to any public or private properties. Any required permission accordingly must be secured from the appropriate landholders prior to initiating any work on those properties.

PERMIT

Permit No: WX06467

Provisions/Conditions Continued:

6. The permitted work may also require federal authorization or permits. A copy of such federal authorization/permit must be provided this office before embarking upon any of the permitted activities.

7. This permit is in effect a renewal of Permit WX03520, which expires December 31, 2006, and supercedes all previous versions. It is subject to revocation at any time pursuant to Chapter 120, Florida Statutes. 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 permitted work in the absence of the Permittee's direct supervision, when those assistants are designated via 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. A detailed report of all activities engaged in pursuant to this permit must be submitted within 90 days subsequent to permit expiration or upon application for permit renewal, whichever is precedent. Copies of any other reports or publications which result from the work must also be provided upon their availability. Requests for permit renewal should be submitted at least 45 days prior to the time it is needed.

Kenneth D. Haddad
Executive Director

By: Bradley J. Brumer
Elsa Haubold, Ph.D., Leader
Species Conservation Planning Section

ATW/EH/kd
LIC 6-1
WX06467.per

cc: Ms. Carmen Simonton (USFWS)
South Region

APPENDIX 10.4.2.4

FFWCC 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 M Haubold
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

TRAFFIC STUDY

Turkey Point Power Plant

traffic study

prepared for:
Golder Associates, Inc.

Traf Tech
ENGINEERING, INC.

November 2007

Traf Tech
ENGINEERING, INC.

November 23, 2007

Ms. Kerri J. Kitchen
Senior Planner
Golder Associates, Inc.
5100 W. Lemon Street, Suite 114
Tampa, Florida 33609

Re: **Turkey Point Plant Site – Traffic Study**

Dear Kerri:

Traf Tech Engineering is pleased to provide you with the results of the traffic study undertaken for the proposed upgrade of Units 3 and 4 of FPL's existing Turkey Point Plant located on the easternmost point of SW 344th Street (Palm Drive) in south Miami-Dade County, Florida. It has been a pleasure serving Golder Associates, Inc. on this project.

Sincerely,

TRAF TECH ENGINEERING, INC.

Joaquin E. Vargas, P.E., PTOE
Senior Transportation Engineer

8400 North University Drive, Suite 202, Tamarac, Florida 33321
Tel: (954) 582-0988 Fax: (954) 582-0989 E-mail: joaquin@traftech.biz

INTRODUCTION

Traf Tech Engineering, Inc. has been retained by Golder Associates, Inc. to perform a traffic concurrency analysis in connection with the proposed upgrade of Units 3 and 4 at the existing Turkey Point Power Plant located at the easternmost point of SW 344th Street (Palm Drive) in south Miami-Dade County, Florida. Figure 1 shows the location of the project site and its relationship to the immediate transportation network. This concurrency analysis was prepared using information contained in Miami-Dade County's Concurrency Management System, dated October 31, 2007. The following is a summary of the report's findings.

EXISTING AND FUTURE PERSONNEL

The existing Turkey Point Power Plant facility currently has approximately 600 to 750 employees including operation, maintenance, and engineering personnel. The proposed upgrade of Units 3 and 4 will not add new personnel. However, during the construction period, it is estimated that a maximum of approximately 1,400 workers will be assigned to the Turkey Point Power Plant, on a temporary basis. These 1,400 workers are in addition to the existing employees currently working at the subject FPL power plant.

EXISTING CONDITIONS

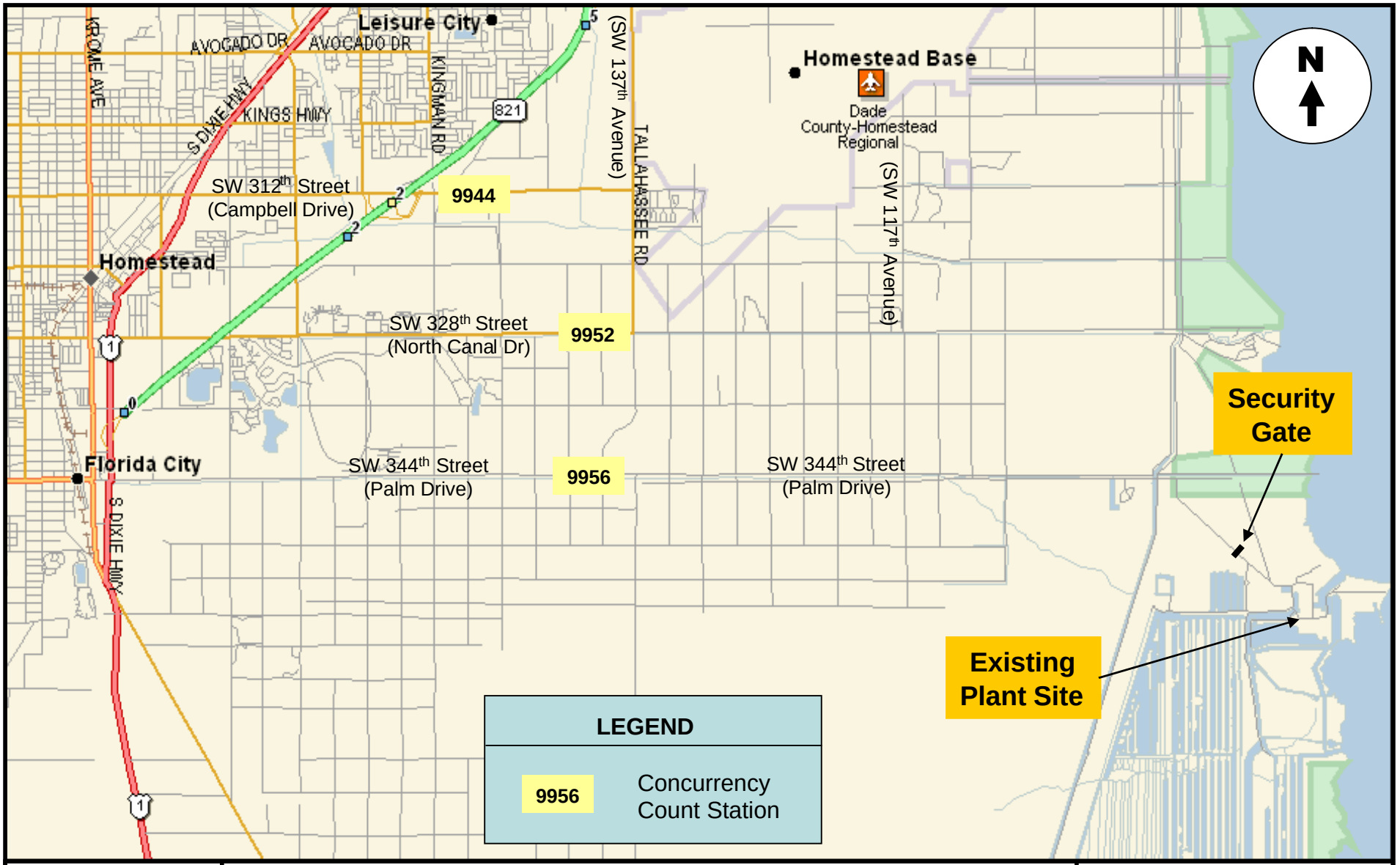
According to Miami-Dade County Concurrency Management System, there are three (3) traffic concurrency stations in the vicinity of the project, as illustrated in Figure 1. The available capacities on the three concurrency stations are documented in Table 1. The information presented in Table 1 was obtained from Miami-Dade County's Concurrency Management System (refer to Appendix A).

TABLE 1
RESERVE CAPACITY
Turkey Point Power Plant

Station No.	Location	Peak Hour Capacity[1]	Peak Hour Trips[2]	Available Peak Hour Capacity[3]
9956	SW 344 St. W. of SW 137th Ave	1,360	194	1,166
9952	SW 328th St. W. of SW 137th Ave	990	294	696
9944	SW 312th St. E. of HEFT	1,390	923	467

Source: Miami-Dade County (October 30, 2007)

[1] Maximum level of service capacity.
[2] Existing traffic volumes plus peak hour trips associated with approved, but not built, developments.
[3] Total peak hour trips minus peak hour capacity (reserved trips).



Traf Tech
ENGINEERING, INC.

Project Location Map

FIGURE 1
Turkey Point Power Plant
Miami-Dade County, Florida

The available capacities shown in Table 1 reflect existing traffic as well as traffic associated with approved developments, but not yet built and/or fully occupied. As indicated in Table 1, all nearby traffic concurrency stations have sufficient peak hour capacity to accommodate additional development within south Miami-Dade County.

TRIP GENERATION

The trip generation associated with the maximum work-force of 1,400 workers was based on discussions held with individuals experienced in the construction of similar FPL facilities. The trip generation associated with the Upgrade of Units 3 and 4 was based on the following assumptions:

- The total work-force is not present at the same time (multiple shifts in work force). It was assumed that 30 percent of the work-force occurs during the typical PM peak hour.

- The work force arrives via private automobile, buses, and vanpool/carpool. The occupancy assumed for these three modes of transportation is one person per automobile, 20 people per bus, and six people per vanpool/carpool. Furthermore, approximately 25 percent of the work force is anticipated to arrive via private automobile, 25 percent will use buses, and 50 percent will arrive/depart using the vanpool/carpool option.

- Approximately five percent of the work-force trip generation will include off-site vehicle-trips.

With the above assumptions, the PM peak hour trip generation associated with the 1,400 work-force scenario was estimated to be approximately 153 vehicles per hour. Appendix B contains the trip generation calculations used to arrive at the 153 vehicles per hour during the afternoon peak.

TRIP DISTRIBUTION

The trip distribution for the project was based on Miami-Dade County's Cardinal Distribution information for Traffic Analysis Zone (TAZ) 1401, which is applicable to the location of the subject project. Since the upgrade of Units 3 and 4 is anticipated to be completed in the year 2012, Miami-Dade Interim 2015 directional distribution summary report for TAZ 1401 was used for trip distribution purposes. Table 2 summarizes the trip distribution for the Turkey Point Power Plant upgrade project. Appendix C contains the cardinal distribution data, as published by Miami-Dade County.

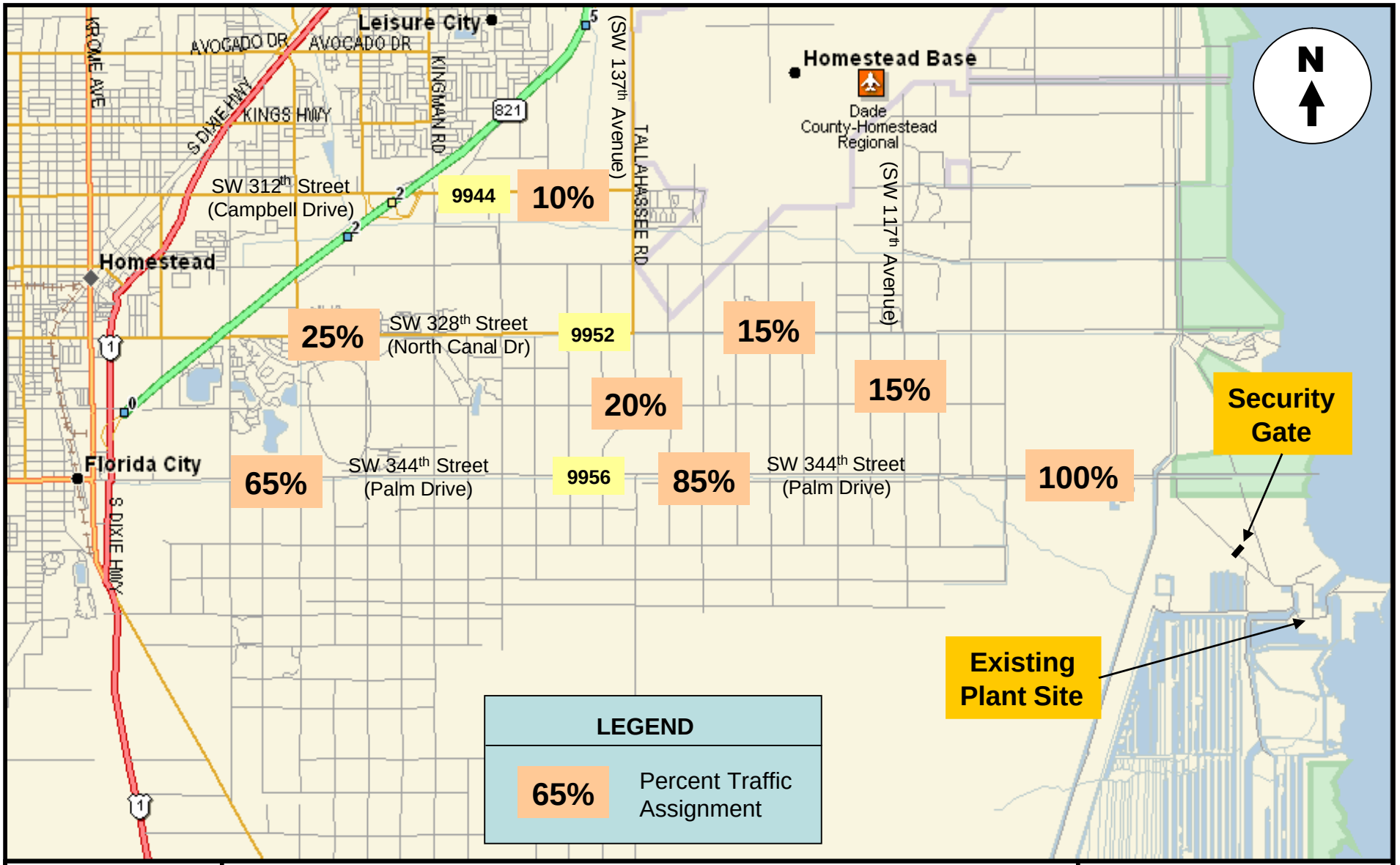
TABLE 2 PROJECT TRIP DISTRIBUTION Turkey Point Power Plant		
Direction		**% of Total Trips**
North:	northwest	24.29%
	northeast	10.54%
South:	southwest	0.99%
	southeast	0.00%
East:	northeast	0.00%
	southeast	0.00%
West:	northwest	51.49%
	southwest	12.68%
	Total	**100.00%**

Source: Miami-Dade County

The project traffic distribution shown in Table 2 was assigned to the existing roadway network as follows:

- 100% will impact SW 344th Street (Palm Drive) east of SW 137th Avenue
- 65% will continue towards US 1, west of SW 137th Avenue, via Palm Drive
- 25% will impact SW 328th Street west of SW 137th Avenue
- 10% will impact Campbell Drive, west of SW 137th Avenue

Figure 2 depicts graphically the traffic assignment documented above.



Traf Tech
ENGINEERING, INC.

Traffic Assignment

FIGURE 2
Turkey Point Power Plant
Miami-Dade County, Florida

FUTURE CONDITIONS ANALYSIS

The project traffic assignment described in the preceding section was combined with the traffic concurrency information documented in Table 1 to develop future conditions analysis (with the temporary construction-period traffic generated during the Upgrade of Units 3 and 4). The resulting future conditions analysis is summarized in Table 3. As indicated in Table 3, the transportation network located in the vicinity of the project site has sufficient capacity to absorb the traffic impacts generated during the Upgrade of Units 3 and 4.

TABLE 3
FUTURE CONDITIONS ANALYSIS
Turkey Point Power Plant

Station No.	Location	Previous Peak Hour Capacity	Construc-tion Trips	Available Peak Hour Capacity
9956	SW 344 St. W. of SW 137th Ave	1,166	100	1,066
9952	SW 328th St. W. of SW 137th Ave	696	38	658
9944	SW 312th St. E. of HEFT	467	15	452

Source: Miami-Dade County and Traf Tech Engineering, Inc.

Based on the foregoing analysis, the upgrade of Units 3 and 3 at the existing Turkey Point Power Plant located east of Florida City meets Miami-Dade County's Traffic Concurrency Standards.

APPENDIX A

Miami-Dade County
Concurrency Management System

STA #	R O A D W A Y	L O C A T I O N	C L	MAX LOS	PHP	START	DOS TRIPS	AVAIL TRIPS	% 5	% 10	MAX LOS	LOS		LAST UPDATED
9936	SW 296 ST/AVOCADO DR	W/O US 1 TO SW 177 AVE	2	2040	634	1406	195	1211			D	B		Apr-04
9938	SW 296 ST/AVOCADO DR	E/O SW 197 AVE TO SW 177 AVE	2	680	157	523	284	239			D	B		Sep-04
9940	SW 304 ST/KINGS HWY	E/O US 1 TO SW 152 AVE	2	830	480	350	80	270			D	C		Apr-04
9942	SW 304 ST/KINGS HWY	W/O US 1 TO SW 177 AVE	2	1850	1116	734	187	547			D	B		Apr-04
9944	SW 312 ST/CAMPBELL DR	E/O HEFT TO SW 147 AVE	A 2	1390	923	467	0	467			D	B		Sep-04
9946	SW 312 ST/CAMPBELL DR	E/O SW 167 ST FROM US-1 TO HEFT	A 4	2830	2222	608	14	594			D	C		Apr-04
9948	SW 312 ST/CAMPBELL DR	W/O US-1 FROM SW 172 AVE TO SW 177 AVE	A 4	4580	1899	2681	108	2573			D	B		Apr-04
9950	SW 320 ST	E/O US 1 TO SW 192 AVE	2	1900	662	1238	111	1127			D	B		Apr-04
9952	SW 328 ST	W/O SW 137 AVE TO HEFT	2	990	294	696	0	696			D	B		Apr-04
9954	SW 328 ST	E/O US 1 TO SW 167 AVE	2	1240	544	696	500	196			EE	C		Apr-04
9956	SW 344 ST/PALM DR	W/O SW 137 AVE TO SW 147 AVE	4	1360	194	1166	0	1166			D	B		Oct-04
9958	SW 8 ST/TAMIAMI TRAIL	W/O SW 37 AVE TO SW 42 AVE	A 4	4830	3084	1746	7	1739			E+20	D		Sep-04
9966	US 1/SOUTH DIXIE HWY	S/O KENDALL DR/SW 88 ST TO SW 104 ST	A 6	10110	3793	6317	46	6271			E+50	C		Aug-04
9968	US 1/SOUTH DIXIE HWY	SW/O SW 136 ST TO SW 152 ST	A 6	8300	5171	3129	112	3017			EE	C		Oct-04
9970	US 1/SOUTH DIXIE HWY	SW/O SW 186 ST TO CARIBBEAN BLVD	A 6	7220	3851	3369	259	3110			EE	B		Aug-04
9971	US 1/SOUTH DIXIE HWY	S/O SW 248 ST BET SW 112 AVE-304 ST	A 4	4870	2252	2618	1110	1508			EE	E		Sep-04
9976	W 29 ST	W/O NW 57 AVE BET W 4 AVE-OKEECHOBEE RD	4	3150	2521	629	0	629			E	C		Jun-04
9978	W 37 ST/NW 90 ST	W/O NW 57 AVE FROM W 4 AVE TO W 16 AVE	2	1110	629	481	0	481			E	C		Jun-04
9982	WEST DIXIE HWY	S/O NE 215 ST/COUNTY LINE TO NE 203 ST	2	1300	548	752	67	685			E+20	D		Mar-04

EE = 120% of LOS E, Extraordinary Transit between Infill Area and Urban Development Boundary
HE = LOS E, 20 Minutes Headway between Infill Area and Urban Development Boundary
E+50 = 150% of LOS E, Extraordinary Transit in Infill Area
E+20 = 120% of LOS E, 20 Minutes Transit Headway in Infill Area
SUMA = State Urban Minor Arterial between Infill Area and Urban Development Boundary
CL = Road Classification and No. Lanes; A = Arterial C = Collector; - = Negative Number

APPENDIX B

Construction-Period Trip Generation

TABLE B-1
Construction Phase
Trip Generation Calculations

Construction Traffic Scenario

				PM Peak	
	Population =	**1400**		Population	confirm
	PM Peak Impact	**30%**		420	420
Occupancy				**People**	**Vehicles**
1	Private Auto		25%	105	105
20	Bus		25%	105	5
6	Vanpool/Carpool		50%	210	35
					145
			Offsite Trips	5%	7
				Total	**153**

Traf Tech
ENGINEERING, INC.

APPENDIX C

Miami-Dade County
Cardinal Distribution

Miami-Dade Transportation Plan
(to the Year 2030)

Directional Trip Distribution Report

January 2005

Prepared by:

Gannett Fleming

In association with:
PACO Group
Public Financial Management
Media Relations Group

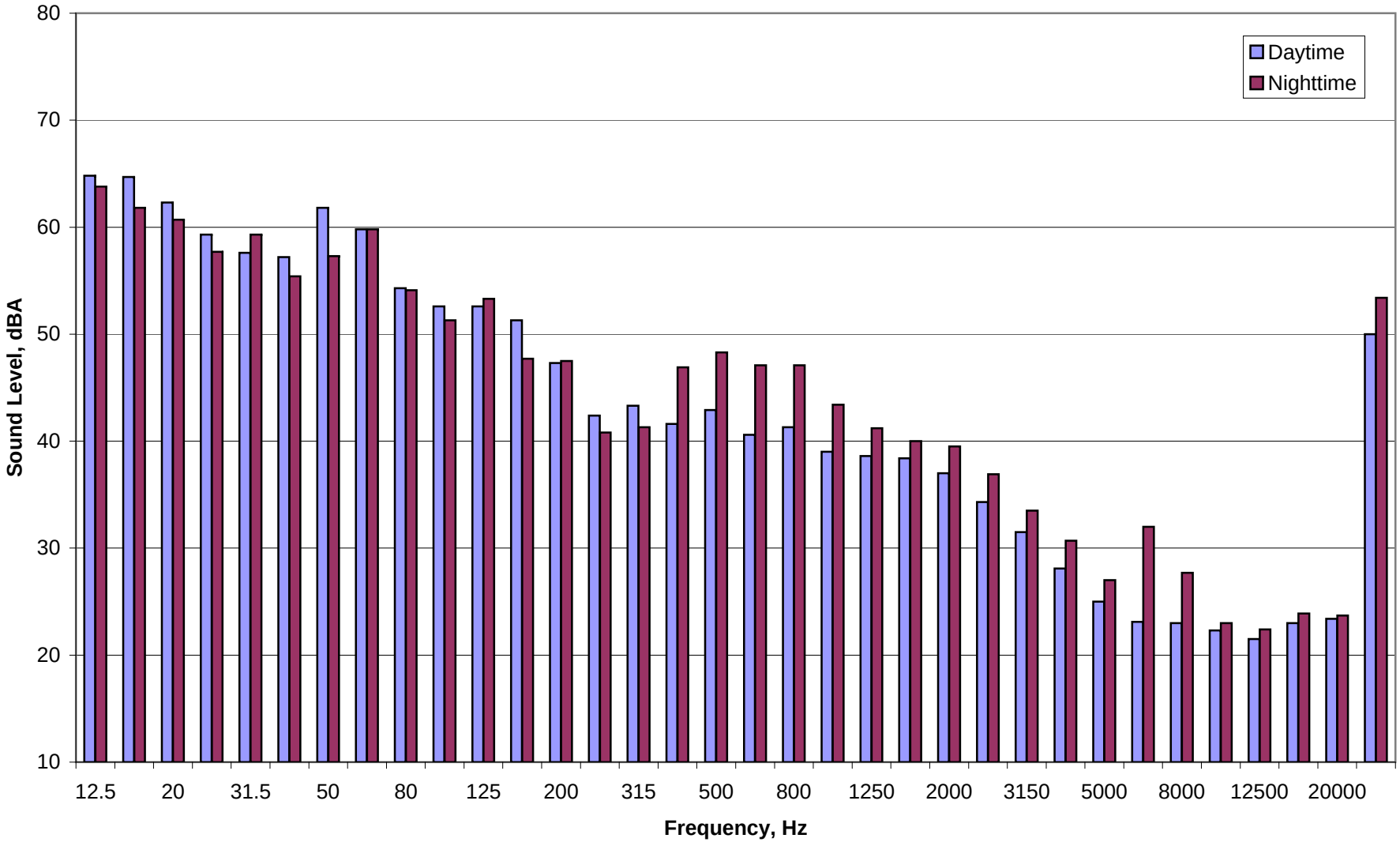
DIRECTIONAL DISTRIBUTION SUMMARY

ORIGIN ZONE		CARDINAL DIRECTIONS NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	TOTAL
1396	TRIPS	27	72	3	1	37	24	25	5	194
	PERCENT	13.92	37.11	1.55	0.52	19.07	12.37	12.89	2.58	
1397	TRIPS	1613	117	34	3	159	784	207	380	3297
	PERCENT	48.92	3.55	1.03	0.09	4.82	23.78	6.28	11.53	
1398	TRIPS	1757	95	53	6	573	574	469	254	3781
	PERCENT	46.47	2.51	1.40	0.16	15.15	15.18	12.40	6.72	
1399	TRIPS	0	0	0	0	0	0	0	0	0
	PERCENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1400	TRIPS	0	0	0	0	0	0	0	0	0
	PERCENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1401	TRIPS	138	0	0	0	13	166	674	318	1309
	PERCENT	10.54	0.00	0.00	0.00	0.99	12.68	51.49	24.29	
1402	TRIPS	0	0	0	0	0	0	0	0	0
	PERCENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1403	TRIPS	0	0	0	0	0	0	0	0	0
	PERCENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1404	TRIPS	65	1	0	0	28	21	107	52	274
	PERCENT	23.72	0.36	0.00	0.00	10.22	7.66	39.05	18.98	
1405	TRIPS	0	0	0	0	0	0	0	0	0
	PERCENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1406	TRIPS	0	0	0	0	0	0	0	0	0
	PERCENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1407	TRIPS	37	0	1	0	10	24	67	29	168
	PERCENT	22.02	0.00	0.60	0.00	5.95	14.29	39.88	17.26	
1408	TRIPS	0	0	0	0	0	0	0	0	0
	PERCENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1409	TRIPS	0	0	0	0	0	0	0	0	0
	PERCENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1410	TRIPS	0	0	0	0	0	0	0	0	0
	PERCENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

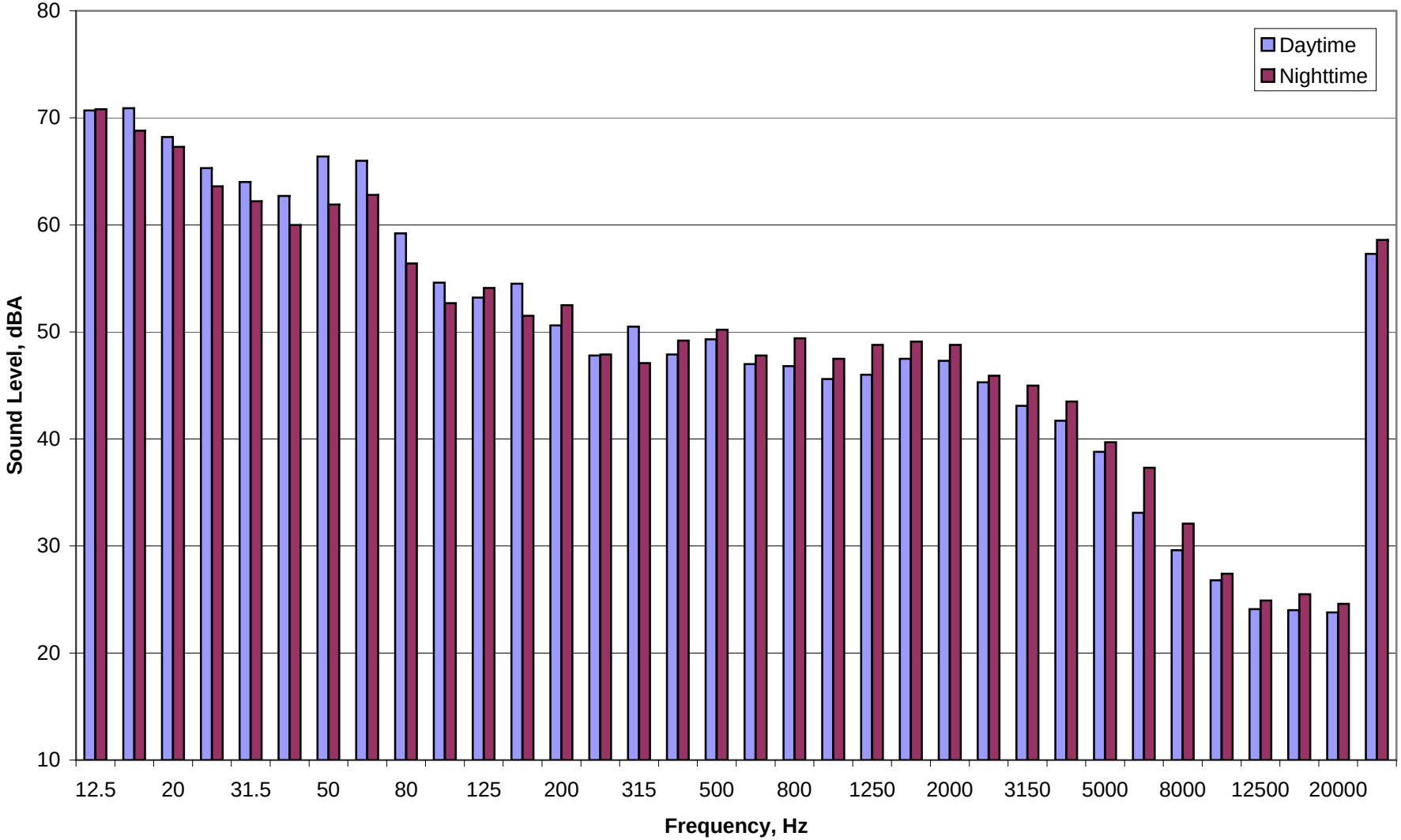
APPENDIX 10.5.2

OCTAVE BANK MEASUREMENTS AND NOISE LEVEL CHARTS

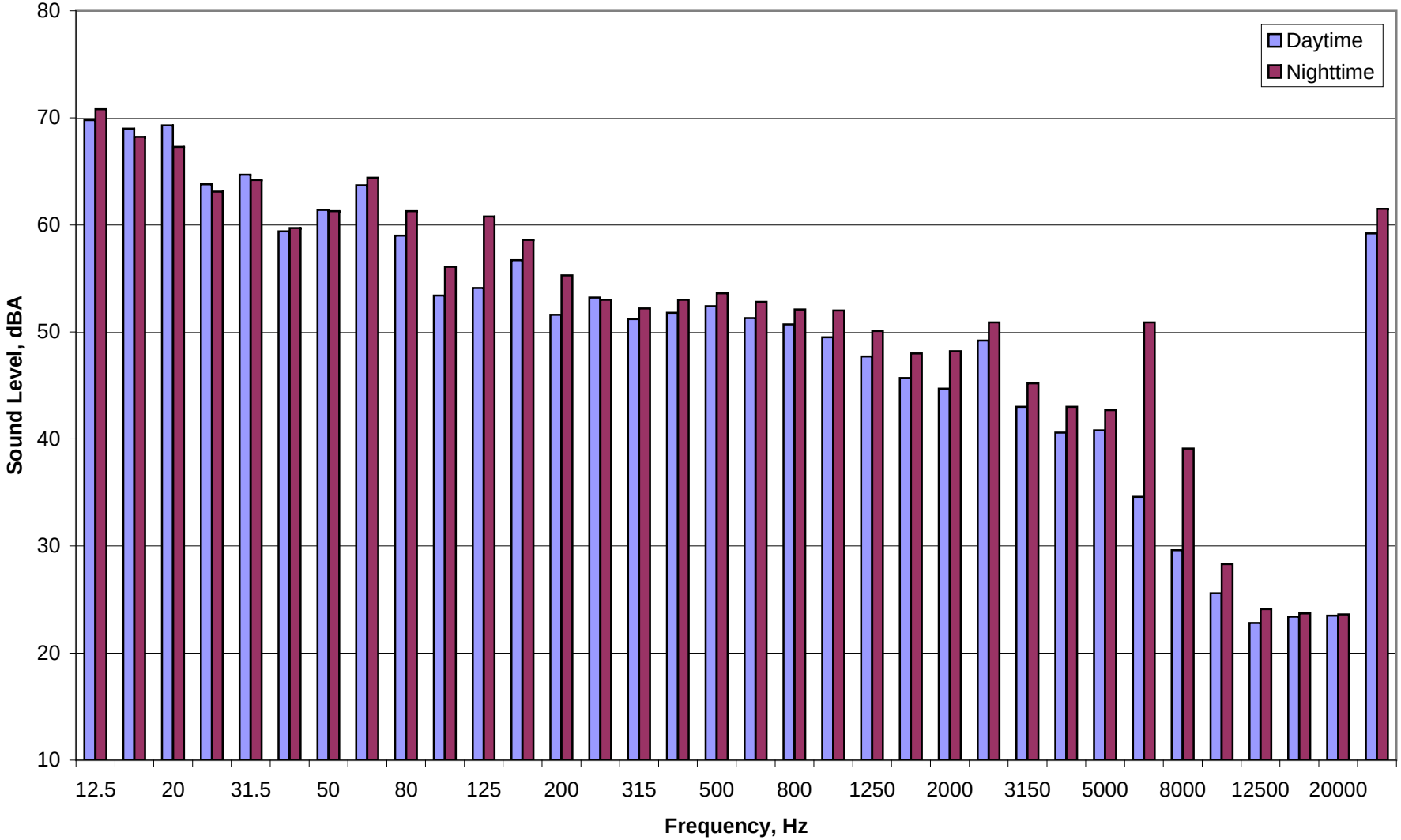
Site 1 Sound Pressure Levels



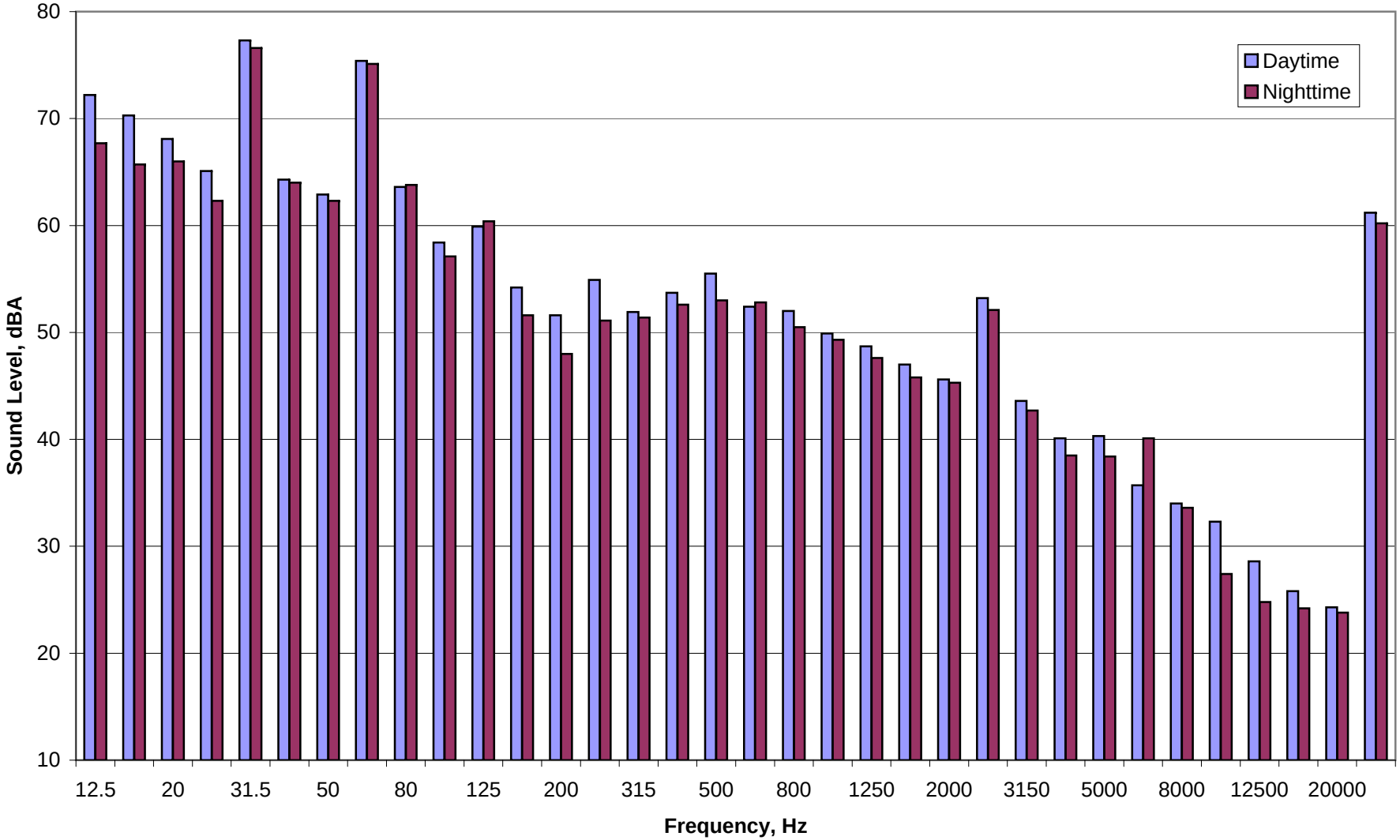
Site 2 Sound Pressure Levels



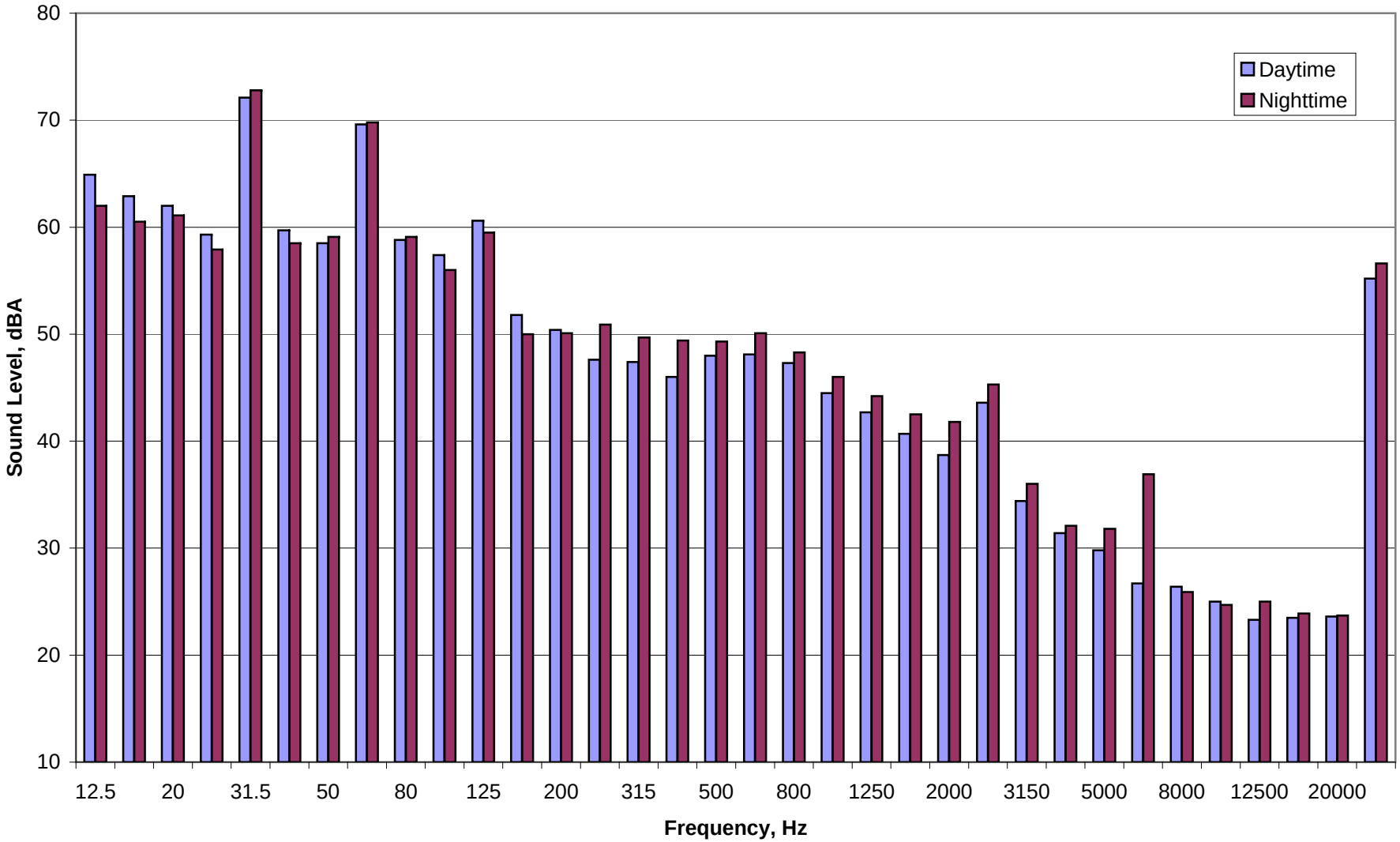
Site 3 Sound Pressure Levels



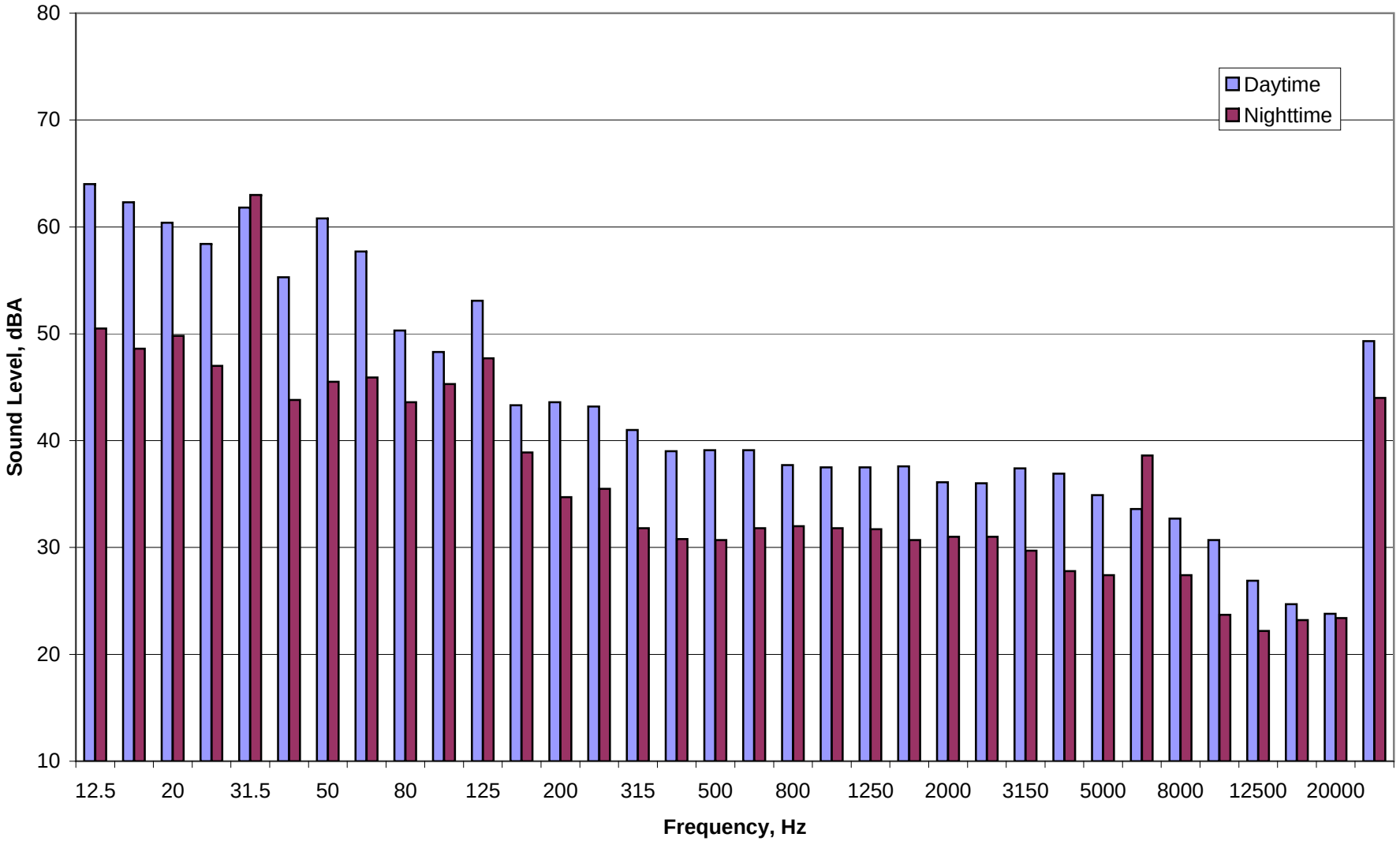
Site 4 Sound Pressure Levels



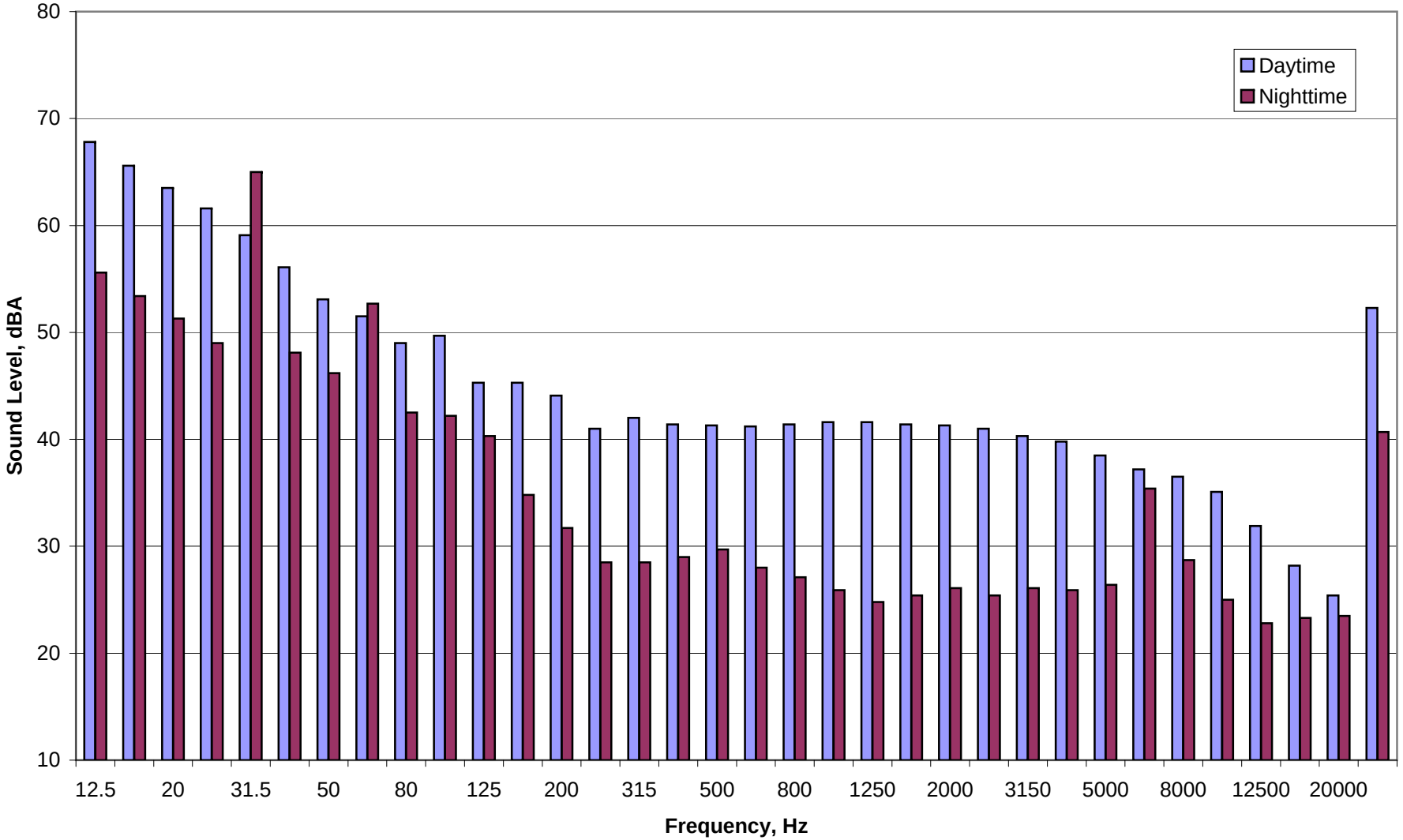
Site 5 Sound Pressure Levels



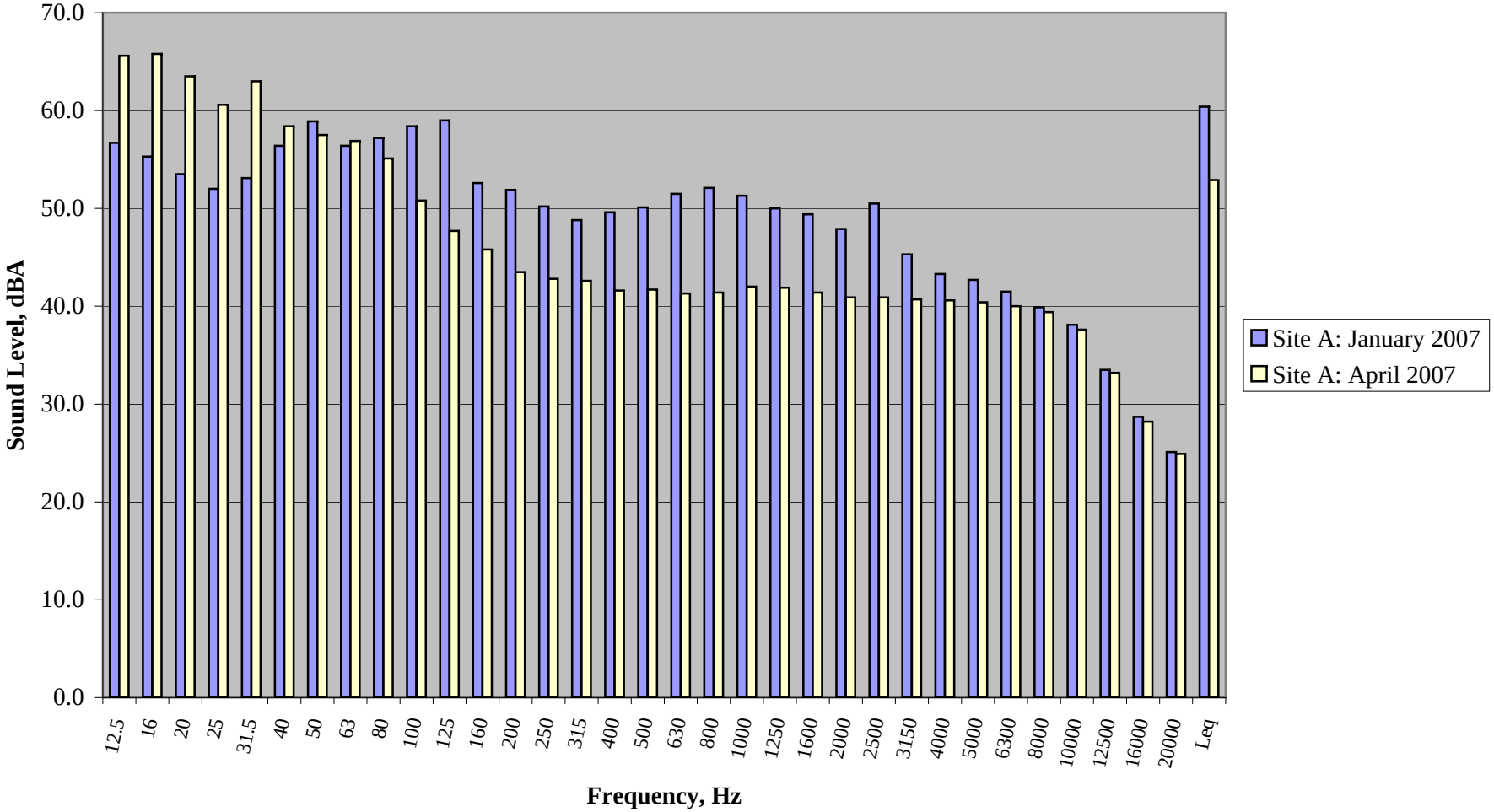
Site 6 Sound Pressure Levels



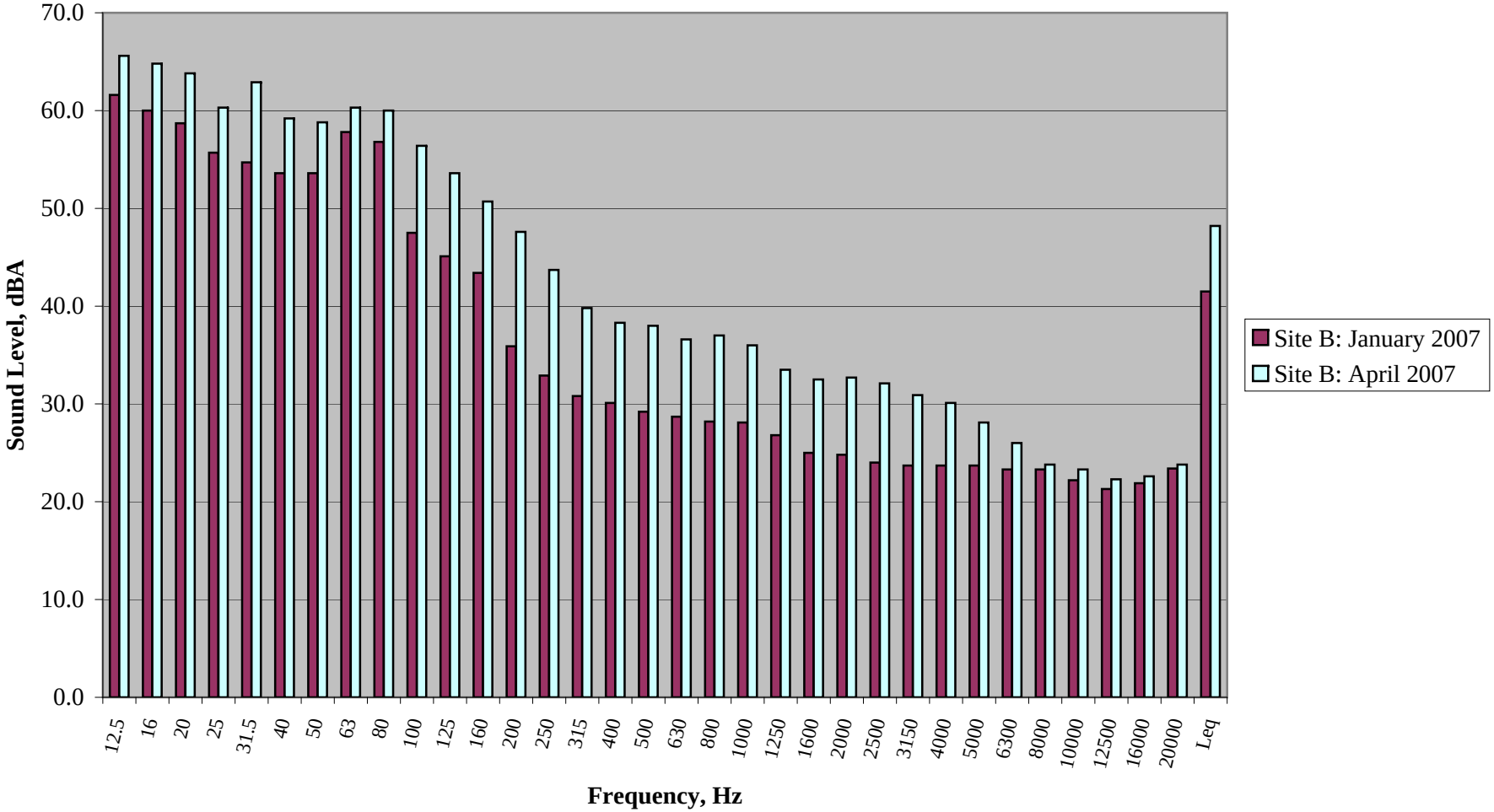
Site 7 Sound Pressure Levels

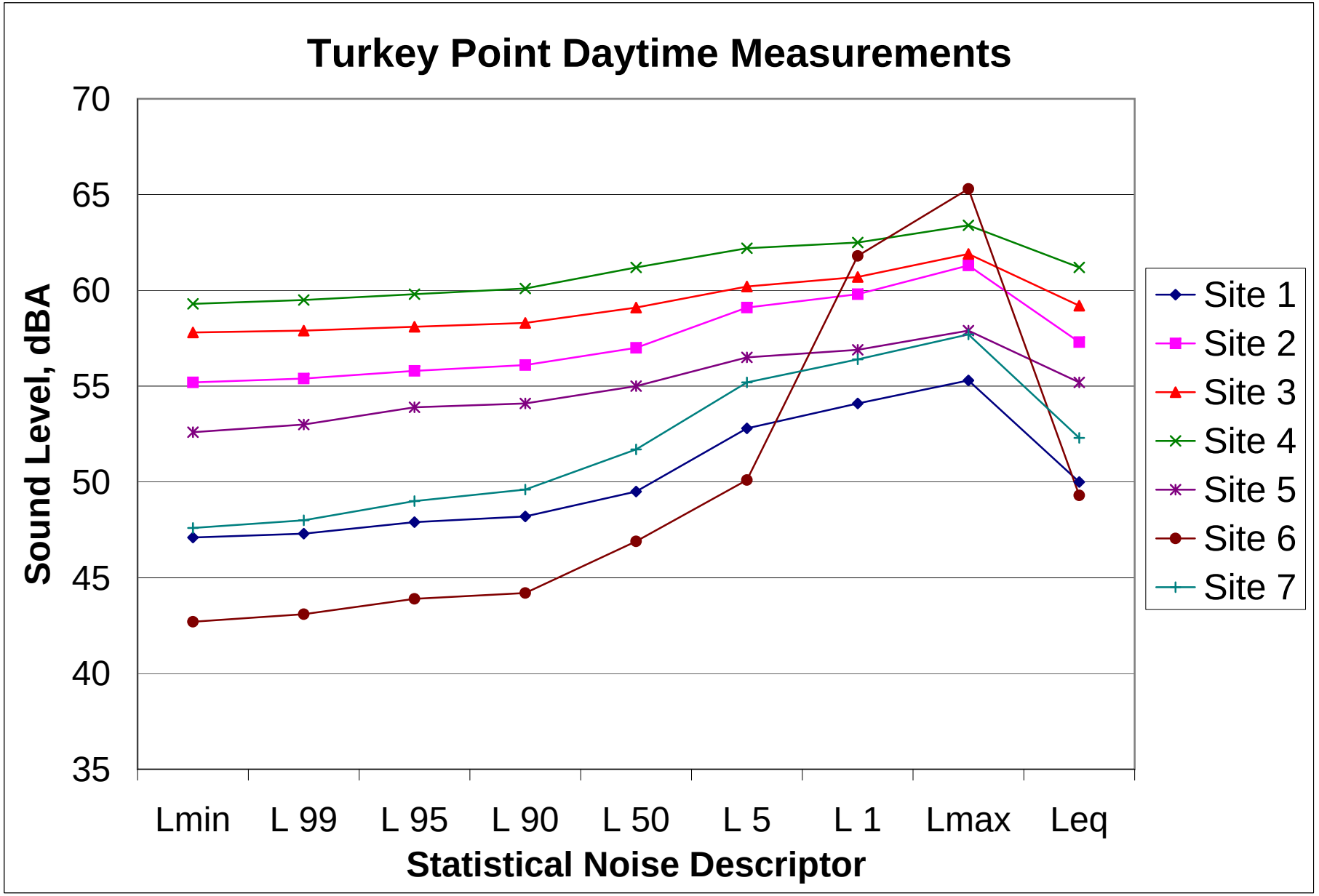


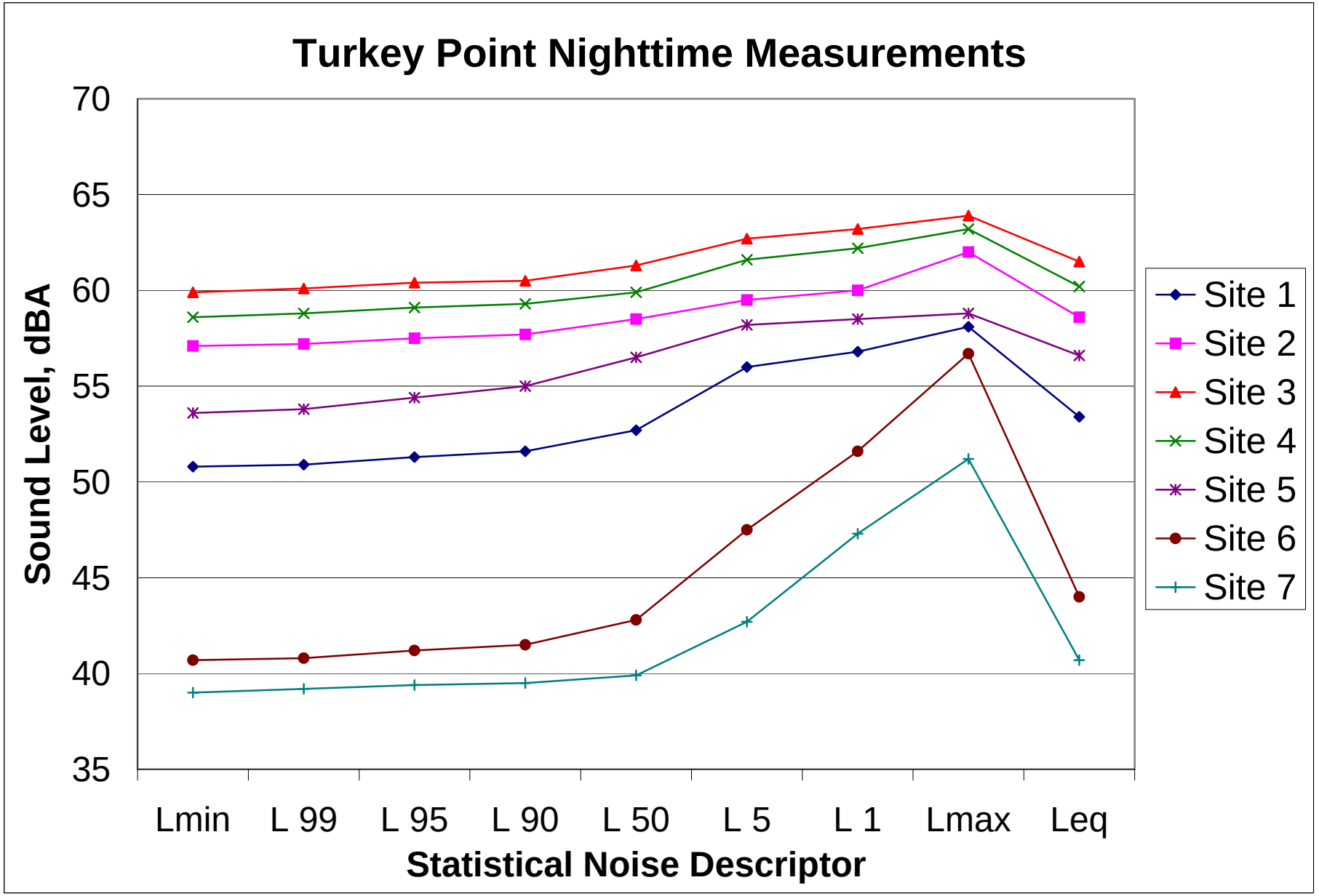
Turkey Point
Boundary Site A
Sound Pressure Levels

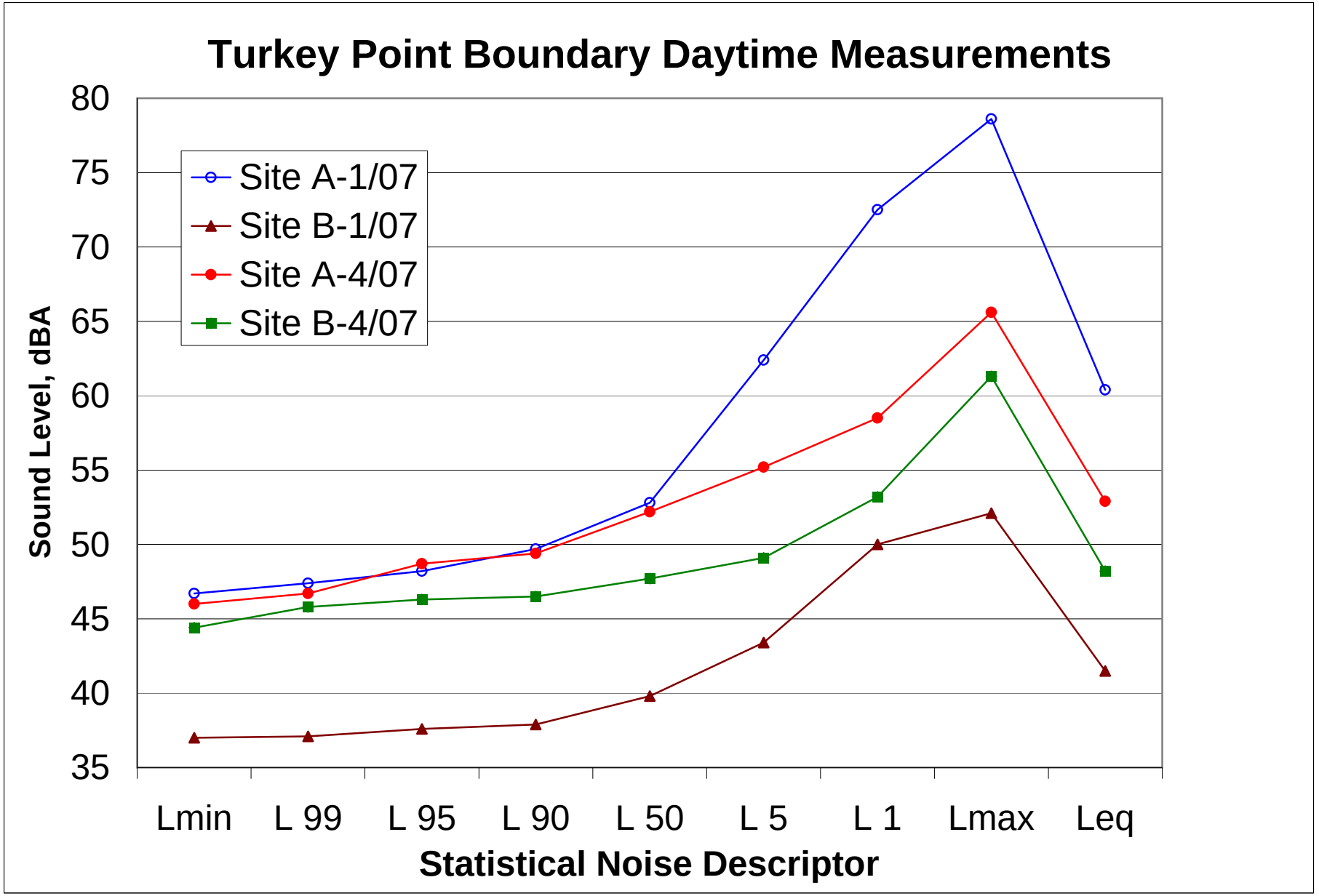


Turkey Point
Boundary Site B
Sound Pressure Levels




Turkey Point Daytime Measurements
Sound Level, dBA
70
65
60
55
50
45
40
35
Lmin
L 99
L 95
L 90
L 50
L 5
L 1
Lmax
Leq
Statistical Noise Descriptor
Site 1
Site 2
Site 3
Site 4
Site 5
Site 6
Site 7


Turkey Point Nighttime Measurements
Sound Level, dBA
70
65
60
55
50
45
40
35
Lmin
L 99
L 95
L 90
L 50
L 5
L 1
Lmax
Leq
Statistical Noise Descriptor
Site 1
Site 2
Site 3
Site 4
Site 5
Site 6
Site 7


Turkey Point Boundary Daytime Measurements
Sound Level, dBA
80
75
70
65
60
55
50
45
40
35
Site A-1/07
Site B-1/07
Site A-4/07
Site B-4/07
Lmin
L 99
L 95
L 90
L 50
L 5
L 1
Lmax
Leq
Statistical Noise Descriptor

APPENDIX 10.5.3

EQUIPMENT CALIBRATION CERTIFICATES

Certificate of Calibration and Conformance

Certificate Number 2002-42268

Instrument Model 824, Serial Number 0366, was calibrated on 06-20-2002. The instrument meets factory specifications according to Larson Davis Test Procedure D0001.8046, ANSI S1.4 1983, IEC 651-1979 Type 1, IEC 804-1985 Type 1, IEC 1260-1995 Class 1, and ANSI S1.11-1986 Type 1D.

Instrument found to be in calibration as received: YES
Date Calibrated: 06-20-2002
Calibration due: 06-20-2003

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0617 / 0104	12 Months	01/31/2003	2002-39473

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade

Relative Humidity: 26 %

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 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 Larson Davis Corporate Headquarters. 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.

Due to state-of-the-art limitations, 4:1 calibration ratios are not possible on pressure measurement standards, microphones and acoustic calibrators. Calibration ratios for these types of devices are limited to 1:1.

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 Larson Davis Laboratories.

Tested with PRM902-0699.

Technician: Brent Heaton
Service Center: Larson Davis Laboratories, Utah

Signed:

LARSON DAVIS LABORATORIES
1681 West 820 North · Provo, Utah · 84601 · Phone (801) 375-0177

Certificate of Calibration and Conformance

Certificate Number 2002-42292

Instrument Model CAL200, Serial Number 1111, was calibrated on 06-21-2002. The instrument meets factory specifications according to Larson Davis Test Procedure D0001.8190.

Instrument found to be in calibration as received: YES
Date Calibrated: 06-21-2002
Calibration due: 06-21-2003

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2559	2506	12 Months	07/10/2002	9779-1
Hewlett Packard	34401A	US36033460	12 Months	08/10/2002	217176
Larson Davis	MTS1000/2201	0111	12 Months	09/12/2002	09121-2001
Larson Davis	PRM902	0480	12 Months	09/13/2002	2001-36863
Larson Davis	PRM915	0112	12 Months	10/03/2002	2001-37260
Larson Davis	2900	0661	12 Months	04/05/2003	2002-40830
Schaevitz	P3061-15PSI	17590	12 Months	04/17/2003	233890
Hewlett Packard	34401A	3146A10352	12 Months	05/17/2003	236846

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 22 ° 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 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 Larson Davis Corporate Headquarters. 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.

Due to state-of-the-art limitations, 4:1 calibration ratios are not possible on pressure measurement standards, microphones and acoustic calibrators. Calibration ratios for these types of devices are limited to 1:1.

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 Larson Davis Laboratories.

Before: 114.06 dB, 93.83 dB, 1000.1 Hz @ 1013 mbar.
After: Refer to Certificate of Measured Output.

Technician: Scott Montgomery
Service Center: Larson Davis Laboratories, Utah

Signed: Scott Montgomery

LARSON DAVIS LABORATORIES
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Certificate of Calibration and Conformance

Certificate Number 2002-42255

Microphone Model 2560, Serial Number 2814, was calibrated on 06-19-2002. The microphone meets current factory specifications according to Larson Davis Test Procedure D0001.8167.

Instrument found to be in calibration as received: YES
Date Calibrated: 06-19-2002
Calibration due: 06-19-2003

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	2900	0575	12 Months	07/03/2002	2001-35501
Hewlett Packard	34401A	3146A62099	12 Months	10/19/2002	222499
Larson Davis	PRM915	0102	12 Months	11/20/2002	2001-38099
Larson Davis	PRM902	0206	12 Months	11/20/2002	2001-38101
Larson Davis	PRM916	0102	12 Months	11/20/2002	2001-38103
Larson Davis	MTS1000 / 2201	1000 / 0100	12 Months	11/27/2002	11271-2001
Larson Davis	CAL250	0102	12 Months	12/04/2002	2001-38364
Larson Davis	2250M	225102	12 Months	03/14/2003	2002-40285
Larson Davis	2559	2504	12 Months	03/22/2003	10476-1

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 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 Larson Davis Corporate Headquarters. 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.

Due to state-of-the-art limitations, 4:1 calibration ratios are not possible on pressure measurement standards, microphones and acoustic calibrators. Calibration ratios for these types of devices are limited to 1:1.

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 Larson Davis Laboratories.

Technician: Scott McIlrath
Service Center: Larson Davis Laboratories, Utah

Signed:

LARSON DAVIS LABORATORIES
1681 West 820 North · Provo, Utah · 84601 · Phone (801) 375-0177

Certificate of Calibration and Conformance

Certificate Number 2002-42274

Instrument Model 902, Serial Number 0699, was calibrated on 06-21-2002. The instrument meets factory specifications according to Larson Davis Test Procedure D0001.8126.

Instrument found to be in calibration as received: YES
Date Calibrated: 06-21-2002
Calibration due: 06-21-2003

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Hewlett Packard	HP-34401A	US36033460	12 Months	08/10/2002	217176
Larson Davis	LDSigGn/2209	0617 / 0104	12 Months	01/31/2003	2002-39473

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 23 ° Centigrade **Relative Humidity: 29 %**

Affirmations

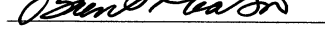
This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at Larson Davis Corporate Headquarters. 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.

Due to state-of-the-art limitations, 4:1 calibration ratios are not possible on pressure measurement standards, microphones and acoustic calibrators. Calibration ratios for these types of devices are limited to 1:1.

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 Larson Davis Laboratories.

Technician: Brent Heaton
Service Center: Larson Davis Laboratories, Utah

Signed: 

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1681 West 820 North · Provo, Utah · 84601 · Phone (801) 375-0177

Certificate of Calibration and Conformance

Certificate Number 2006-79080

Instrument Model 824, Serial Number 0366, was calibrated on 14APR2006. 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: NO
Date Calibrated: 14APR2006
Calibration due: 14APR2007

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	LDSigGn/2209	0248 / 0107	12 Months	12JAN2007	2006-75919

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 25 ° Centigrade

Relative Humidity: 26 %

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 Corporate Headquarters. 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.

See "As received" data.
Tested with PRM902 S/N 0699

Signed: Nick Rasmussen
Technician: Nick Rasmussen

Larson Davis A PCB GROUP CO.

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Certificate of Calibration and Conformance

Certificate Number 2006-78969

Microphone Model 2560, Serial Number 2814, was calibrated on 12APR2006. The microphone meets current factory specifications per Test Procedure D0001.8167.

Instrument found to be in calibration as received: YES
Date Calibrated: 12APR2006
Calibration due: 12APR2007

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Larson Davis	CAL250	0102	12 Months	26MAY2006	2005-69011
Larson Davis	2900	0575	12 Months	28JUN2006	2005-69833
Larson Davis	2559	3034LE	12 Months	31AUG2006	2005-71985
Larson Davis	PRM902	0529	12 Months	01SEP2006	2005-71766
Larson Davis	PRM902	0528	12 Months	01SEP2006	2005-71734
Larson Davis	MTS1000 / 2201	1000 / 0101	12 Months	08SEP2006	2005-0908-2
Larson Davis	PRM915	0102	12 Months	07NOV2006	2005-73818
Larson Davis	PRM902	0206	12 Months	07NOV2006	2005-73826
Larson Davis	PRM916	0102	12 Months	07NOV2006	2005-73819
Hewlett Packard	34401A	3146A62099	12 Months	10NOV2006	285335
Larson Davis	2559	3026	12 Months	08FEB2007	13866-1

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 Corporate Headquarters. 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: Scott Montgomery

Technician: Scott Montgomery

Larson Davis A PCB GROUP CO.

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Certificate of Calibration and Conformance

Certificate Number 2006-79063

Instrument Model 902, Serial Number 0699, was calibrated on 14APR2006. The instrument meets factory specifications per Procedure D0001.8167.

Instrument found to be in calibration as received: YES
Date Calibrated: 14APR2006
Calibration due: 14APR2007

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Hewlett Packard	34401A	US36015216	16 Months	30APR2006	276884
Larson Davis	LDSigGn/2209	0248 / 0107	12 Months	12JAN2007	2006-75919

Reference Standards are traceable to the National Institute of Standards and Technology (NIST)

Calibration Environmental Conditions

Temperature: 25 ° Centigrade

Relative Humidity: 26 %

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 Corporate Headquarters. 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.

See "as received" data.

Signed: Nick Rasmussen

Technician: Nick Rasmussen

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Certificate of Calibration and Conformance

Certificate Number 2006-78940

Instrument Model CAL200, Serial Number 1111, was calibrated on 11APR2006. The instrument meets factory specifications per Procedure D0001.8190.

Instrument found to be in calibration as received: YES
Date Calibrated: 11APR2006
Calibration due: 11APR2007

Calibration Standards Used

MANUFACTURER	MODEL	SERIAL NUMBER	INTERVAL	CAL. DUE	TRACEABILITY NO.
Hewlett Packard	34401A	US36033460	16 Months	27MAY2006	277736
Hewlett Packard	34401A	3146A10352	12 Months	24JUN2006	281920
Larson Davis	2559	2504	12 Months	30JUN2006	13372
Larson Davis	MTS1000/2201	0111	12 Months	08SEP2006	2005-0908-1
Larson Davis	PRM915	0112	12 Months	14SEP2006	2005-72135
Larson Davis	PRM902	0480	12 Months	14SEP2006	2005-72134
Schaevitz	P3061-15PSIA	17588	12 Months	16FEB2007	287327
Larson Davis	2900	0661	12 Months	04APR2007	2006-78704

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 Corporate Headquarters. 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: Scott Montgomery
Technician: Scott Montgomery

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APPENDIX 10.6

COOLING CANAL SYSTEM MODELING REPORT

COOLING CANAL SYSTEM MODELING REPORT

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by:
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Certificate of Authorization Number: 1670

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FPL Turkey Point Uprate Project - Cooling Canal System Modeling Study

I. Introduction

FPL plans to add about 200 MW (net) of electrical generation resources to its system at Turkey Point Units 3 and 4. The heat dissipation system for the existing Units 1 through 4 is the cooling canal system which is described in detail in SCA Section 2.3.4. The recently added Unit 5 utilizes an evaporative cooling tower, in the following configuration:

- Cooling tower makeup is water withdrawn from the Upper Floridan aquifer.
- Cooling tower blowdown is recycled to the inlet of the cooling canal system.

Unit 5 began serving customers in May, 2007.

The heat rejected to the cooling canal system includes 4 units with the following design operating characteristics:

	Existing	Post-Uprate
Type of Condenser Cooling	Closed-Cycle	Closed-Cycle
Megawatts	2,320	2,520
Circulating Water Flow (cfs)	4,250	4,250
Composite Delta T across Condenser (°F)	15.52	17.13
Heat Rejection Rate (Btu/Hr)	14.6×10^9	16.1×10^9

The units utilize a 5,900-acre closed-cycle cooling canal system, of which 4,370 acres is water surface, for condenser and auxiliary equipment cooling (see Figure 1). The cooling canal system receives tidal inflow from Biscayne Bay, and the saline aquifer beneath the bay, due to the exceptional porosity of the underlying rock. The system also sends tidal outflow to the saline aquifer beneath the Bay. Therefore, it has no intake or discharge system and does not require an NPDES permit, although it has a "no discharge" NPDES permit.

The cooling canal system is a closed system that carries warm water south of the existing plant and returns cooled water. The canal system does not directly discharge to fresh or marine surface waters; however, because the canals are not lined, groundwater does interact with water in the canal system. Makeup water for the canal system comes from process water, rainfall, stormwater runoff and groundwater infiltration to replace evaporative and seepage losses. Consequently, the water in the canals is hypersaline due to the effects of evaporation, with salinity concentrations approximately twice that of Biscayne Bay.

Plant circulating water for Units 1 through 4 is pumped from a canal, shown on the top right of Figure 2, which draws water northward from the 7 easternmost canals, which are the cool side of the canal system. The water then passes through the condensers, where it picks up heat, and then is discharged to the northern end of the 32 westernmost canals. From there, it flows south in the 32 westernmost canals, is collected and flows east across the southern end of the cooling canal system, and then flows north in the 7 easternmost canals.

Measurements taken within the cooling canal system indicate that the water level within that system rises and falls with the tidal water level in Biscayne Bay. This is because the rock in which the cooling canal system was constructed is exceptionally porous. At the southern end of the cooling canal system, the water level is approximately equal to the water level in Biscayne Bay. As shown on Figure 3, the water level on the east or intake side of the cooling canal system is drawn down about 3 feet lower than the water level on the west or discharge side of the cooling canal system. The difference in water level between the western 32 canals and the eastern 7 canals, or the "head difference" as it is called hydraulically, is the driving force which causes the water to circulate through the cooling canal system. As it circulates, the water gives up heat through the mechanisms of evaporation, conduction, and radiation.

There is a body of groundwater under the cooling canal system that remains in place because it is warmer than the ambient groundwater. The depth of this cooling canal groundwater has been calculated from measured salinity in the cooling canal system. It extends to about 18 feet below sea level, or 14 feet below the bottom of the cooling canal system. Because the rock is so porous, this water acts as if it were part of the cooling canal system.

As shown on Figure 3, the water level on the east or intake side of the cooling canal system is always lower than that of Biscayne Bay, regardless of the tide, because of the action of the circulating water pumps of Units 1 through 4. For this reason, cooling canal water does not enter Biscayne Bay. As seen on Figure 4, there are flows back and forth between the cooling canal system and the saline groundwater that underlies Biscayne Bay. On the west side of the cooling canal system, there is a section of non-potable ambient groundwater between the cooling canal system and the L-31E Canal, as shown in orange on Figure 3.

This investigation has performed the following tasks:

1. Perform screening modeling of the thermal performance of the cooling canal system in order to quantify its exchange of water with Biscayne Bay.
2. Prepare a water balance for the proposed configuration under average flow conditions.
3. Prepare estimates of the expected water quality of the cooling canal system under average flow conditions.

II. Screening Modeling

This modeling was performed utilizing the EQTP model. This is a steady state energy balance computer model that was originally written in the 1970s, and documented in a paper presented at the 33rd Annual Meeting of the American Power Conference in April 1972. This model has since been used to analyze numerous cooling systems, including several in Florida.

A. Model Description

EQTP is a steady state energy balance computer model which simulates the expected thermal performance of a heated water body with respect to both temperature and evaporation effects. The program assumes that heat transfer to and from a heated water body is a function of the water's equilibrium temperature. This model was originally described by Patterson, Leporati and Scarpa ("The Capacity of Cooling Ponds to Dissipate Heat", Ebasco Services Incorporated, presented at the 33rd Annual Meeting of the American Power Conference, Chicago, Illinois, April 20-22, 1972.)

The problem of predicting the steady-state temperatures in a heated water body reduces to a quantitative determination of the energy transfer through a boundary between the atmosphere and the water. The processes involved in the heating and cooling of a water mass can be summarized as follows:

Heating Process

1. Absorption of short-wave radiation from the sun and the sky, Hs
2. Absorption of longwave radiation from the atmosphere, Ha
3. Heat rejected to the water by the plant, Hp
4. Convection of heat through the bottom of the water body from the interior of the earth K
5. Transformation of kinetic energy to heat
6. Heating due to chemical processes
7. Condensation of water vapor

Cooling Process

1. Reflection of short-wave solar radiation by the water, Hsr
2. Reflection of longwave atmospheric radiation by the water, Har
3. Longwave radiation emitted by the water, Hbr
4. Conduction of sensible heat to the atmosphere, Hc
5. Heat carried away by evaporation, He

In the heating process terms 4 through 7 are small in comparison with terms 1 through 3 and, therefore, can be neglected. Thus the following equation is solved within the steady state model:

$$Hs + Ha + Hp - Hsr - Har - Hbr - Hc - He = 0$$

Where:

$$Hs = Ho\ (0.61S+0.35)$$

Ho = the solar and sky short-wave radiation received on a horizontal surface of the earth during a cloudless day
S = percentage of possible sunshine

$$Ha = 4.15 \times 10^{-8} (Ta + 460)^4 (C + 0.031 (e_a)^{1/2}) \text{ Btu / ft}^2 \text{ / day}$$

Ta = the ambient air temperature, °F
C = Brunt coefficient determined from air temperature and the ratio of solar radiation and clear-sky solar radiation, dimensionless
e_a = air vapor pressure, mm Hg

$$Hbr = \gamma w \sigma (Ts + 460)^4 \quad \text{Btu / ft}^2 \text{ / day}$$

γw = emissivity of water = 0.97, dimensionless
σ = Stephan-Boltzman constant = 4.15 x 10^{-8} Btu / ft^2 / day
Ts = water surface temperature, °F

$$He = (73 + 7.3W)(e_s - e_a) \text{ Btu / ft}^2 \text{ / day}$$

W = wind speed measured 25 feet above ground-level, mph
e_s = saturation vapor pressure determined from the water surface temperature, mm Hg
e_a = air-vapor pressure, mm Hg

$$Hc = 0.26(73 + 7.3W)(Ts - Ta)(P/760) \text{ Btu / ft}^2 \text{ / day}$$

Ta = ambient air temperature, °F
Ts = water surface temperature, °F
W = wind speed, mph
P = barometric pressure, mm Hg

To determine the distribution of temperature throughout the water body, a heat exchange coefficient which describes the rate of heat lost across the air-water interface per unit area per unit temperature increase is calculated as follows:

$$Kf = Hp/[At(Ef-En)]$$

Kf = the forced heat exchange coefficient, Btu/ft^2/day/°F
At = total effective area of the cooling water body, ft^2
Hp = plant heat rejection rate, Btu/day
Ef = forced equilibrium temperature, °F
En = natural equilibrium temperature, °F

For a closed-cycle water body, the temperature at the circulating water intake can be calculated as follows:

$$Ti - En = \Delta T / e^{r} - 1$$

Ti = inlet circulating water temperature, °F
ΔT= the condenser rise, °F
En = natural equilibrium temperature, °F
r = KfAt/ρCpQp
ρ = density of water, lb/ft^3
Cp = specific heat of water, Btu/lb/°F
Qp = plant condensing water flow, ft^3/day

Once the inlet temperature has been computed, the temperature at any point in the water body may be calculated as follows:

$$T - En = (Ti + \Delta T - En) / e^{r1}$$

T = the temperature at any point in the water body, °F
r_1 = KfA/ρCpQp
A = effective area between the circulating water discharge point and the point in question, ft^2

The primary assumption of the model is that of the steady state energy balance. This assumption provides the limitation that the model time step has to be long enough for transient factors to be dampened out. For example, the diurnal variation in air temperature occurs too fast for a large body of water to follow; therefore, the minimum time step that is usually appropriate has been found to be 5 days.

The model derivation also assumes that the only mechanisms of heat transfer into the heated water body that need to be considered are the absorption of short-wave radiation from the sun and the sky, the absorption of longwave radiation from the atmosphere, and the heat rejected to the water body by the plant.

Model output includes the condenser inlet temperature and natural and forced equilibrium temperatures, heat exchange coefficients, and evaporation on a monthly basis.

B. Data Inputs

Data inputs for the EQTP model include meteorological data, cooling canal system configuration data, and plant operating data.

Meteorological data for the period January, 1998 through December, 2002, were obtained from the National Climatic Data Center for Miami International Airport. These data include ambient air dry-bulb temperature, precipitation, dew point, wind speed, barometric pressure, and sky cover (which was utilized to estimate % sunshine). Graphs of monthly averages of these data over the period of record are included in Figures 5-10.

Cooling canal system configuration data were determined based on historical records. This information indicates that the cooling canal system water level closely follows the tidal water level in Biscayne Bay, and that the canal sides are essentially vertical. For modeling purposes, the cooling canal system water surface area was assumed to be a constant 4,370 acres, and the capacity was assumed to vary between 10,051 acre-feet at low tide and 14,421 acre-feet at high tide. It was estimated that tidal flux into and out of the cooling canal system averaged about 4,370 acre-feet per tidal cycle, or about 256,956 acre-feet per month.

Plant operating data input to the model included design values for megawatts and Delta T, and load factors. The nuclear units were assumed to operate at 100% capacity, and the fossil units were assumed to operate at actual historical capacities, which are shown in Figure 11.

The plant supplied 6-hourly operating data for water box inlet and outlet temperatures for each unit for January 1, 1999 through December 31, 2002. However, some of the data were problematic due to missing inlet temperatures or outlet temperatures that were less than the corresponding inlet temperatures. In addition, there were some large discrepancies in the Units 1 and 2 inlet temperatures, as shown in Figure 12. The lower (Unit 1) inlet temperatures were selected for calculation of historical cooling canal cold water temperatures for the period of record.

C. Modeling Results

The EQTP model was run for a five-year period beginning with January, 1998, to simulate existing operation of the cooling canal system over the 60-month period to December, 2002 for which actual data are available.

Figure 13 compares actual and predicted condenser inlet temperatures for the period of record. Figure 14 shows the same data for the period from January, 2000, until December, 2002. Temperature correlation is reasonable, allowing for the assumption that Units 3 and 4 ran at 100% capacity factor. Based on the reasonableness of the correlation, the cooling canal system was judged to be operating with 100% effective area.

Cooling canal salinities were downloaded from the EPA web site for the period of September, 2000, through March, 2003 (a single value for each month). Salinity data for Biscayne Bay, in the plant vicinity were downloaded from the SFWMD web site for the period January, 1998, through December, 2002. Monthly averages were plotted for the Biscayne Bay data, although the data were not continuous over each month. The results are shown on Figure 15, for the 5-year period of record, and on Figure 16 for the period from September, 2000, through December, 2002. Regression analysis was performed on these data to derive a relationship between Bay salinity and cooling canal salinity (See Figure 17). A linear curve-fit was performed, with Y-intercept at 0, so that the slope of the line would be representative of the average cycles of concentration of bay water in the cooling canal system. The resultant average cycles of concentration was determined to be 1.6145.

Modeling results were analyzed to calculate the net amounts of makeup and blowdown (net meaning fresh inputs rather than recirculated cooling canal water that has moved out and then back in), and an empirical relationship was developed to determine the net makeup and net blowdown as functions of precipitation, and natural and forced evaporation. Based on these relationships, an average water balance was developed for the existing plant, and is shown on Figure 4. An average water balance was then developed for the post-uprate condition, and is shown in Figure 18.

Modeling results with respect to cooling canal temperatures over time are presented in Figure 19 for the existing (pre-uprate) and post uprate cases. The results indicate a slight increase at any given time in both the inlet and outlet water temperatures of the cooling canal system, as well as the temperature rise.

Based on the modeling, average cycles of concentration (relative to Biscayne Bay water quality) were estimated for the cooling canal system under existing and post-uprate conditions. The results are:

Cycles of Concentration Relative to Biscayne Bay		
	Existing	Post-Uprate
Cooling Canal System	1.653	1.767

Utilizing these concentration factors, levels of chemical constituents were estimated in the cooling canal system and in the cooling tower, based on grab sample analyses of the existing cooling canal water provided by FPL, and historic water quality data for the Upper Floridan Aquifer. The results are presented in Table 1.

D. Additional Information

In addition, analyses were performed to derive expected water temperature profiles within the cooling canal system. Although that system is not considered waters of the U.S., or the state, it is used as habitat by the American Crocodile. Figure 20 shows the predicted cold water temperatures within the cooling canal system for the June 1998 time frame, which is the one with the highest temperatures. The maximum predicted increase in heated water temperature entering the cooling canal system is about 2.5°F, from 106.1 to 108.6°F. The associated maximum increase in cooled water temperature leaving the cooling canal system to return to the units is about 0.9°F, from 91.9 to 92.8°F.

Table 1
Predicted Water Quality with New Unit

All tested as total unfiltered. *ND indicates never detected*			Existing Cooling Canal		Proposed Cooling Canal		Miami-Dade County Standards Ch. 24-11 Tidal Salt Water (more than 500 ppm chlorides)	
			Max	Avg	Max	Avg	Max	Min
No.	***Parameter***	***Unit***						
1	pH	SU	8.21	8.02	8.21	8.02	6.00	8.50
2	TSS	mg/L	19	16	20	17		
3	COD	mg/L	2,100	1,650	2,245	1,764		
4	BOD (5-day)	mg/L	ND	ND	ND	ND	not to cause DO non-compliance	
5	Soluble BOD	mg/L	ND	ND	ND	ND		
6	Total Residual Chlorine	mg/L	0.80	0.80	0.86	0.86		
7	Total Dissolved Solids (TDS)	mg/L	56,000	54,500	59,862	58,259	500 average, 1000 peak	
8	Ammonia as N	mg/L	0.16	0.16	0	0	0.50	
9	Kjeldahl Nitrogen	mg/L	1.90	1.80	2	2		
10	Nitrite as N	mg/L	ND	ND	ND	ND		
11	Nitrate as N	mg/L	ND	ND	ND	ND		
12	Total Phosphorus	mg/L	0.110	0.097	0	0		
13	Dissolved Oxygen	mg/L	12.0	8.7	12.8	9.3		4.0
14	Total Hardness	mg/L as $CaCO_3$	10,000	10,000	10,690	10,690		
15	Total Alkalinity	mg/L as $CaCO_3$	170	165	182	176		
16	Nitrogen (total)	mg/L	1.90	1.80	2	2		
17	Fluoride	mg/L	ND	ND	ND	ND	10	
18	Chloride	mg/L	33,000	30,000	35,276	32,069	10% above background	
19	Iron Total	mg/L	ND	ND	ND	ND	0.3	
20	Magnesium	mg/L	2,200	2,050	2,352	2,191		
21	Calcium	mg/L	760	720	812	770		
22	Manganese	mg/L	0.0089	0.0086	0.0095	0.0091		
23	Sulfate	mg/L	4,200	3,950	4,490	4,222		
24	Temperature	°C	31.5	30.05	34	32	Shall cause no environmental damage	
25	Antimony	mg/L	ND	ND	ND	ND		
26	Arsenic	mg/L	0.0420	0.0295	0.0449	0.0315	0.0500	
27	Beryllium	mg/L	ND	ND	ND	ND		
28	Cadmium	mg/L	ND	ND	ND	ND		
29	Chromium	mg/L	ND	ND	ND	ND	0.05	
30	Copper	mg/L	0.0210	0.0175	0.0224	0.0187	0.4000	
31	Lead	mg/L	0.0001	0.0001	0.0001	0.0001	0.3500	
32	Soluble Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.3500	
33	Mercury	mg/L	ND	ND	ND	ND	ND	
34	Molybdenum	mg/L	0.0180	0.0180	0.0192	0.0192		
35	Nickel	mg/L	0.0500	0.0395	0.0534	0.0422		
36	Selenium	mg/L	0.6700	0.3475	0.7162	0.3715		
37	Silver	mg/L	ND	ND	ND	ND		
38	Thallium	mg/L	0.0018	0.0011	0.0019	0.0011		
39	Zinc	mg/L	0.0190	0.0190	0.0203	0.0203	1.0000	
40	Cyanide	mg/L	ND	ND	ND	ND	ND	
41	Phenols	mg/L	ND	ND	ND	ND	0.0050	
42	Oil & Grease	mg/L	ND	ND	ND	ND	15	
43	Silica	mg/L	0.61	0.52	0.65	0.56		
44	Ortho-Phosphate	mg/L	ND	ND	ND	ND		
45	Alkalinity(Bicarbonate)	mg/L	170	165	182	176		
46	Total- Phosphate	mg/L						
47	Turbidity	NTU	2.00	1.92	2	2	29 above background	
48	Sulfides	mg/L	ND	ND	ND	ND	1.0	
49	Aluminum	mg/L	0.017	0.014	0.018	0.015		
50	Barium	mg/L	0.080	0.073	0.086	0.078		
51	Iron(Dissolved)	mg/L	ND	ND	ND	ND	0.3	
52	Potassium	mg/L	690	680	738	727		
53	Vanadium	mg/L	0.0056	0.0040	0.0060	0.0043		
54	Specific Conductance	umhos per cm					100% above background	

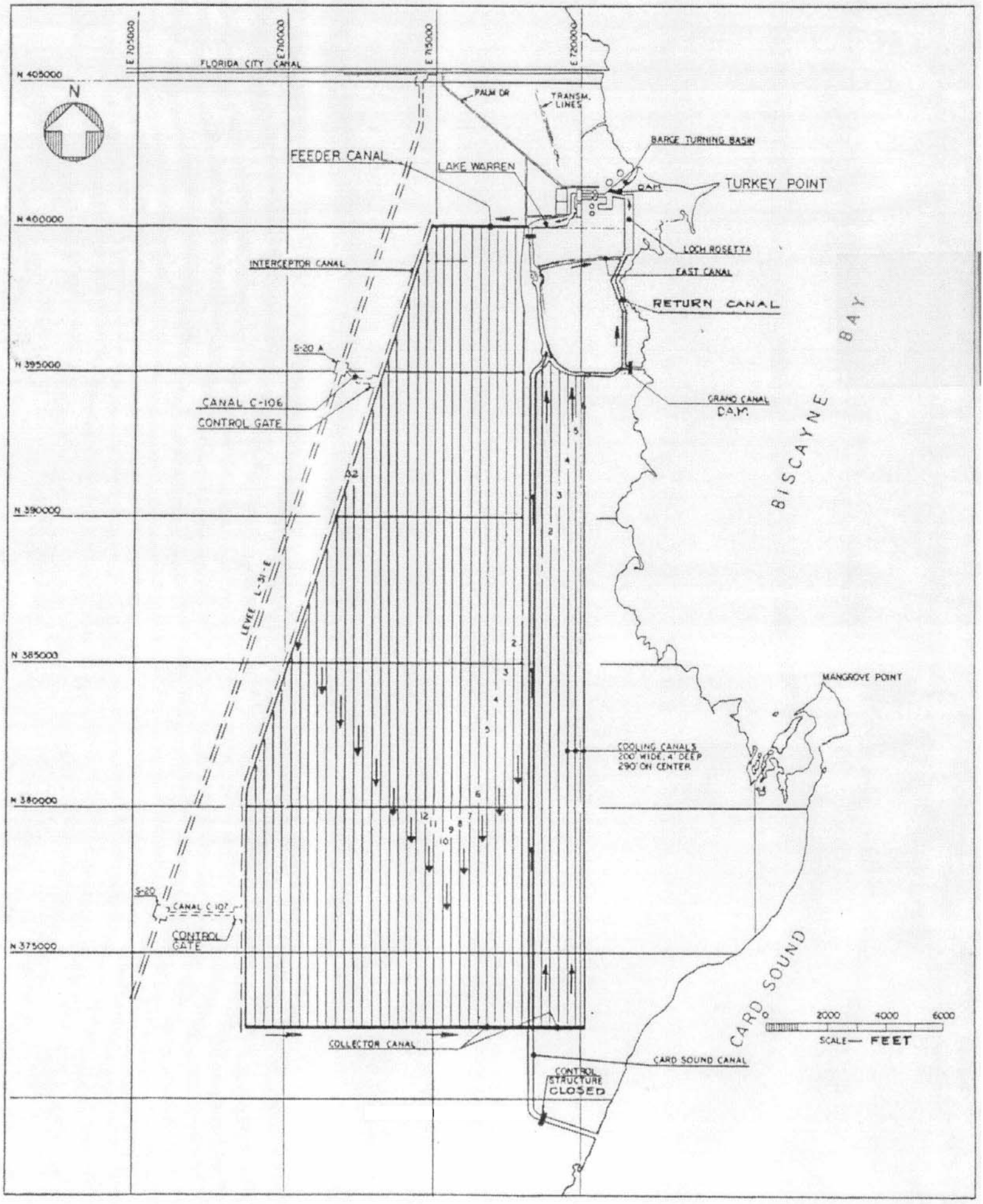

Figure 1 Turkey Point Cooling Canal System - Final Design.

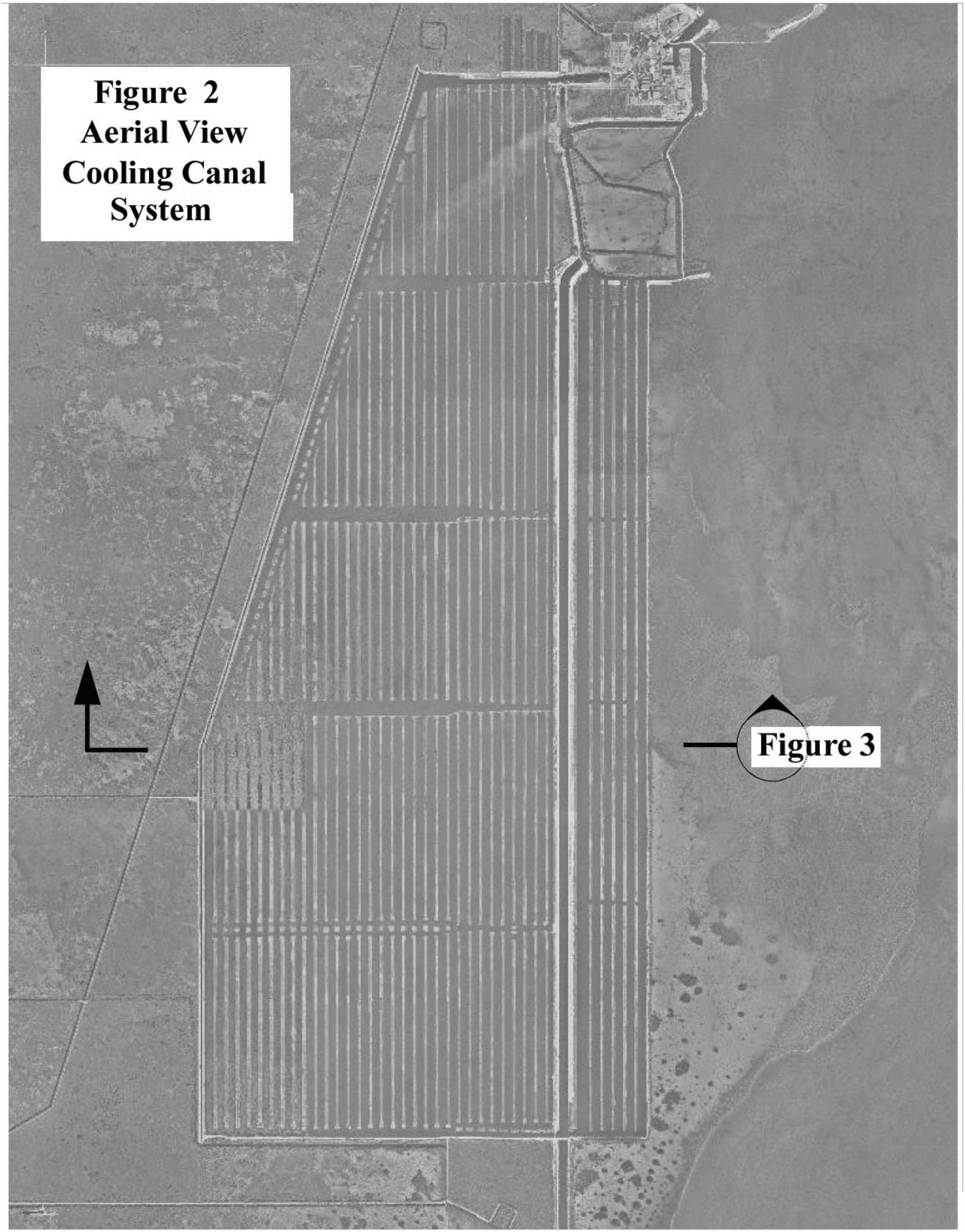

Figure 2
Aerial View
Cooling Canal
System

Figure 3

Cooling Canal System Cross Section

Mean Tide Level in Biscayne Bay

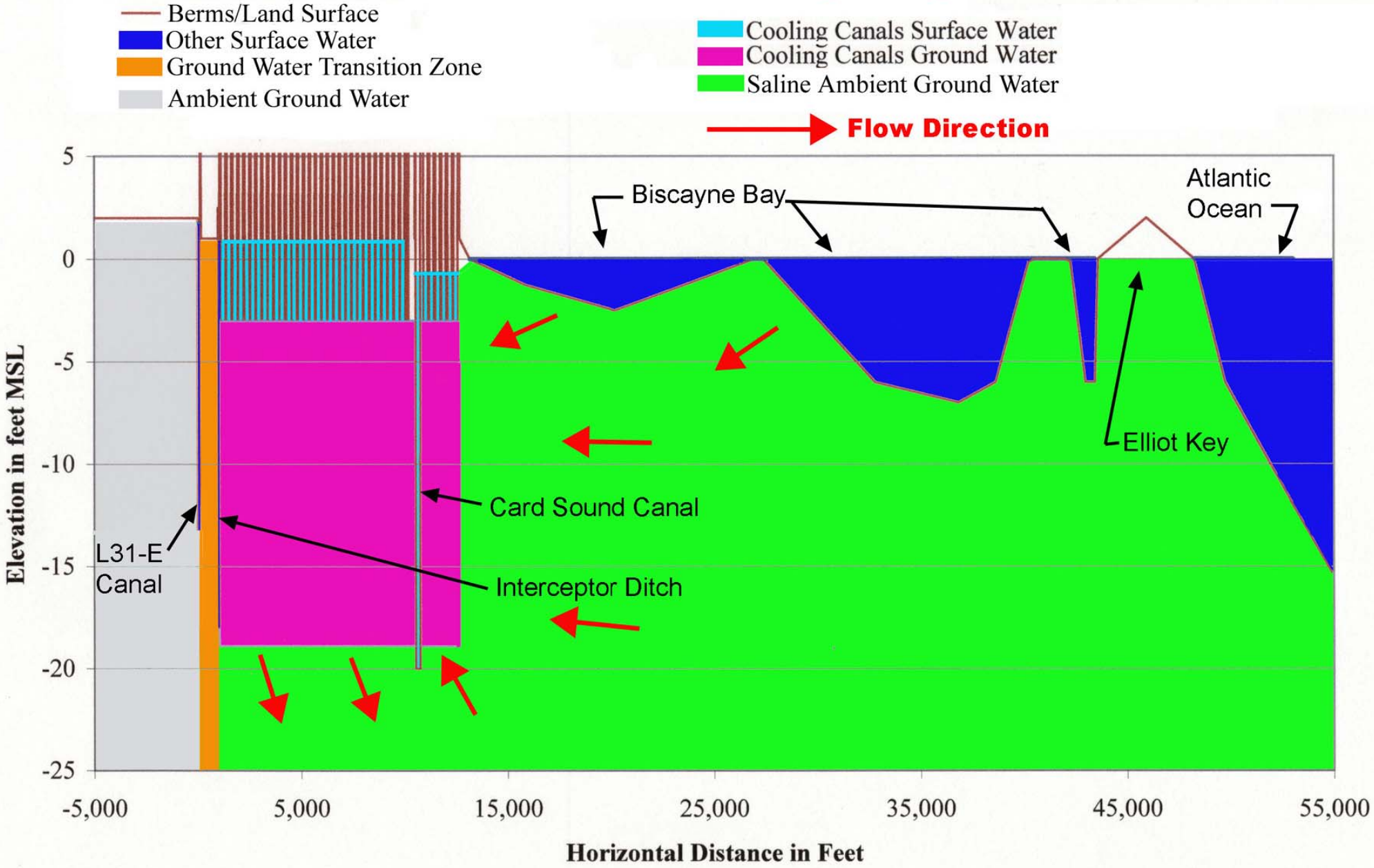

Figure 4. Existing Water Use Diagram

Average Flows in Acre-Feet Per Month

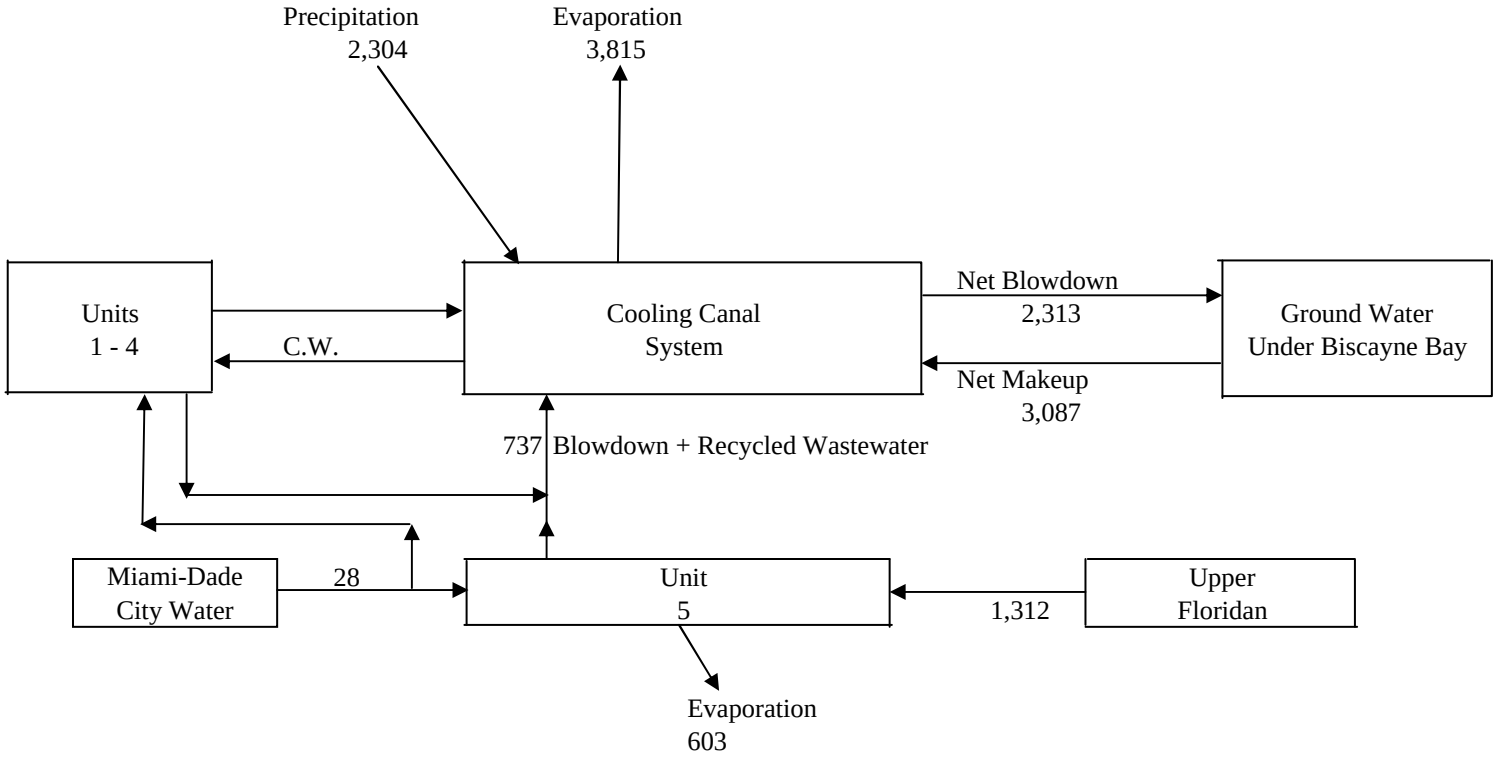

Figure 5. Average Dry Bulb Temperature

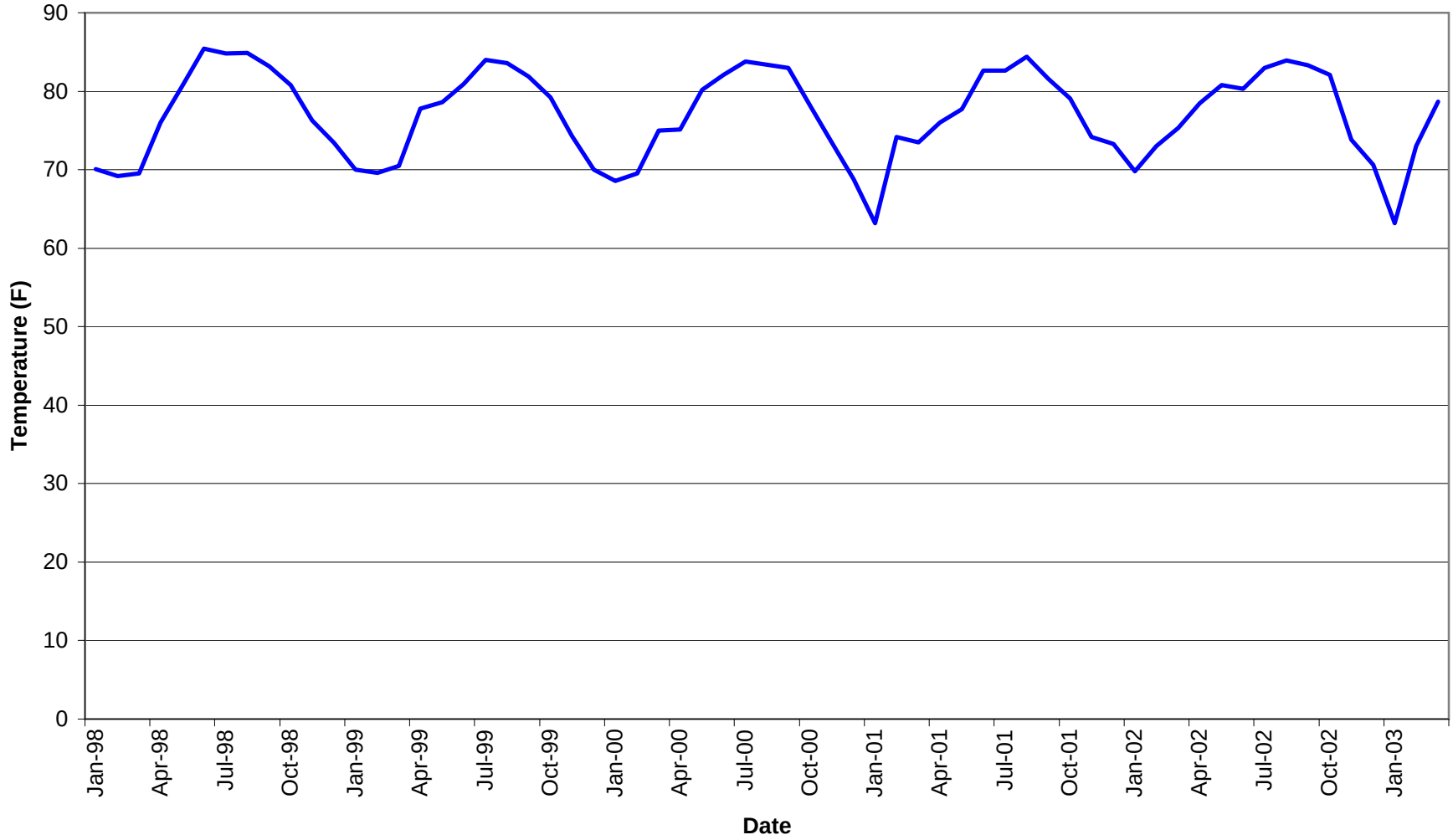

Figure 6. Wind Speed

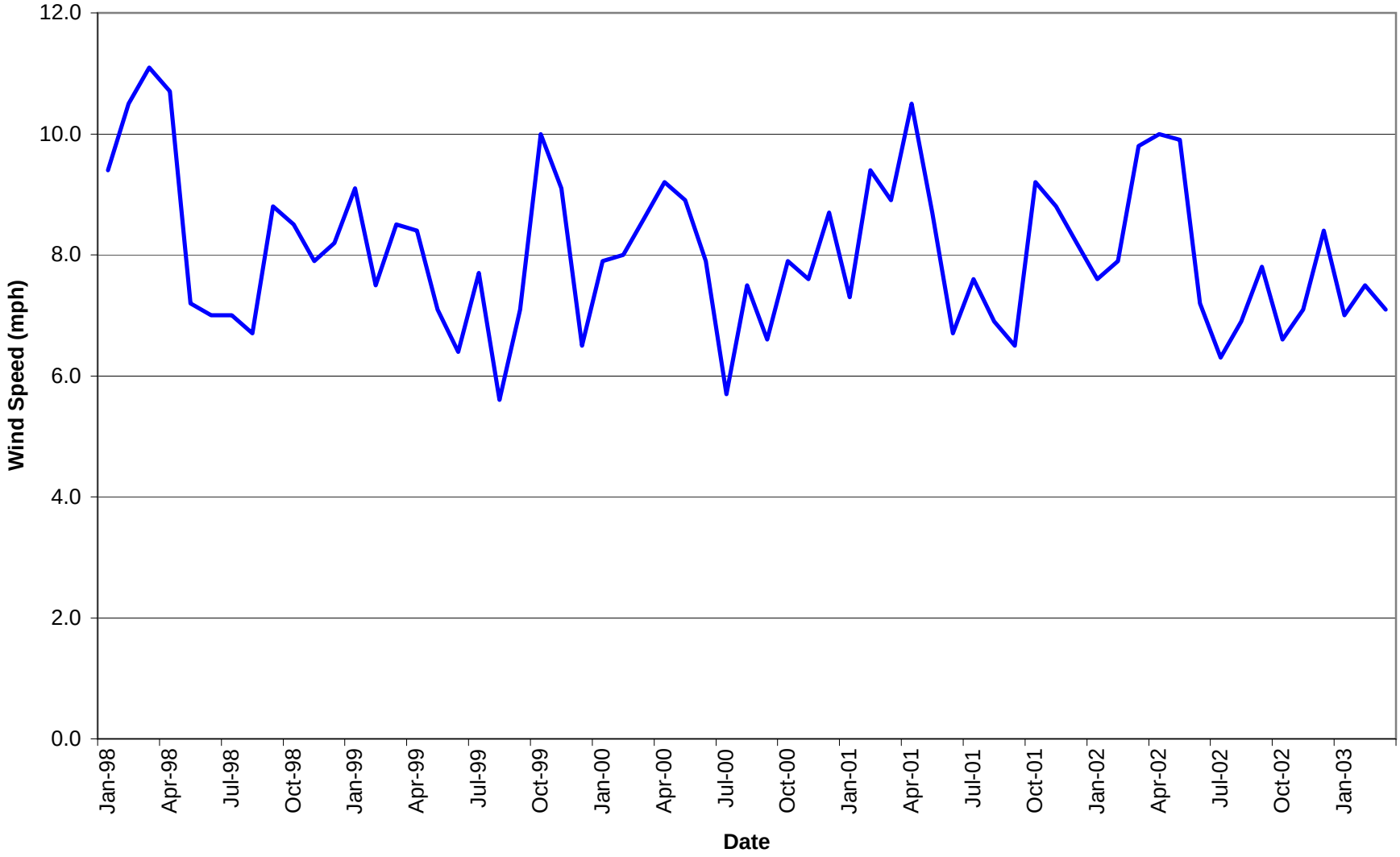

Figure 7. Barometric Pressure

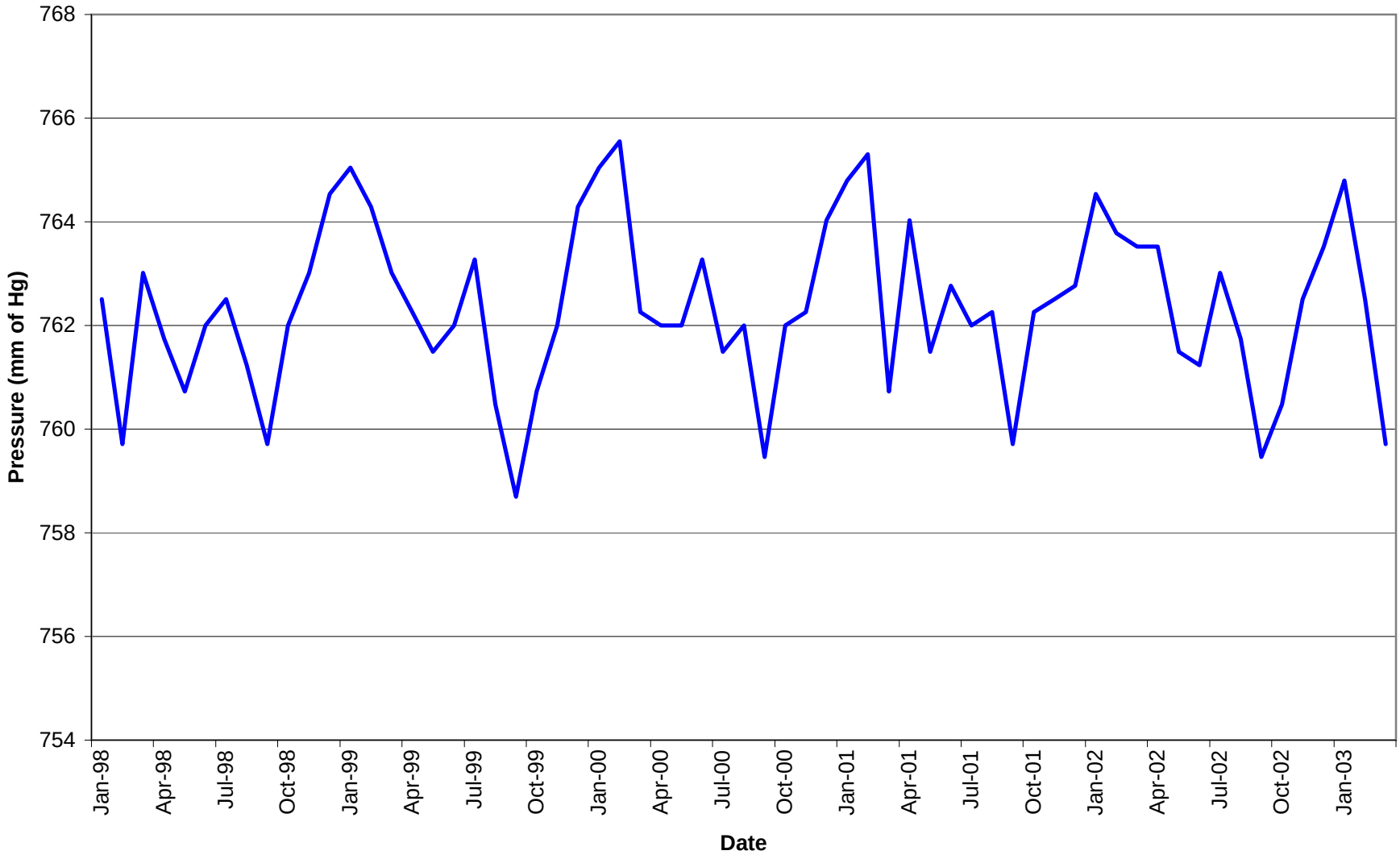

Figure 8. Mean Dew Point

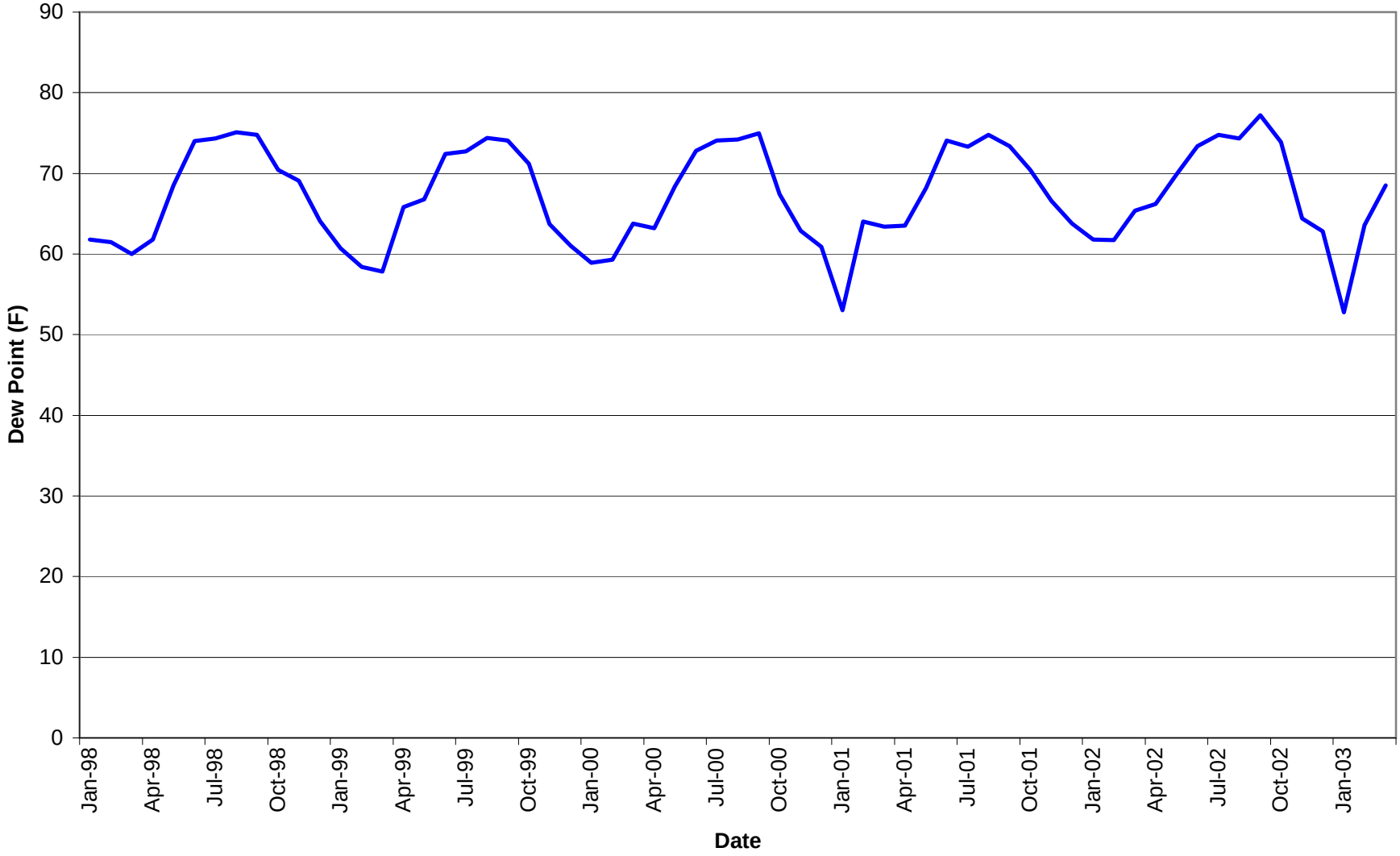

Figure 9. Precipitation

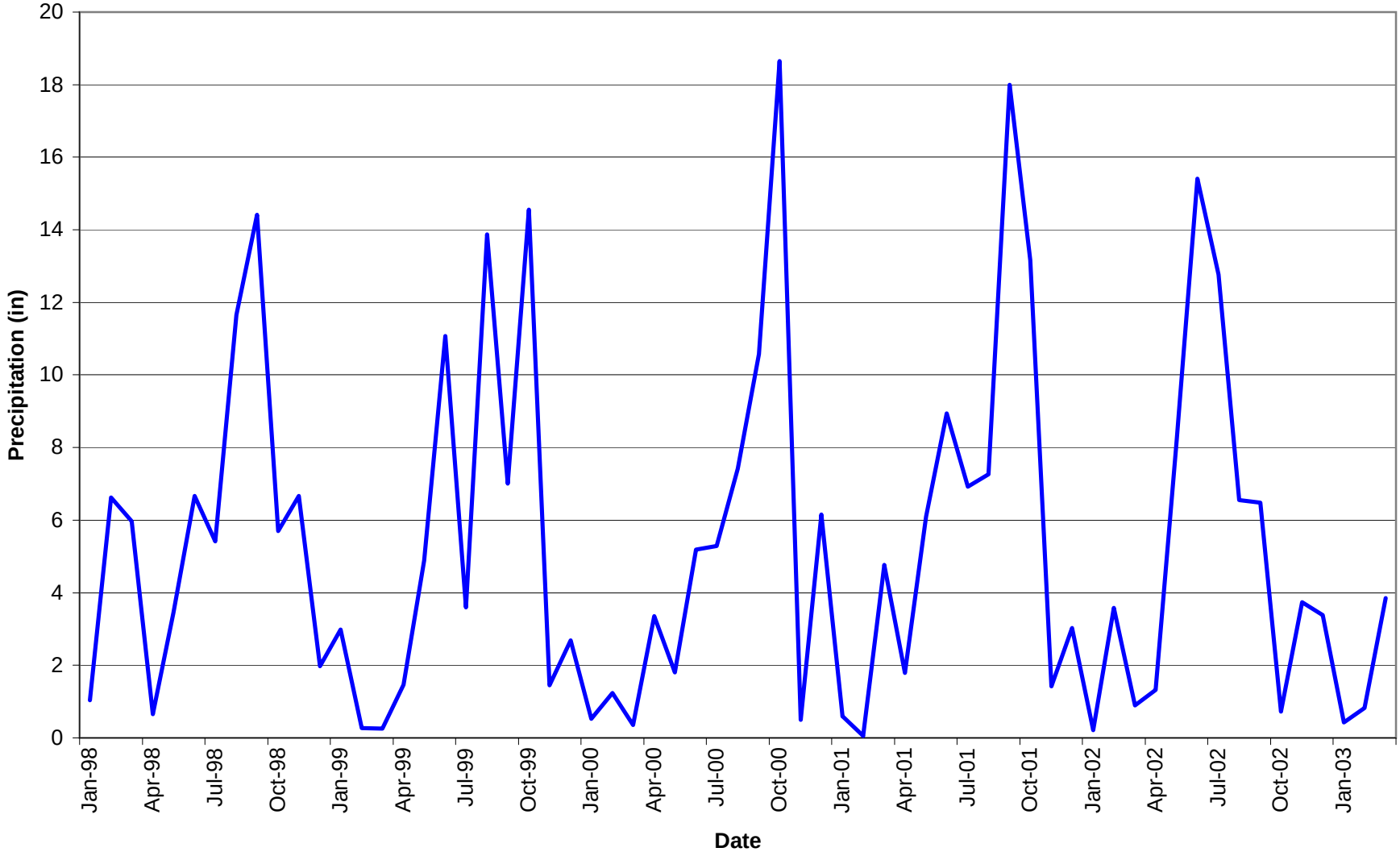

Figure 10. Percent Sunshine

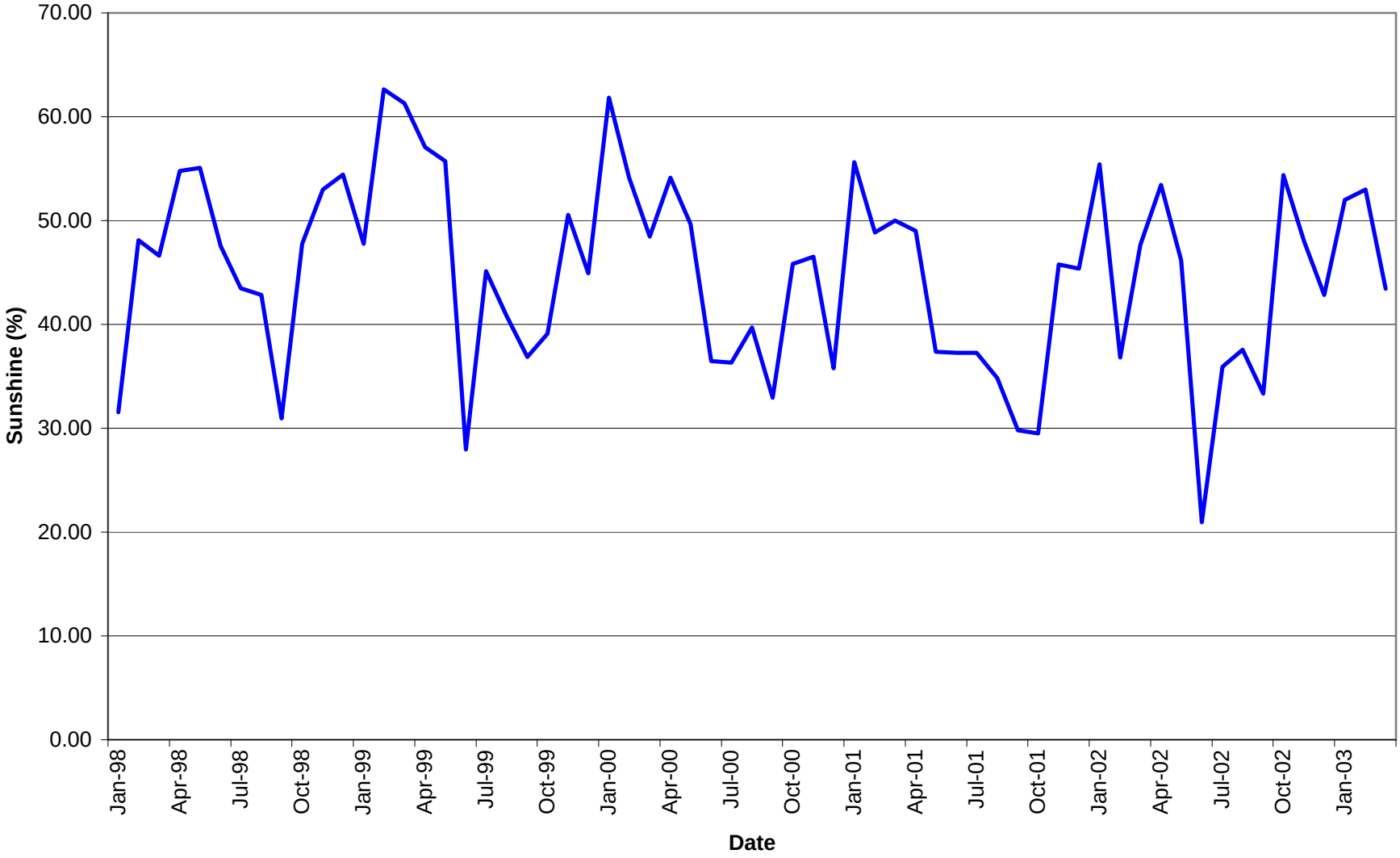

Figure 11. Turkey Point Historical Capacity Factors

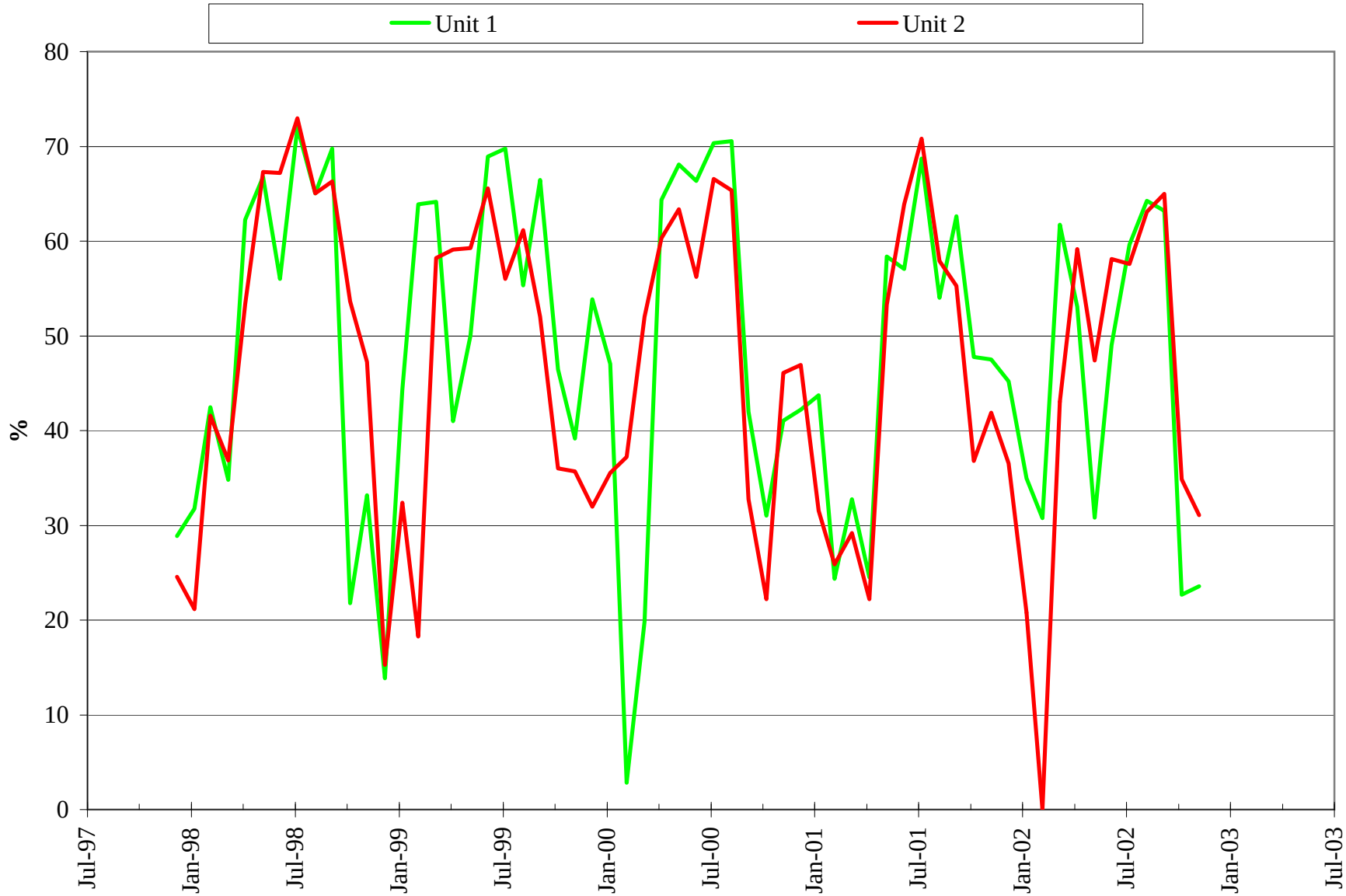

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Figure 12. Turkey Point Average Monthly Inlet Temperatures

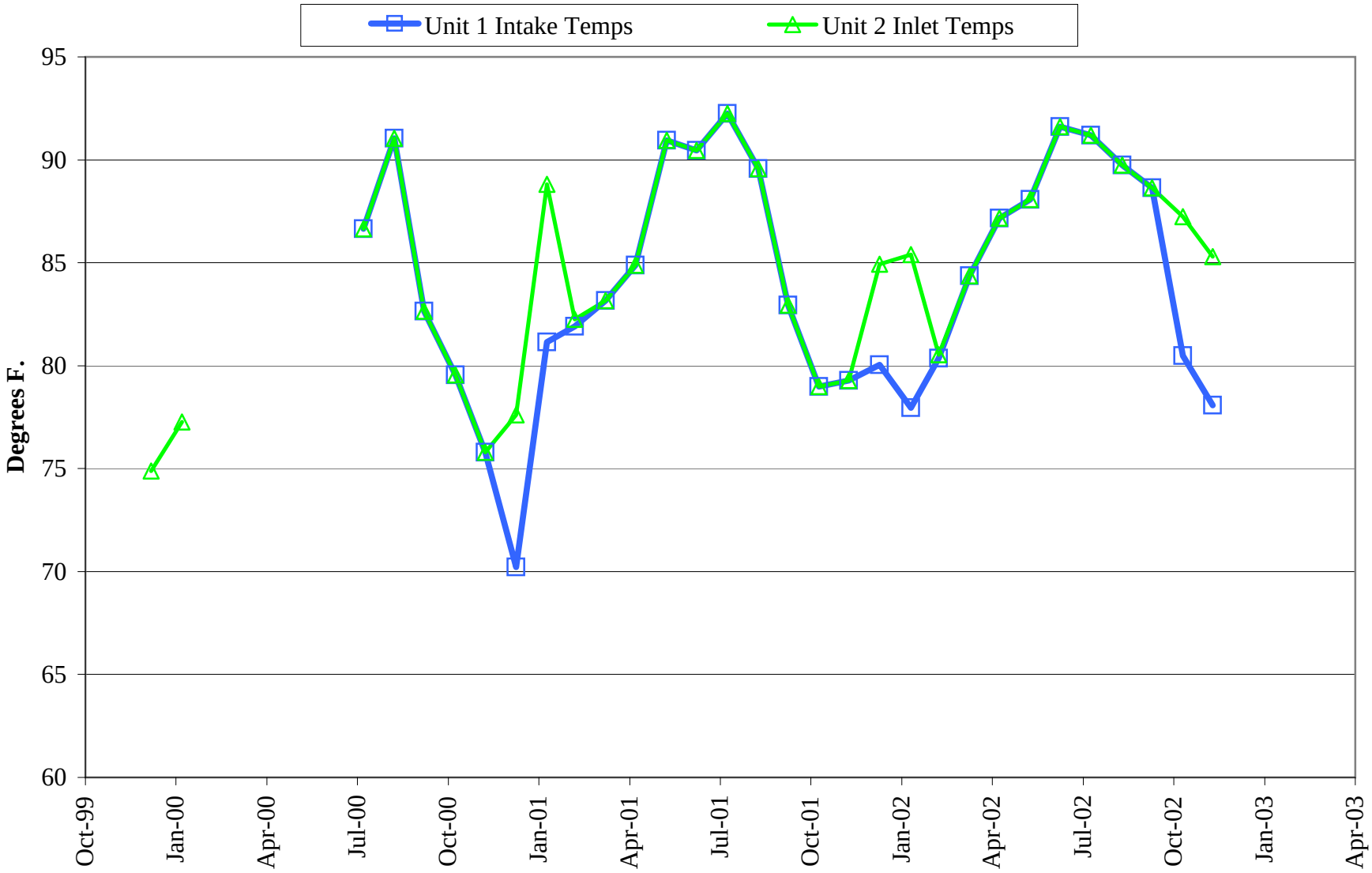

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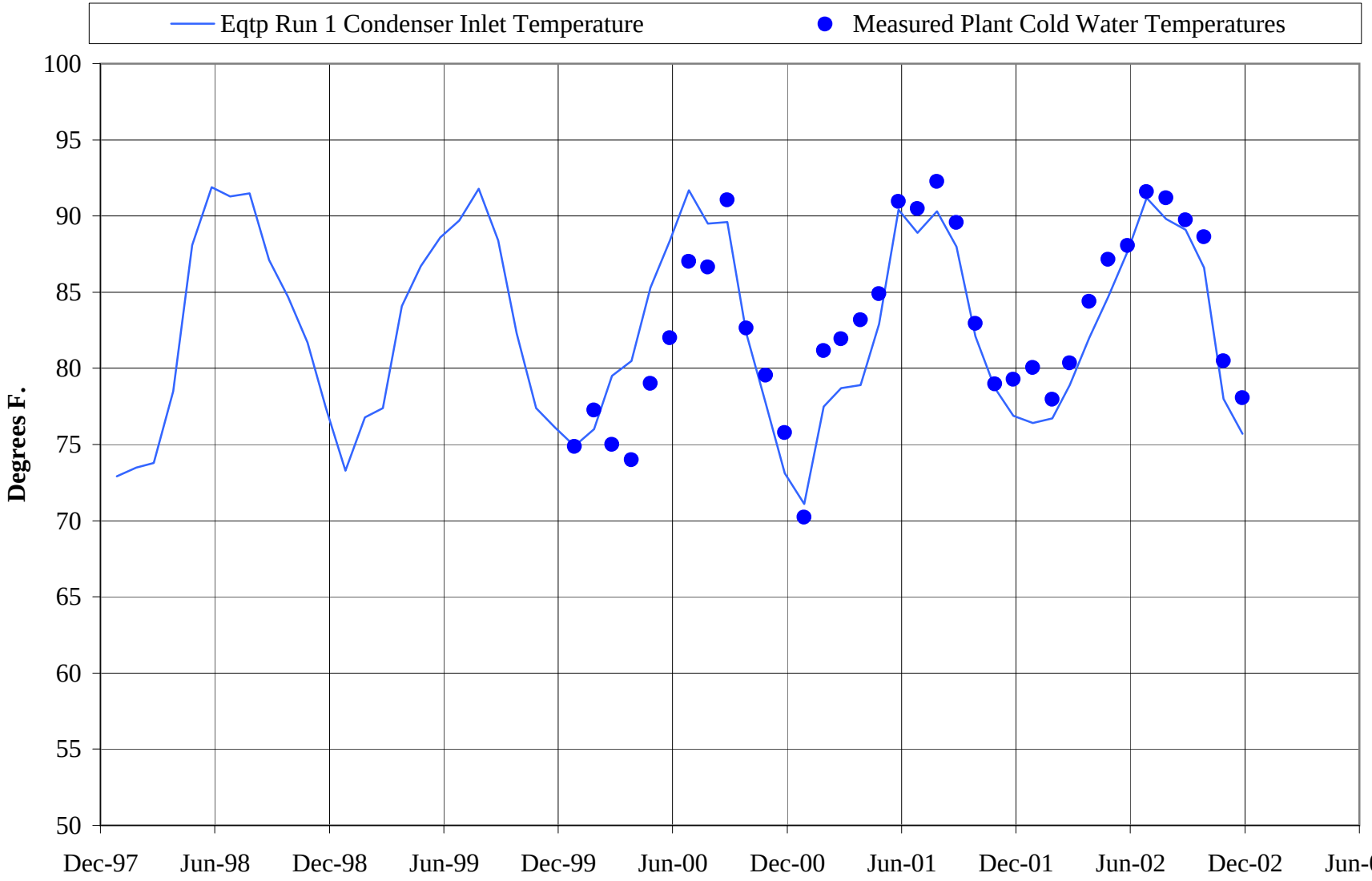
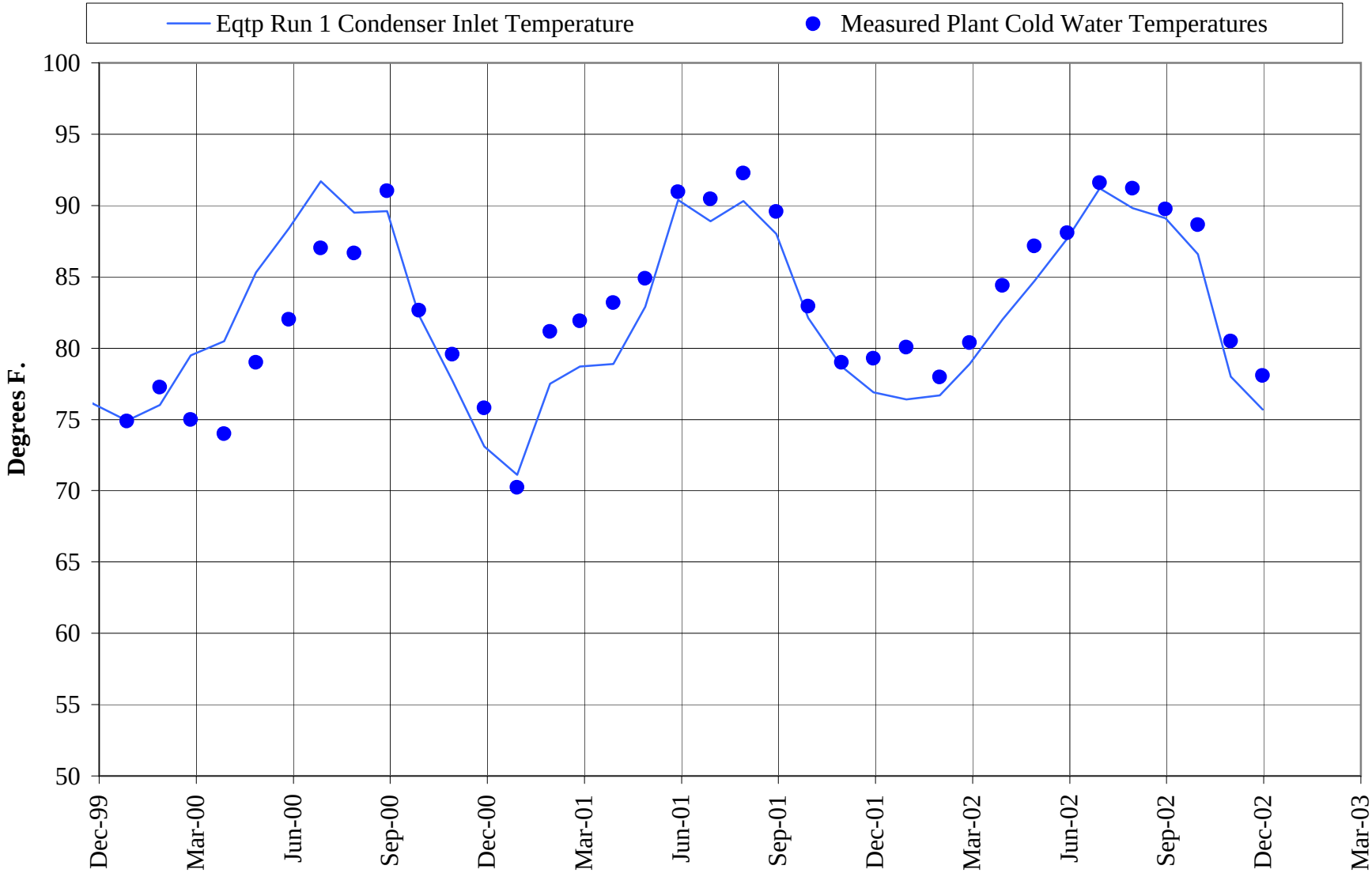
Figure 13. Predicted vs. Measured Cold Water Temperatures



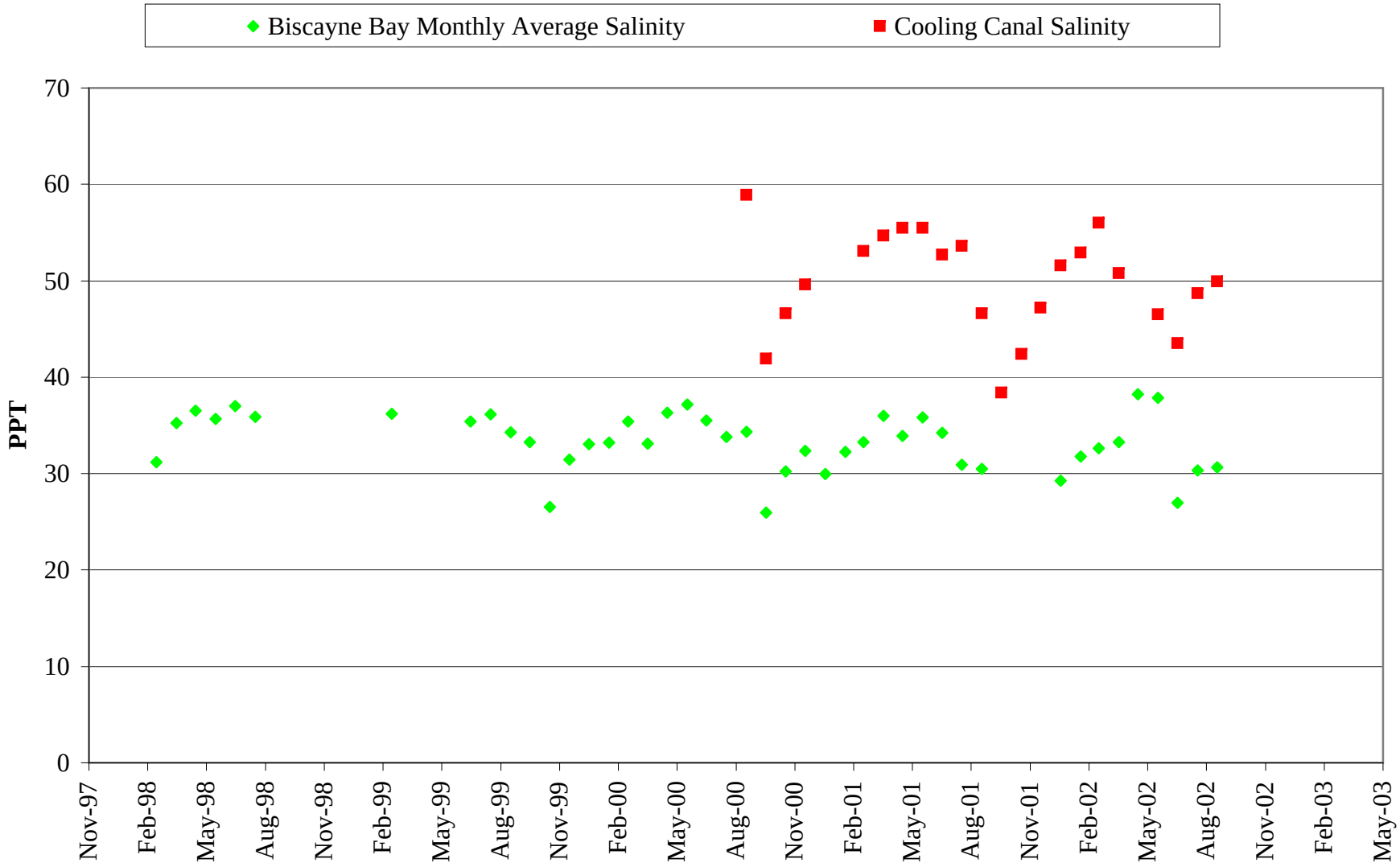
Figs13-14.xls

Figure 14. Predicted vs. Measured Cold Water Temperatures



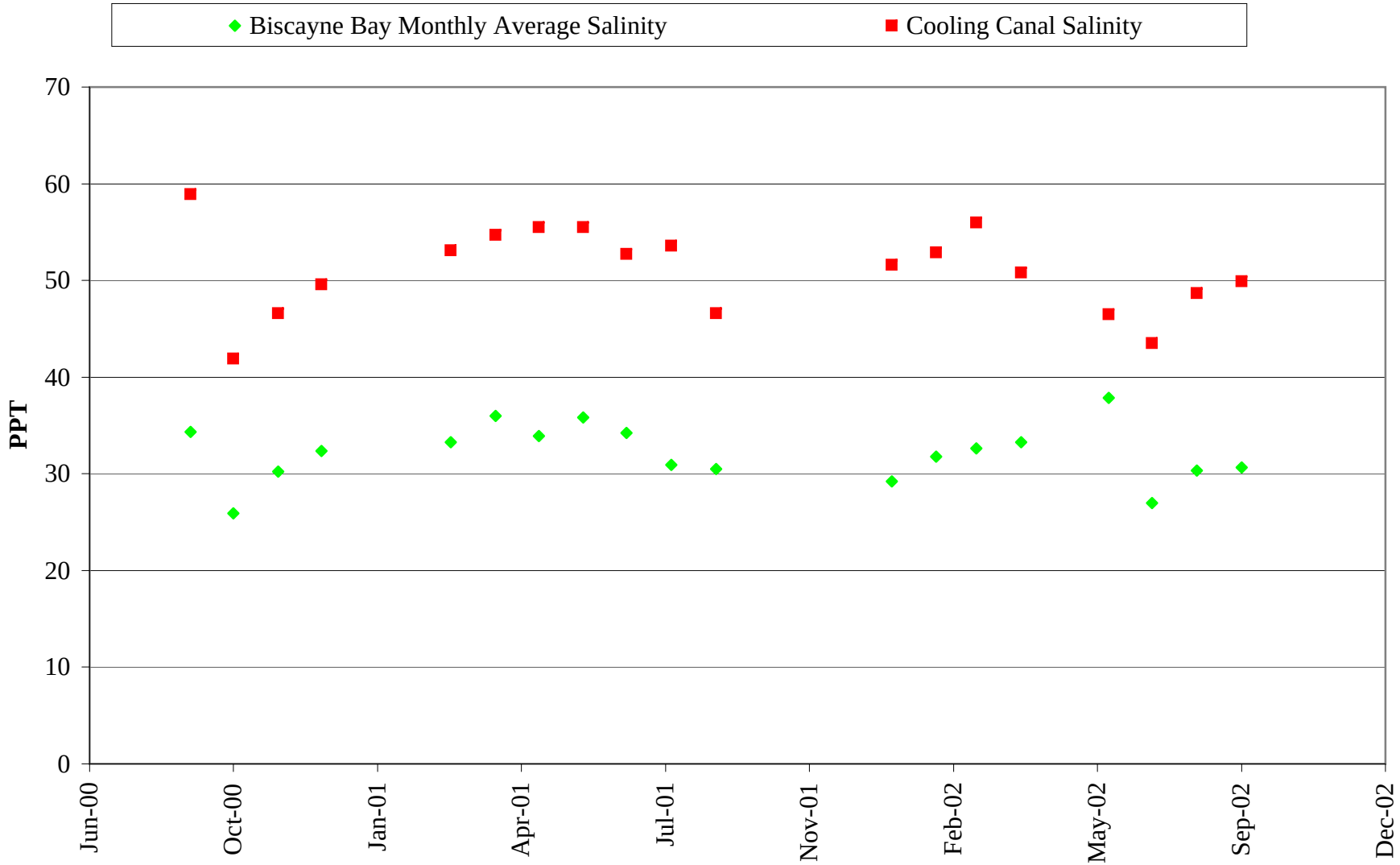
Figs13-14.xls

Figure 15. Cooling Canal and Biscayne Bay Salinity



Figures11-up.xls

Figure 16. Bay vs. Canals Salinity



Figures11-up.xls

Figure 17. Cooling Canal Salinity vs Biscayne Bay Salinity

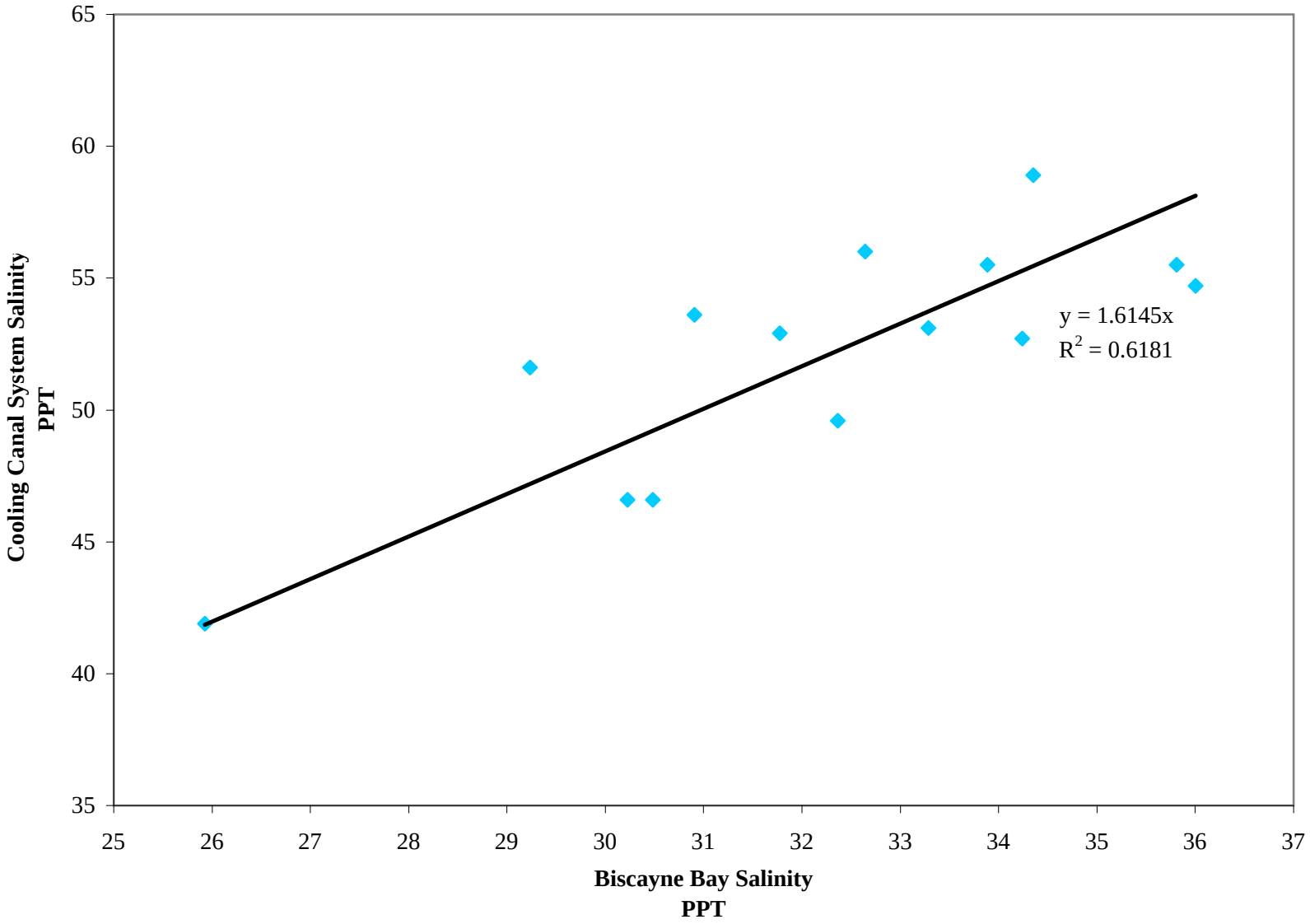


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Figure 18. Proposed Water Use Diagram

Average Flows in Acre-Feet Per Month

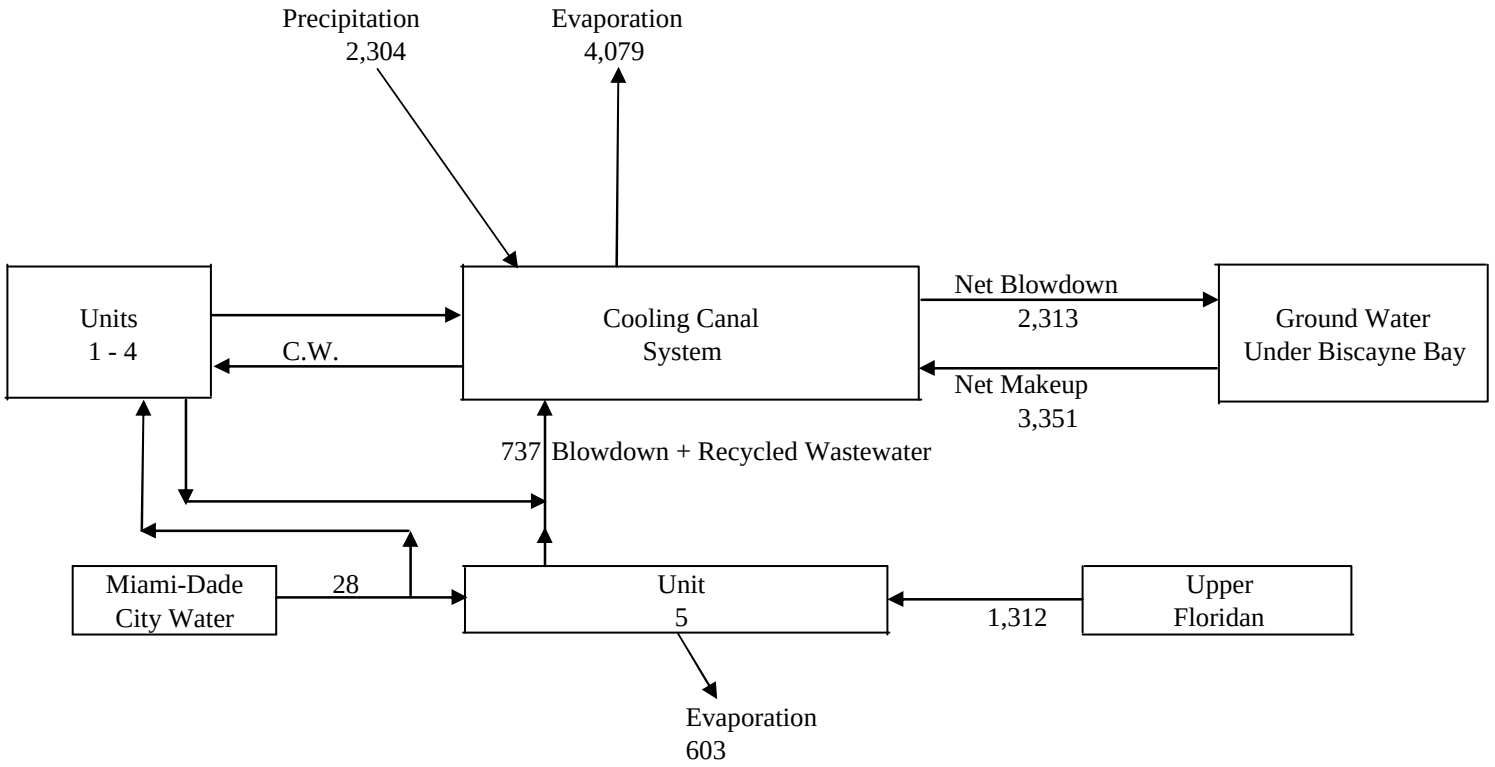

Figure 19
Predicted Temperatures 1998 through 2004

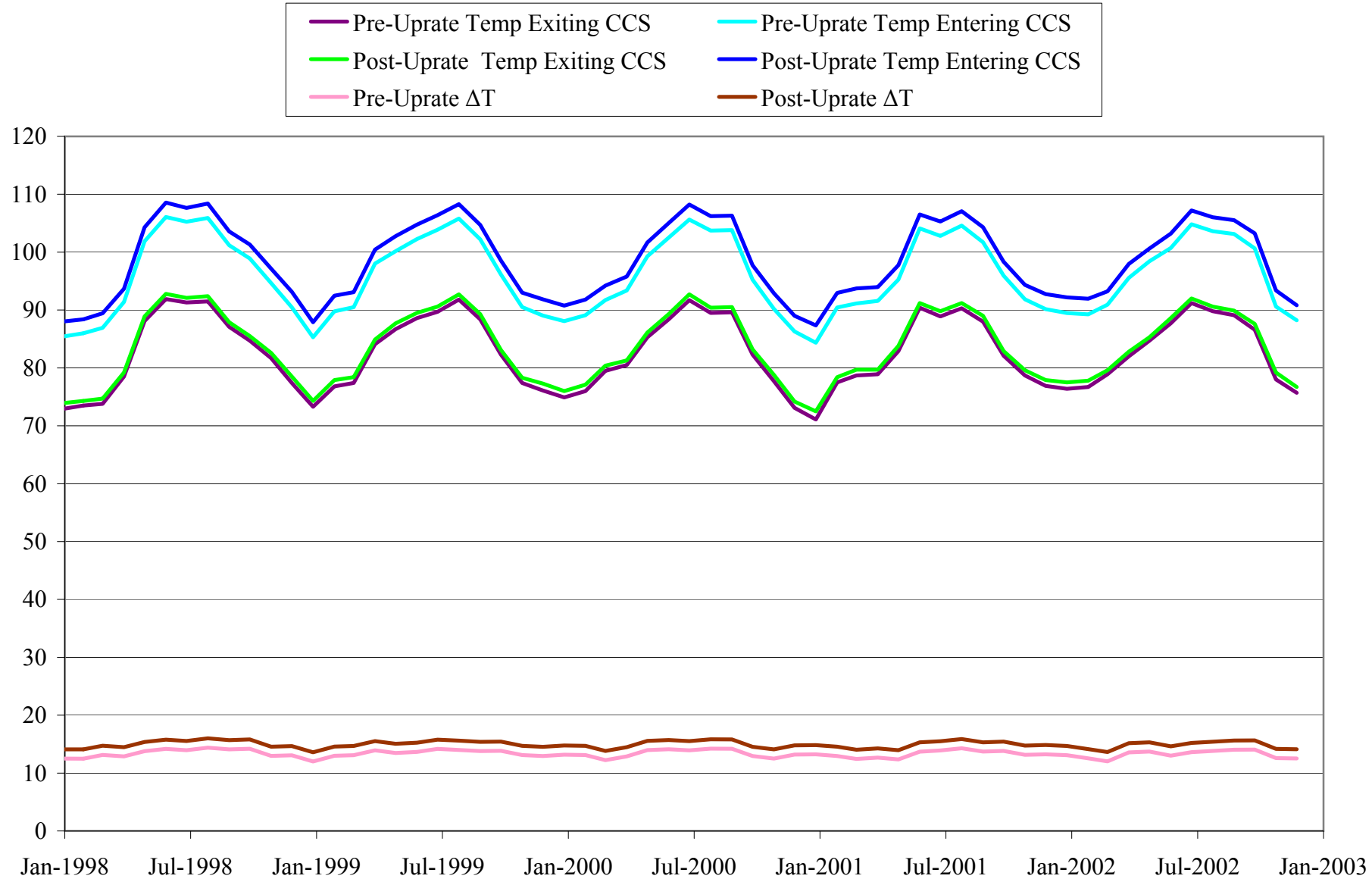

Figure 19.xls

Figure 20
Temperatures within Cooling Canals June 1998

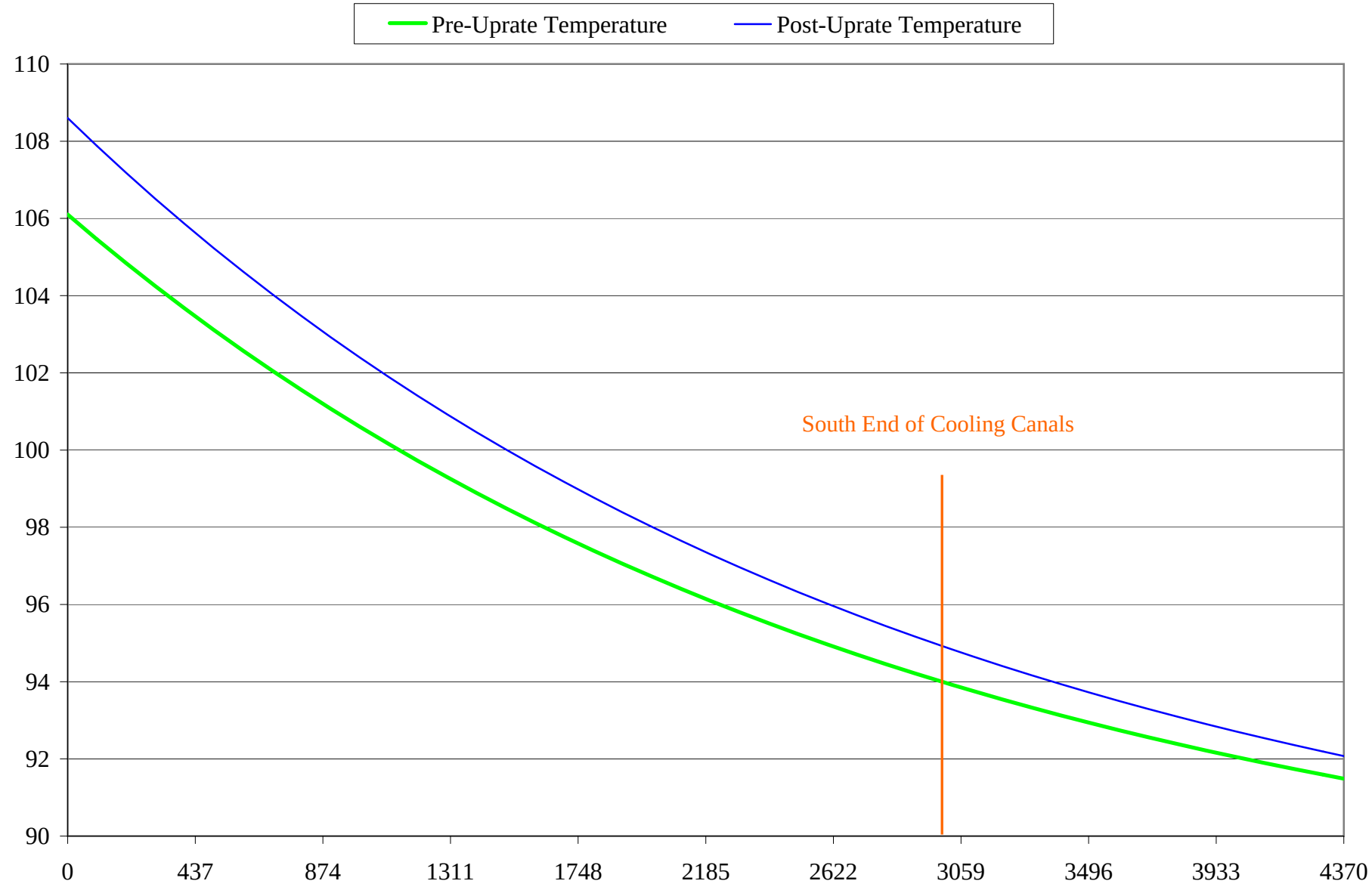

Figure 20.xls

APPENDIX 10.7

FPSC FINAL ORDER OF NEED

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for determination of need for expansion of Turkey Point and St. Lucie nuclear power plants, for exemption from Bid Rule 25-22.082, F.A.C., and for cost recovery through the Commission's Nuclear Power Plant Cost Recovery Rule, Rule 25-6.0423, F.A.C.	DOCKET NO. 070602-EI ORDER NO. PSC-08-0021-FOF-EI ISSUED: January 7, 2008

The following Commissioners participated in the disposition of this matter:

LISA POLAK EDGAR, Chairman
MATTHEW M. CARTER II
KATRINA J. McMURRIAN
NANCY ARGENZIANO
NATHAN A. SKOP

APPEARANCES:

BRYAN S. ANDERSON, ESQUIRE, R. WADE LITCHFIELD, ESQUIRE, MITCH ROSS, ESQUIRE, and JESSICA A. CANO, ESQUIRE, 700 Universe Boulevard, Juno Beach, Florida 33408-0420
On behalf of Florida Power & Light Company.

JENNIFER S. BRUBAKER, ESQUIRE, and KATHERINE E. FLEMING, ESQUIRE, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850
On behalf of the Florida Public Service Commission.

FINAL ORDER GRANTING PETITION FOR DETERMINATION OF NEED FOR PROPOSED EXPANSION OF NUCLEAR POWER PLANTS

BY THE COMMISSION:

Background

On September 17, 2007, Florida Power & Light Company (FPL) filed a petition for a determination of need for the proposed expansion of nuclear power plants in Dade and St. Lucie Counties. FPL filed its petition pursuant to Section 403.519, Florida Statutes (F.S.). FPL's proposal consists of the expansion ("uprate") of the electric generating capacity of its existing Turkey Point and St. Lucie nuclear power plants, in Dade and St. Lucie Counties, respectively. FPL's proposed uprate would increase the power output at Turkey Point, units 3 and 4, from approximately 700 megawatts (MW) to 804 MW per unit, for a two-unit total of about 208 MW. At St. Lucie, units 1 and 2, net electrical generation per unit is expected to increase from

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approximately 840 MW to 943 MW, for a two-unit total of 206 MW. FPL proposes to complete the uprate to all four nuclear units during separate outages beginning in 2011 and ending in 2012.

This matter was scheduled for a formal administrative hearing on December 10-13, 2007. No persons intervened in this docket, and no public testimony was presented at the hearing on December 10. At the hearing, after taking all evidence, we considered the proposed stipulations regarding the appropriate resolution of all issues identified for this proceeding. We approved the stipulated positions by a bench decision, thereby resolving all issues in this docket and granting FPL's petition for determination of need. This Order reflects our decision and serves as our report under the Power Plant Siting Act, as required by Section 403.507(4)(a), F.S.

Standard of Review

Section 403.519(4), Florida Statutes, sets forth those matters that we must consider in a proceeding to determine the need for the expansion of an existing electrical power plant, or the construction of a new nuclear power plant:

> In making its determination on a proposed electrical power plant using nuclear materials or synthesis gas produced by integrated gasification combined cycle power plant as fuel, the commission shall hold a hearing within 90 days after the filing of the petition to determine need and shall issue an order granting or denying the petition within 135 days after the date of the filing of the petition. The commission shall be the sole forum for the determination of this matter and the issues addressed in the petition, which accordingly shall not be reviewed in any other forum, or in the review of proceedings in such other forum. In making its determination to either grant or deny the petition, the commission shall consider the need for electric system reliability and integrity, including fuel diversity, the need for base-load generating capacity, the need for adequate electricity at a reasonable cost, and whether renewable energy sources and technologies, as well as conservation measures, are utilized to the extent reasonably available.

Findings

As discussed above, we were presented a series of stipulations which serve to address each of the issues that had been identified for hearing. We have reviewed the proposed stipulations, and find that they are appropriate based on the record development of this docket, and that they provide a reasonable resolution of the outstanding issues regarding FPL's petition. We, therefore, approve the stipulations set forth below.

Need for Electric System Reliability and Integrity

There is a need for the Turkey Point nuclear power plant ("PTN") and St. Lucie nuclear power plant ("PSL") uprates, taking into account the need for electric system reliability and integrity, as this criterion is used in Section 403.519(4), Florida Statutes. Without the uprates,

FPL's electric system reliability and integrity will be significantly reduced, and FPL will fail to meet its 20% reserve margin beginning in 2012, as shown in the table below.

Estimated Impact on FPL's Summer Reserve Margin		
Year	Reserve Margin w/o Uprates	Reserve Margin with Uprates
2010	22.6%	22.6%
2011	20.1%	20.1%
2012	17.8%	19.2%
2013	16.1%	17.9%
2014	14.2%	16.0%
2015	11.7%	13.4%

FPL has future resource needs of 490 MW of incremental capacity in 2012. All demand side management ("DSM") that is known to be cost-effective through 2013 is already reflected in FPL's 2006/2007 resource planning work, which identified this capacity need. Consequently, to meet FPL's summer reserve margin criterion of 20% through 2013, FPL needs new capacity in the form of power plant construction and/or purchases.

The data in the table above actually reflects an optimistic view by also including 287 MW of renewable energy purchases that are not yet certain. Three contracts for 143 MW from municipal solid waste facilities will expire in 2009-2010, but are assumed to be extendable. FPL is also analyzing three new proposals for a total of 144 MW of capacity beginning in 2011-2012. Even combined, the 287 MW of renewable generation does not significantly defer the need for additional capacity beyond the 2012 time frame.

As the table above shows, considering load projections today, the proposed uprates do not satisfy all reliability needs. Without the uprates, the gap between capacity and need becomes even larger.

Need for Fuel Diversity

There is a need for the PTN and PSL uprates, taking into account the need for fuel diversity, as this criterion is used in Section 403.519(4), Florida Statutes. Increasing nuclear generation through the nuclear uprates will enhance 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 analysis shows that the nuclear uprates would contribute to FPL's system supplying approximately 19% of its energy with nuclear-fueled energy by 2013. Likewise, with the uprates, natural gas-fueled production will decrease from 67% to 65%. Thus, the nuclear uprates contribute to improving and maintaining FPL's fuel diversity as well as decreasing reliance on natural gas as a fuel for electric generation. The diversification of fuel type, technology type and

transportation method provided by the uprates will enhance system reliability for FPL's customers.

Need for Baseload Generating Capacity

There is a need for the PTN and PSL uprates, taking into account the need for baseload generating capacity, as this criterion is used in Section 403.519(4), Florida Statutes. The uprates will add approximately 414 MW of nuclear-fueled baseload generating capacity, which is needed to keep pace with the increasing demand for reliable power and the steady growth that the state of Florida continues to experience.

Need for Adequate Electricity at a Reasonable Cost

There is a need for the PTN and PSL uprates, taking into account the need for adequate electricity at a reasonable cost, as this criterion is used in Section 403.519(4), Florida Statutes. The uprates will increase the amount of highly efficient nuclear-fueled generation on FPL's system, and will displace large amounts of higher-cost fossil fuel and purchase power generation, resulting in fuel savings that provide a net benefit (i.e., lower system cost) to customers. In addition, customers will benefit from reduced capacity costs due to the deferral effect of the nuclear uprates upon the timing of subsequent additional units in the 2014-2017 time period.

Furthermore, adding incremental capacity by uprating plants maximizes use of existing sites, as compared to constructing a generating plant of equivalent capacity at a new site. FPL already owns the necessary land at Turkey Point and St. Lucie, it is permitted for electric generation plants, and most of the necessary infrastructure is already in place. The proposed project precludes these costs at a new site.

No Mitigating Renewable Energy Sources and Technologies or Conservation Measures

There are no renewable energy sources and technologies or conservation measures taken by or reasonably available to FPL which might mitigate the need for the proposed expansion of the Turkey Point and St. Lucie nuclear power plants. FPL's forecasted need already accounts for all of the cost-effective DSM identified through the year 2014, plus a projection of continued DSM for the years 2015-2020. This DSM includes FPL's current Commission-approved DSM goals and a significant amount of additional DSM that FPL has identified as cost-effective, and we have since approved, since the current DSM goals were approved. Additional conservation measures cannot be implemented to eliminate the need for the PTN and PSL uprates.

For purposes of analysis, FPL's forecast assumed successful contracting for and delivery of 144 MW of renewable firm capacity bid in response to its 2007 request for proposals for renewable energy, and successful extension of 143 MW of renewable firm capacity from three expiring municipal waste-to-energy contracts. There are not sufficient additional renewable energy options to mitigate the need for the 414 MW of nuclear baseload capacity that will be provided by the uprates. The table previously shown in this Order shows the need for additional capacity even after including DSM and purchased power from renewable energy sources.

Most Cost-Effective Source of Power

The proposed uprates will provide the most cost-effective source of power, as this criterion is used in Section 403.519(4), Florida Statutes. 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 to support the uprates are estimated at $45 million.

To fully evaluate the system impacts of the nuclear uprates, FPL developed a long-term resource plan that included the uprates ("the Plan with Nuclear Uprates") and an alternate resource plan not including the nuclear uprates ("the Plan without Nuclear Uprates"). The Plan without Nuclear Uprates represents the addition of combined-cycle (CC) units that could be sited and receive permitting approval in the relative near term. FPL also utilized three different fuel cost forecasts and four different environmental compliance cost forecasts in its economic analysis to address the impacts of uncertainty in future fuel and environmental compliance costs. Because 3 of these 12 scenarios represent a highly unlikely combination of low natural gas costs and high CO_2 environmental compliance cost, FPL used 9 scenarios in its economic analysis. FPL's analysis shows that in eight of the nine economic scenarios comparing the generating technology choices represented in the two plans, the Plan with Nuclear Uprates is the most cost effective option. The estimate is that total net savings realized by customers are expected to range from $222 million to $963 million on a cumulative present value revenue requirement basis.

Proposed Expansion is Exempt from Rule 25-22.082, F.A.C.

The PTN and PSL uprates are within the definition of electrical power plants utilizing nuclear materials as fuel (see Sections 403.513(13), 403.506(1), and 366.93, Florida Statutes). Accordingly, pursuant to Section 403.519.(4)(c), the proposed uprates are exempt from Rule 25-22.082, Florida Administrative Code.

Rule 25-6.0423, F.A.C., Applicable to the costs of the Proposed Expansion

Rule 25-6.0423, F.A.C., is applicable to the costs of the proposed expansion of the Turkey Point and St. Lucie Nuclear Power Plants after the issuance of our order granting this determination of need. For example, if FPL were to file for recovery by May 1, 2008, as called for in Rule 25-6.0423(5)(c)(1)(b), F.A.C., carrying costs on construction that we determine to be reasonable and prudent pursuant to the Rule would be included for cost recovery purposes as a component of the 2009 Capacity Cost Recovery Factor in the annual Fuel and Purchased Power Cost Recovery proceeding, pursuant to Rule 25-6.0423(5)(c)(4), F.A.C.

Conclusion

Based on the resolution of the foregoing issues, and as more fully developed in FPL's prefiled testimony and its petition, we hereby find it appropriate and in the public interest to approve the proposed stipulations set forth above, and grant FPL's petition to determine the need for the proposed expansion of the Turkey Point and St. Lucie Nuclear Power Plants.

Based on the foregoing, it is therefore

ORDERED by the Florida Public Service Commission that Florida Power & Light Company's petition for determination of need for expansion of Turkey Point and St. Lucie nuclear power plants is hereby approved. It is further

ORDERED that this docket shall be closed.

By ORDER of the Florida Public Service Commission this 7th day of January, 2008.

ANN COLE
Commission Clerk

(SEAL)

JSB

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.569(1), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing or judicial review will be granted or result in the relief sought.

Any party adversely affected by the Commission's final action in this matter may request: 1) reconsideration of the decision by filing a motion for reconsideration with the Office of Commission Clerk, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, within five (5) days of the issuance of this order in the form prescribed by Rule 25-22.060, Florida Administrative Code; or 2) judicial review by the Florida Supreme Court in the case of an electric, gas or telephone utility or the First District Court of Appeal in the case of a water and/or wastewater utility by filing a notice of appeal with the Office of Commission Clerk, and filing a copy of the notice of appeal and the filing fee with the appropriate court. This filing must be completed within thirty (30) days after the issuance of this order, pursuant to Rule 9.110, Florida Rules of Appellate Procedure. The notice of appeal must be in the form specified in Rule 9.900(a), Florida Rules of Appellate Procedure.