

STATE OF FLORIDA
SITING BOARD

DEP0 5-0 1 7 1

IN RE: FLORIDA POWER & LIGHT	)	
TURKEY POINT UNIT 5 POWER PLANT	)	OGC CASE NO. 03-2062
SITING APPLICATION NO. PA03-45	)	DOAH CASE NO. 03-4391EPP

FINAL ORDER OF CERTIFICATION

On November 18, 2004, an administrative law judge with the Division of Administrative Hearings ("DOAH") submitted his Recommended Order in this site certification proceeding. The Recommended Order indicates that copies were served upon counsel for Florida Power & Light Company ("FPL"), Florida Department of Environmental Protection ("DEP"), Miami-Dade County ("County"), South Florida Water Management District ("District"), and other designated state and regional agencies. A copy of the Recommended Order is attached as Exhibit A. The matter is now before the Governor and Cabinet, sitting as the "Siting Board," for final agency action under the Florida Electrical Power Plant Siting Act ("PPSA") embodied in §§ 403.501-403.518, Florida Statutes.

BACKGROUND

FPL, the largest electric utility in Florida, serves more than four million customers and a population of eight million people in 35 counties along the eastern seaboard and the southern and southwestern portions of the State of Florida. FPL operates various electrical power plants in Florida, including its existing Turkey Point Power Plant in Miami-Dade County (the "Plant"). The Plant site, approximately 11,000 acres in size, is located south of Miami and east of Homestead in an unincorporated area of the County. The nearest residential neighborhood is over five miles away from the Project site.

The existing Units 1 and 2 at the Plant site are fossil fuel-fired steam generating units, with an electrical output of approximately 400 megawatts each. These two units burn residual fuel oil and/or natural gas. The existing Units 3 and 4 at the Plant site are nuclear-fueled steam electric generating units, with a capacity of approximately 700 megawatts each. The Plant site has a current total generating capacity of approximately 2,200 megawatts.

This proceeding involves an application by FPL for the addition of a new combined-cycle generating unit at the existing Plant site ("Unit 5" or the "Project"). The new Unit 5 will consist of four combustion turbines, four heat recovery steam generators, and a steam turbine having a

total generating capacity of approximately 1,150 megawatts. The primary fuel for Unit 5 will be natural gas, and ultra-low-sulfur light oil will be used as a backup fuel. The Project site encompasses approximately 90 acres of land located north of existing Units 1-4 within the current Plant site. The Florida Public Service Commission issued an order pursuant to § 403.519, Florida Statutes, determining the need for the Unit 5 Project as proposed by FPL.

DOAH PROCEEDINGS

In April of 2004, Administrative Law Judge, J. Lawrence Johnston (the "ALJ"), held a land use hearing pursuant to subsections 403.508(1) & (2) of the PPSA. On May 7, 2004, the ALJ entered a Recommended Land Use Order concluding that the Project is consistent and in compliance with the applicable land use plans and zoning ordinances of the County. The ALJ's Recommended Land Use Order was subsequently approved in its entirety by the Siting Board.

On July 14, 2004, DEP issued its Staff Analysis Report on the Project incorporating the reports of other reviewing agencies and recommending certification of Unit 5, subject to certain Conditions of Certification. On September 1, 2004, a Prehearing Stipulation addressing the Unit 5 certification issues was filed with DOAH on behalf of FPL, DEP, the County, the District, the Florida Department of Transportation, and the Florida Department of Community Affairs (the "Parties"). The Parties to this Prehearing Stipulation supported certification of the Project, subject to appropriate Conditions of Certification. The appropriate Conditions of Certification were agreed to by all of the Parties, except for the County. The County contended that the Conditions of Certification in the Prehearing Stipulation needed to be revised and supplemented.

On September 20-21, 2004, the ALJ held a duly-noticed site certification final hearing on the Project as required by § 403.508(3) of the PPSA. The purpose of the certification hearing was to receive evidence on the issue of whether the Project is entitled to site certification pursuant to the criteria set forth in §§ 403.502 of the PPSA. Among the evidence presented by the Parties at the certification hearing was a Joint Exhibit 1 containing revised and updated Conditions of Certification agreed to by the Parties. However, the County asserted at the commencement of the certification hearing that the Conditions of Certification in Joint Exhibit 1 should be supplemented. The County proposed that FPL be required to perform more groundwater modeling to further assess the impact on existing legal users of FPL's proposed withdrawals from the Upper Floridan Aquifer.

On November 18, 2004, the ALJ entered a Recommended Order in this proceeding. The ALJ found that FPL's proposed withdrawals from the Upper Floridan Aquifer will not adversely impact any existing legal users, including the County, and thus no additional groundwater modeling is required. The ALJ also concluded that, based on the evidence presented at the final hearing, FPL had demonstrated that the Project meets all the criteria for certification under the PPSA. The ALJ ultimately recommended that the Siting Board grant final certification of the Unit 5 Project, subject to the Conditions of Certification contained in Joint Exhibit 1.

CONCLUSION

The record is devoid of any objections to site certification of FPL's Unit 5 Project by any state, regional, or local agency, except for the County. Furthermore, no Exceptions to the Recommended Order of certification were filed by any of the Parties or other entities. Consequently, the County failed to object to the portions of the ALJ's Recommended Order rejecting the County's contention that FPL should be required to perform more modeling to further assess the impact of the proposed withdrawals from the Upper Floridan Aquifer. Based on a review of the record in this proceeding, the Siting Board concludes that site certification of the Unit 5 Project meets the criteria established in Section 403.502 of the PPSA, and that site certification should be approved.

It is therefore ORDERED:

A. The ALJ's Recommended Order of certification (Exhibit A) is adopted in its entirety and incorporated by reference herein.

B. Certification of the location, construction, and operation of the Unit 5 Project, as described in FPL's certification application and in the evidence presented at the final hearing, is APPROVED, subject to the Conditions of Certification set forth in Joint Exhibit 1, which are incorporated by reference herein.

C. Authority to assure and enforce compliance by FPL and its agents with all of the Conditions of Certification imposed by this Final Order is hereby delegated to DEP, except that any proposed modification to burn a fuel other than natural gas and/or ultra-low sulfur light oil shall be reviewed by the Siting Board.

Any party to this proceeding has the right to seek judicial review of this Final Order 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

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing Certification Order has been sent by United States Postal Service to:

James V. Antista, Esquire
Florida Fish and Wildlife
Conservation Commission
620 South Meridian Street
Bryant Building, Room 108
Tallahassee, FL 32399-1600

Samuel S. Goren, Esquire
South Florida Water
Management District
3099 East Commercial Boulevard
Suite 200
Hollywood, FL 33021-4311

Mary Anne Helton, Esquire
Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

John D. McInnis, Esquire
Metropolitan Dade County
111 Northwest First Street, Suite 2810
Maimi, FL 33128-1930

Heidi M. Hughes, General Counsel
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100

Sheryl Wood, Esquire
South Florida Water Management District
Post Office Box 24680
West Palm Beach, FL 33416

Peter C. Cunningham, Esquire
Douglas S. Roberts, Esquire
Hopping, Green and Sams, P.A.
Post Office Box 6526
Tallahassee, FL 32314-6526

Harris M. Rosen, Esquire
Corporate Counsel
Florida Power & Light Company
Post Office Box 14000
Juno Beach, FL 33408

Ann Cole, Clerk and
J. Lawrence Johnston, Administrative Law Judge
Division of Administrative Hearings
The DeSoto Building
1230 Apalachee Parkway
Tallahassee, FL 32399-1550

Sheauching Yu, Esquire
Department of Transportation
Haydon Burns Building
605 Suwannee Street
Mail Station 58
Tallahassee, FL 32399-0450

and by hand delivery to:

Scott A. Goorland, Esquire
Department of Environmental Protection
3900 Commonwealth Blvd.
Mail Station 35
Tallahassee, FL 32399-3000

this 8th day of February, 2005.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

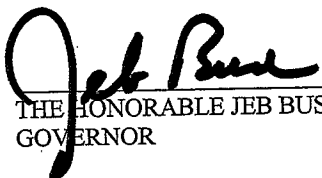

J. TERRELL WILLIAMS
Assistant General Counsel

3900 Commonwealth Blvd., M.S. 35
Tallahassee, FL 32399-3000
Telephone 850/245-2242

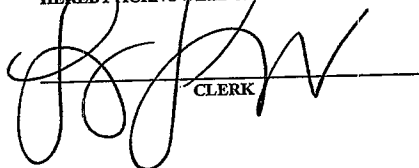
General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000;
and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the
appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from
the date this Final Order is filed with the clerk of the Department.

DONE AND ORDERED this 7th day of February 2005, in Tallahassee, Florida,
pursuant to a vote of the Governor and Cabinet, sitting as the Siting Board, at a duly noticed and
constituted Cabinet meeting held on February 1st, 2005.

THE GOVERNOR AND CABINET
SITTING AS THE SITING BOARD


THE HONORABLE JEB BUSH
GOVERNOR

FILED ON THIS DATE PURSUANT TO § 120.52,
FLORIDA STATUTES, WITH THE DESIGNATED
DEPARTMENT CLERK, RECEIPT OF WHICH IS
HEREBY ACKNOWLEDGED.


CLERK

2/8/2005
DATE

CONDITIONS OF CERTIFICATION

PA 03-45

FLORIDA POWER & LIGHT COMPANY

TURKEY POINT UNIT 5 ELECTRIC POWER GENERATION FACILITY

I. CERTIFICATION CONTROL

A. Under the control of these Conditions of Certification the Florida Power & Light Company (FPL) may construct and operate a 1,150 MW (nominal) facility consisting of four new 170 MW natural gas fired combustion turbines with light oil as back-up fuel, four heat recovery steam generators and one 470 MW steam turbine. This will bring the total generating capacity of the Turkey Point site to 3,350 MW (nominal). The new unit will be located on approximately 90 acres of the existing 11,000 acres Turkey Point site in Miami-Dade County, Florida.

B. These Conditions of Certification, unless specifically amended or modified, are binding upon the Licensee and shall apply to the construction and operation of the certified facility. If a conflict should occur between the design criteria of this project and the Conditions of Certification, the Conditions shall prevail unless amended or modified. In any conflict between any of these Conditions of Certification, the more specific condition governs.

II. APPLICABLE RULES

The construction and operation of the certified facility shall be in accordance with all applicable provisions of Florida Statutes and Florida Administrative Code, including, but not limited to, the following regulations: Chapters 403 and 373, Florida Statutes (F.S.), and Chapters 40E-1, 40E-4, 40E-40, 40E-45, 62-4, 62-17, 62-256, 62-296, 62-297, 62-301, 62-302, 62-531, 62-532, 62-550, 62-555, 62-560, 62-600, 62-601, 62-604, 62-610, 62-620, 62-621, 62-650, 62-699, 62-660, 62-701, 62-762, 62-767, 62-769, and 62-770, Florida Administrative Code (F.A.C.), or their successors as they are renumbered.

III. DEFINITIONS

The meaning of terms used herein shall be governed by the definitions contained in Chapters 373 and 403, Florida Statutes, and any regulation adopted pursuant thereto. In the event of any dispute over the meaning of a term used in these conditions which is not defined in such statutes or regulations, such dispute shall be resolved by reference to the most relevant definitions contained in any other state or federal statute or regulation

or, in the alternative by the use of the commonly accepted meaning as determined by the Department. In addition, the following shall apply:

- A. "DERM" shall mean the Department of Environmental Resources Management of Miami-Dade County, Florida.
- B. "DCA" shall mean the Florida Department of Community Affairs.
- C. "DEP" or "Department" shall mean the Florida Department of Environmental Protection.
- D. "DHR" shall mean the Florida Department of State, Division of Historical Resources.
- E. "Feasible" or "practicable" shall mean reasonably achievable considering a balance of land use impacts, environmental impacts, engineering constraints, and costs.
- F. "FWCC" shall mean the Florida Fish and Wildlife Conservation Commission.
- G. "IWW Permit" shall mean the Florida Industrial Wastewater permit issued by the Department in accordance with the federal Clean Water Act.
- H. "Licensee" shall mean an applicant which has obtained a certification order for the subject electrical power plant.
- I. "NPDES permit" shall mean any federal National Pollutant Discharge Elimination System permit issued in accordance with the federal Clean Water Act.
- J. "NSPS" shall mean new source performance standards as identified in 40 CFR 60.
- K. "Power plant", "facility", or "project" shall mean an electrical power generating plant as defined in Section 403.503(12), F.S. and as described in the Site Certification Application.
- L. "PSD permit" shall mean the federal Prevention of Significant Deterioration air emissions permit issued in accordance with the federal Clean Air Act.
- M. "Title III permit" shall mean any federal permit issued in accordance with Title III of the federal Clean Air Act (Hazardous Air pollutants).
- N. "Title IV permit" shall mean any federal permit issued in accordance with Title IV of the federal Clean Air Act (Acid Rain).

O. "Title V permit" shall mean any federal permit issued in accordance with Title V of the federal Clean Air Act (Operation).

P. "SED" shall mean the Department's Southeast District Office.

Q. "SFWMD" shall mean the South Florida Water Management District.

R. "WASD" shall mean the Water and Sewer Department of Miami-Dade County, Florida.

IV. Facility Operation

The Licensee shall at all times properly operate and maintain the Turkey Point Unit 5 facility and related appurtenances, and systems of treatment and control that are installed and used to achieve compliance with the conditions of this certification, and 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 approval and when required by Department rules.

Any directly associated linear facilities connecting the collector yard to the switchyard shall be maintained in accordance with the site certification application and any appropriate state and federal regulations concerning use of herbicides. The Licensee shall notify the Southeast District of the Department and the Siting Coordination Office of the type of herbicides to be used at least 60 days prior to their first use.

V. Records Maintained at the Facility

A. These Conditions of Certification or a copy thereof shall be kept at the work site of the approved activity.

B. The Licensee shall hold at the facility, or other location designated by this approval, records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation required by this approval, copies of all reports required by this approval, and records of all data used to complete the application for this approval. These materials shall be retained at least three (3) years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule. The Licensee shall provide copies of these records to the Department upon request. If the Licensee becomes aware of relevant facts that were not submitted or were incorrect in any report to the Department, such facts or information shall be promptly submitted or corrected.

VI. Change in Discharges or Emissions

All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge or emission of any pollutant not identified in the application, or more frequently than, or at a level in excess of that

authorized herein, shall constitute a violation of the certification. Any anticipated facility expansions, production increases, or process modifications which may result in new, different or increased discharge or emission of pollutants, change in fuel, or expansion in steam generating capacity must be reported by submission of an appropriate application for certification or modification.

VII. Compliance

A. The Licensee shall comply with all rules adopted by the Department subsequent to the issuance of this certification, which prescribe new or stricter criteria to the extent that the rules are applicable to electric power plants. Except where express variances have been granted, subsequently adopted rules which prescribe new or stricter criteria, which are applicable to electrical power plants, shall operate as a modification pursuant to Section 403.511(5)(a), F.S.

B. Pursuant to Section 403.511(5)(b), F.S., upon written notification to the Department's Siting Coordination Office, the Licensee may choose to operate in compliance with any rule subsequently adopted by the Department which prescribes criteria more lenient than the criteria required by the terms and conditions in this certification, so long as this operation causes no violation of standards or these Conditions of Certification.

C. If, for any reason, the Licensee does not comply with or is unable to comply with any limitation specified in this certification, the Licensee shall notify the Southeast District Office of the Department by telephone during the working day that said noncompliance occurs. After normal business hours, the Licensee shall report any condition that poses a public health threat to the State Warning Point at telephone number (850) 413-9911 or (850) 413-9912. The Licensee shall confirm this situation to the Southeast DEP District Office in writing within seventy-two (72) hours of becoming aware of such conditions and shall supply the following information:

1. A description of the discharge and cause of noncompliance; and,
2. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and,
3. Steps being taken to reduce, eliminate and prevent recurrence of the non-complying event.

D. The Licensee shall take all reasonable steps to minimize any adverse impact resulting from noncompliance with any limitation specified in this certification, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying event.

VIII. Right of Entry

The Licensee shall allow authorized agency personnel, including but not limited to representatives of the Florida Department of Environmental Protection, and/or Water Management District, 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:

A. To enter upon the Licensee's premises where an effluent source is located or in which records are required to be kept under the terms and conditions of this permit; and

B. To have access to and copy any records required to be kept under the conditions of this certification; and

C. To inspect the facilities, equipment, practices, or operations regulated or required under these Conditions; and

D. To sample or monitor any substances or parameters at any location necessary to assure compliance with these Conditions of Certification or Department rules.

IX. Enforcement

A. The terms, conditions, requirements, limitations and restrictions set forth in these Conditions of Certification are binding and enforceable pursuant to Sections 403.141, 403.161, 403.514, 403.727, and 403.859 through 403.861, F.S. Any noncompliance with a condition of certification or condition of a federally delegated or approved permit constitutes a violation of chapter 403, F.S., and is grounds for enforcement action, permit termination, permit revocation, or permit revision. The Licensee is placed on notice that the Department will review this certification periodically and may initiate enforcement action for any violation of these conditions.

B. All records, notes, monitoring data and other information relating to the construction or operation of this certified source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the certified source arising under the Florida Statutes or Department rules, except where such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

X. Revocation or Suspension

This certification may be suspended or revoked pursuant to Section 403.512, Florida Statutes, or for violations of any of these Conditions of Certification.

XI. Civil and Criminal Liability

This certification does not relieve the Licensee from civil or criminal penalties for noncompliance with any conditions of this certification, applicable rules or regulations of

the Department, or any other state statutes or regulations which may apply. As provided in Section 403.511, F.S., the issuance of this certification does not convey neither any vested rights nor any exclusive privileges. Neither does it authorize any injury to human health or welfare, animal or plant life, public or private property or any invasion of personal rights. This certification does not allow any infringement of federal, state, or local laws or regulations, nor does it allow the Licensee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department or these Conditions of Certification. This approval is not a waiver of any other Department approval that may be required for other aspects of the total project under federally delegated or approved programs.

XII. Property Rights

The issuance of this certification does not convey any property rights in either real or personal property, or any exclusive privileges thereto. The applicant shall obtain title, lease, easement, or right of use from the State of Florida to any sovereign submerged lands utilized by the project.

XIII. Severability

The provisions of this certification are severable, and if any provision of this certification, or the application of any provision of this certification to any circumstances, is held invalid, the application of such provision to other circumstances and the remainder of the certification shall not be affected thereby.

XIV. Procedural Rights

No term or condition of certification shall be interpreted to preclude the post-certification exercise by the Licensee of whatever procedural rights it may have under Chapter 120, F.S.

XV. Modification of Conditions

Pursuant to Section 403.516(1), F.S., Section 120.569(2)(n), F.S., and Rule 62-17.211, F.A.C., the Siting Board hereby delegates the authority to the Secretary of the Department of Environmental Protection to modify these Conditions of Certification:

A. The certification shall be modified to conform to subsequent DEP-issued amendments, modifications, or renewals of any separately issued Prevention of Significant Deterioration (PSD) permit, Title V Air Operation permit, Underground Injection Control (UIC) permit, or National Pollutant Discharge Elimination System (NPDES) permit for the project. In the event of a conflict, the more stringent of the conditions of such permits or of these Conditions of Certification shall be controlling.

B. The Secretary of the Department may modify any condition of this certification except those pertaining to a change in fuel.

C. The Secretary of the Department may modify any condition of this certification if the Secretary finds that an immediate danger to the public health, safety, or welfare requires the issuance of an immediate final order temporarily modifying these Conditions of Certification. If the Secretary elects to exercise this delegated authority, the Secretary shall prepare an immediate final order that recites with particularity the facts underlying the Secretary's finding of an immediate danger to the public health, safety, or welfare. The immediate final order and the modification to the Conditions of Certification shall be effective only for so long as is necessary to address the immediate danger and shall be applicable or enjoined from the date rendered.

D. In the event of a prolonged [thirty (30) days or more] equipment malfunction or shutdown of pollution control equipment, the Secretary of the Department may allow facility operation to resume and continue to take place under an immediate final order temporarily modifying these Conditions of Certification, provided that the Licensee demonstrates that such operation will be in compliance with all applicable ambient air quality standards and PSD increments, water quality standards and rules, solid waste rules, domestic wastewater rules and industrial wastewater rules. During such malfunction or shutdown, the operation of the facility shall comply with all other requirements of this certification and all applicable state and federal emission and effluent standards not affected by the malfunction or shutdown.

XVI. Transfer of Certification

This certification is transferable only upon Department approval in accordance with Section 403.516, F.S., and Rule 62-17.211(3), F.A.C. The Licensee shall be liable for any noncompliance of the approved activity until the transfer is approved by the Department.

XVII. Safety

The overall design, layout, and operation of the facilities shall be such as to minimize hazards to humans and the environment. Security control measures shall be utilized to prevent exposure of the public to hazardous conditions. The Federal Occupational Safety and Health Standards shall be complied with during construction and operation.

XVIII. Screening

The Licensee shall provide screening of the site to the extent feasible through the use of acceptable structures, vegetated earthen walls, or existing or planted vegetation.

XIX. Toxic, Deleterious or Hazardous Materials

A. The Licensee shall not discharge to surface waters wastes which are acutely toxic, or present in concentrations which are carcinogenic, mutagenic, or teratogenic to human beings or to significant locally occurring wildlife or aquatic species. The Licensee shall not discharge to ground waters wastes in concentrations which, alone or in combination with other substances, or components of discharges (whether thermal or non-thermal) are carcinogenic, mutagenic, teratogenic, or toxic to human beings or are acutely toxic to indigenous species of significance to the aquatic community within surface waters affected by the ground water at the point of contact with surface waters. Specific criteria are established for such components in Section 62-520.420, F.A.C.

B. The Licensee shall report all spills of materials having potential to significantly pollute surface or ground waters and which are not confined to a building or similar containment structure, by telephone immediately after discovery of such spill. The Licensee shall submit a written report within forty-eight hours, excluding weekends, from the original notification. The telephone report shall be submitted by calling the DEP Southeast District Office Industrial Wastewater Compliance/Enforcement Section. After normal business hours, the Licensee shall contact the State Warning Point by calling (850) 413-9911 or (850) 413-9912. The written report shall include, but not be limited to, a detailed description of how the spill occurred, the name and chemical make-up (include any Material Safety Data Sheets) of the substance, the amount spilled, the time and date of the spill, the name and title of the person who first reported the spill, the size and extent of the spill and surface types (impervious, ground, water bodies, etc.) it impacted, the cleanup procedures used and status of completion, and include a map or aerial photograph showing the extent and paths of the material flow.

XX. Noise

Construction and operation noise shall not exceed noise criteria or any applicable requirements of Miami-Dade County. The Licensee shall notify area residents in advance of the onset and anticipated duration of the steam blowout of the facility's heat recovery steam generator and steam lines

XXI. Flood Control Protection

The plant and associated facilities shall be protected from flood damage by construction in such a manner as to comply with the appropriate Miami-Dade County flood protection requirements or by flood proofing or by raising the elevation of the facilities above the 100-year flood level, whichever is more stringent.

XXII. Historical or Archaeological Finds

If historical or archaeological artifacts are discovered at any time within the project site, the Licensee shall notify the DEP Southeast District office and the Bureau of Historic Preservation, Division of Historical Resources, R.A. Gray Building, Tallahassee, Florida 32399-0250, telephone number (850) 487-2073.

XXIII. Endangered and Threatened Species

Prior to start of construction, the Licensee shall survey the certified site for species of animal and plant life listed as endangered or threatened by the federal government or listed as endangered by the state. If these species are found, their presence shall be reported to the Siting Coordination Office, the SED, and the Florida Fish & Wildlife Conservation Commission's Office of Environmental Services. These species shall not be disturbed, if practicable. If avoidance is not practicable, the endangered species shall be treated as recommended by the appropriate agency. Entombment of gopher tortoises shall not be allowed.

XXIV. Dispute Resolution

If a dispute situation arises between the Licensee and an agency exercising its regulatory jurisdiction, the Department shall act as mediator to resolve it. If, after mediation, a mutual agreement cannot be reached between the parties, then the matter shall be immediately referred to the Division of Administrative Hearings (DOAH) for disposition in accordance with the provisions of Chapter 120, F.S.

XXV. Laboratories and Quality Assurance

A. The Licensee shall ensure that all laboratory analytical data submitted to the Department, as required by this certification, are from a laboratory which is approved by the Department and meets the requirements of Chapter 62-160, F.A.C.

B. The Licensee shall ensure that all samples required pursuant to this certification are taken by an appropriately trained technician following EPA and Department approved sampling procedures and chain-of-custody requirements in accordance with Rule 62-160, F.A.C. Records of monitoring information shall follow the guidelines in Rule 62-160.600, F.A.C. All chain-of-custody records shall be retained on-site for at least three (3) years and made available to the Department immediately upon request.

XXVI. Post-certification Submittals

A. Post-certification Submittals shall be handled pursuant to Rule 62-17.191, F.A.C.

B. Interagency Meetings: Within sixty (60) days of the filing of a complete post-certification submittal, DEP may conduct an interagency meeting with other agencies which received copies of the submittal. The purpose of such an interagency meeting shall be for the agencies with regulatory jurisdiction over the matters addressed in the post-certification submittal to discuss whether reasonable assurance of compliance with the conditions of certification has been provided. Failure of any agency to attend an interagency meeting shall not be grounds for DEP to withhold a determination of

compliance with these conditions nor to delay the time frames for review established by these conditions.

XXVII. CONSTRUCTION

A. Standards and Review of Plans

1. All construction at the facility shall be pursuant to the design standards presented in the application or amended application and the standards or plans and drawings submitted and signed by an engineer registered in the state of Florida. The site plan layout shall be consistent with or have wetland impacts less than the plan attached hereto as Exhibit A. Any subsequent revisions to the site plan shall avoid and minimize wetland impacts at least to the same extent as is accomplished in Exhibit A. Specific DEP Southeast District Office acceptance of plans will be required based upon a determination of consistency with approved design concepts, regulations, and these conditions prior to initiation of construction of any: industrial waste treatment facility; domestic waste treatment facility; potable water treatment and supply system; ground water monitoring system, storm water runoff system; solid waste disposal area; and hazardous or toxic handling facility or area. The Licensee shall present specific plans for these facilities for review by the DEP Southeast District Office at least ninety (90) days prior to construction of those portions of the facility for which the plans are then being submitted, unless other time limits are specified in the following conditions herein. Review and approval or disapproval shall be accomplished in accordance with Chapter 120, F.S., or these Conditions of Certification as applicable.

2. The Department must be notified in writing and prior written approval obtained for any material change or revision to be made to the project during construction which is in conflict with these Conditions of Certification. If there is any material change or revision made to a project approved by the Department without this prior written approval, the project will be considered to have been constructed without Departmental approval, the construction will not be cleared for service, and the construction will be considered a violation of these Conditions of Certification.

3. Ninety (90) days prior to the anticipated date of first operation, the Licensee shall provide the Department with an itemized list of any changes made to the facility design and operation plans that would affect a change in discharge, as referenced in Condition VI, subsequent to the time of issuance of this Certification. This pre-operational review of the final design and operation shall demonstrate continued compliance with Department rules and standards.

B. Control Measures

1. To control runoff which may reach and thereby pollute waters of the state, necessary measures shall be utilized to settle, filter, treat or absorb silt containing or pollutant laden storm water to ensure against spillage or discharge of excavated material that may cause turbidity in excess of 29 Nephelometric Turbidity Units (NTU) above background in waters of the state or significant degradation of

Outstanding Florida Waters in violation of Rule 62-4.242, F.A.C. Control measures may consist of sediment traps, barriers, berms, and vegetation plantings. Exposed or disturbed soil shall be protected and stabilized as soon as possible to minimize silt and sediment-laden runoff. The pH of the runoff shall be kept within the range of 6.0 to 8.5. The Licensee shall comply with the applicable nonprocedural requirements in Rules 40B-4, 40C-42, 40D-4 and/or 40E-4, F.A.C.

2. Any open burning in connection with initial land clearing shall be in accordance with Chapter 62-256, F.A.C., Chapter 5I-2, F.A.C., Uniform Fire Code Section 33.101, Addendum, and any other applicable county regulation. Any burning of construction-generated material, after initial land clearing that is allowed to be burned in accordance with Chapter 62-256, F.A.C., shall be approved by the DEP Southeast District office in conjunction with the Division of Forestry and any other county regulations that may apply. Burning shall not occur if not approved by the appropriate agency or if the Department or the Division of Forestry has issued a ban on burning due to fire safety conditions or due to air pollution conditions.

3. Disposal of sanitary wastes from construction toilet facilities shall be in accordance with applicable regulations of the appropriate local health agency.

4. Solid wastes resulting from construction shall be disposed of in accordance with the applicable regulations of Chapter 62-701, F.A.C.

5. The Licensee shall employ proper odor and dust control techniques to minimize odor and fugitive dust emissions. The applicant shall employ control techniques sufficient to prevent nuisance conditions which interfere with enjoyment of residents of adjoining property.

6. The Licensee shall develop the site so as to retain the buffer of natural vegetation as described in the application and in Condition XVIII, Screening.

7. Dewatering operations during construction shall be carried out in accordance with Rule 62-621.300(2), F.A.C.

C. Environmental Control Program

An environmental control program shall be established under the supervision of a Florida registered professional engineer or other qualified person to assure that all construction activities conform to applicable environmental regulations and the applicable Conditions of Certification. If a violation of standards, harmful effects or irreversible environmental damage not anticipated by the application or the evidence presented at the certification hearing is detected during construction, the Licensee shall notify the DEP District Office as required by Condition VII, Compliance.

D. Reporting

Notice of commencement of construction shall be submitted to the Siting Coordination Office and the DEP Southeast District Office within fifteen (15) days after initiation. Starting three (3) months after construction commences, a quarterly construction status report shall be submitted to the DEP Southeast District Office. The report shall be a short narrative describing the progress of construction.

XXVIII. AIR

A. General

1. The construction and operation of the Turkey Point Unit 5 project shall be in accordance with all applicable provisions of any permit required under a federal program such as Prevention of Significant Deterioration (PSD) Permit, Title III permit, Title IV permit, and/or Title V permit issued for Turkey Point Unit 5 and of any updates or modifications thereto, and of Chapters 62-210 through 62-297, F.A.C

2. All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Compliance Authority at

Air Quality Division
DEP Southeast District Office
400 North Congress, Suite 200
West Palm Beach, Florida 33401

Copies of all such documents shall also be submitted to Miami-Dade County at

Air Quality Management
Department of Environmental Resources Management
33 Southwest 2nd Avenue, Suite 900
Miami, Florida 33130-1540

All documents related to applications for permits to construct, operate or modify an emissions unit shall be submitted to

Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road (MS #5505)
Tallahassee, Florida 32399-2400

and notice of all applications for permits to construct, operate or modify an emissions unit shall be submitted to

Siting Coordination Office
Florida Department of Environmental Protection
2600 Blair Stone Road (MS #48)
Tallahassee, Florida 32399-2400

B. Equipment

1. The licensee is authorized to install, tune, operate, and maintain four General Electric Model PG7241FA gas turbine-electrical generator sets each with a generating capacity of 170 MW (nominal). Each gas turbine shall include the SpeedtronicTM automated gas turbine control system and have dual-fuel capability. Ancillary equipment includes an inlet air filtration system and an evaporative inlet air-cooling system. The gas turbines will utilize the "hot nozzle" DLN combustors, which require natural gas to be preheated to 290 °F before combustion to increase overall unit efficiency. This will be accomplished by feedwater heat exchangers. The new emissions units regulated by these Conditions of Certification are identified as follows:

ID	Emission Unit Description
005	Unit 5A gas turbine (170 MW) with supplementary-fired heat recovery steam generator
006	Unit 5B gas turbine (170 MW) with supplementary-fired heat recovery steam generator
007	Unit 5C gas turbine (170 MW) with supplementary-fired heat recovery steam generator
008	Unit 5D gas turbine (170 MW) with supplementary-fired heat recovery steam generator
009	One distillate fuel oil storage tank for Unit 5 gas turbines
010	Mechanical draft cooling tower for Unit 5

2. Gas Turbine NO_x Controls

a. The licensee shall operate and maintain the General Electric DLN 2.6 combustion system (or better) to control NO_x emissions from each gas turbine when firing natural gas. Prior to the initial emissions performance tests required for each gas turbine, the dry low NO_x (DLN) combustors and automated gas turbine control system shall be tuned to achieve the permitted levels for CO and sufficiently low NO_x values to meet the NO_x limits with the additional SCR control technology described below. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations.

b. The licensee shall install, operate, and maintain a water injection system to reduce NO_x emissions from each gas turbine when firing distillate

fuel oil. Prior to the initial emissions performance tests required for each gas turbine, the water injection system shall be tuned to achieve the permitted levels for CO and sufficiently low NO_x values to meet the NO_x limits with the additional SCR control technology described below. Thereafter, each system shall be maintained and tuned in accordance with the manufacturer's recommendations.

c. The licensee shall install, tune, operate, and maintain a selective catalytic reduction (SCR) System to control NO_x emissions from each gas turbine when firing either natural gas or distillate fuel oil. The SCR system consists of an ammonia (NH₃) injection grid, catalyst, ammonia storage, monitoring and control system, electrical, piping and other ancillary equipment. The SCR system shall be designed, constructed and operated to achieve the permitted levels for NO_x and NH₃ emissions.

d. In accordance with 40 CFR 60.130, the storage of ammonia shall comply with all applicable requirements of the Chemical Accident Prevention Provisions in 40 CFR 68.

3. The licensee is authorized to install, operate, and maintain four new heat recovery steam generators (HRSGs) with separate HRSG exhaust stacks. Each HRSG shall be designed to recover heat energy from one of the four gas turbines (5A-5D) and deliver steam to the steam turbine electrical generator through a common manifold. Each HRSG may be equipped with supplemental gas-fired duct burners having a maximum heat input rate of 495 MMBtu per hour (LHV). The duct burners shall be designed in accordance with the following specifications: 0.04 lb CO/MMBtu and 0.08 lb NO_x/MMBtu. The four HRSGs deliver steam to a single steam turbine-electrical generator with a generating capacity of 470 MW.

4. The licensee is authorized to install, operate, and maintain one, 4.3 million gallon distillate fuel oil storage tank designed to provide ultra low sulfur fuel oil to the Unit 5 gas turbines.

5. The licensee is authorized to install one new 22-cell mechanical draft cooling tower with the following nominal design characteristics: a circulating water flow rate of 306,000 gpm; design hot/cold water temperatures of 105° F/87° F; a design air flow rate of 1,500,000 per cell; a liquid-to-gas air flow ratio of 1.045; and drift eliminators. The licensee shall submit the final design details within 60 days of selecting the vendor.

C. Performance Restrictions

1. The maximum heat input rate to each gas turbine is 1,608 MMBtu per hour when firing natural gas and 1,830 MMBtu per hour when firing distillate fuel oil (based on a compressor inlet air temperature of 59° F, the lower heating value (LHV) of each fuel, and 100% load). Heat input rates will vary depending upon gas turbine characteristics, ambient conditions, alternate methods of operation, and evaporative cooling. The licensee shall provide manufacturer's performance curves (or equations) that correct for site conditions to the Permitting and Compliance Authorities within 45

days of completing the initial compliance testing. Operating data may be adjusted for the appropriate site conditions in accordance with the performance curves and/or equations on file with the Department.

2. The total maximum heat input rate to the duct burners for each HRSG is 495 MMBtu per hour based on the lower heating value (LHV) of natural gas. Only natural gas shall be fired in the duct burners.

3. Subject to the restrictions and requirements of these conditions of certification, the gas turbines may operate under the following methods of operation.

a. The gas turbines may operate throughout the year (8760 hours per year).

b. Each gas turbine shall fire natural gas as the primary fuel, which shall contain no more than 2.0 grains of sulfur per 100 standard cubic feet of natural gas. As a restricted alternate fuel, each gas turbine may fire ultra low sulfur distillate fuel oil containing no more than 0.0015% sulfur by weight. Each gas turbine shall fire no more than 500 hours of fuel oil during any calendar year.

c. Each gas turbine/HRSG system may operate to produce direct, shaft-driven electrical power and steam-generated electrical power from the steam turbine-electrical generator as a four-on-one combined cycle unit. In accordance with the specifications of the SCR and HRSG manufacturers, the SCR system shall be on line and functioning properly during combined cycle operation or when the HRSG is producing steam.

d. In accordance with the manufacturer's recommendations and appropriate ambient conditions, the evaporative cooling system may be operated to reduce the compressor inlet air temperature and provide additional direct, shaft-driven electrical power. This method of operation is commonly referred to as "fogging."

e. When firing natural gas, each HRSG system may fire natural gas in the duct burners to provide additional steam-generated electrical power. The total combined heat input rate to the duct burners (all four HRSGs) shall not exceed 5,702,400 MMBtu (LHV) during any consecutive 12 months.

f. When firing natural gas, and only while practicing duct firing, each gas turbine may operate in a high-temperature peaking mode to generate additional direct, shaft-driven electrical power to respond to peak demands. When firing natural gas, and only while practicing duct firing, steam may be injected into each gas turbine expansion section to generate additional direct, shaft-driven electrical power to respond to peak demands. To qualify as "power augmentation," the combustion turbine must operate at a load of 95% or greater than that of the manufacturer's maximum base load rate adjusted for the compressor inlet air conditions. Prior to activating and after deactivating the power augmentation mode, the operator shall log the date, time, and new

mode of operation. The gas turbines shall not operate simultaneously in peaking and power augmentation modes. Total hours of power augmentation plus the total hours of peaking shall not exceed 400 hours per gas turbine during any consecutive 12 months.

4. Within 60 days of commencing operation, the licensee shall certify that the cooling tower was constructed to achieve the specified drift rate of no more than 0.0005 percent of the circulating water flow rate.

D. Emissions Standards

1. Emissions from each gas turbine shall not exceed the following standards.

Pollutant	Fuel	Method of Operation	Stack Test, 3-Run Average		CEMS Block Average
			ppmvd @ 15% O ₂	lb/hr ^g	ppmvd @ 15% O ₂
CO ^a	Oil	Combustion Turbine (CT)	8.0	37.8	8.0, 24-hr
	Gas	CT, Normal	4.1	16.3	
		CT & Duct Burner (DB)	7.6	38.3	
		CT & DB & PK	NA	NA	
		CT & DB & PA	NA	NA	
NO _x ^b	Oil	CT	8.0	62.1	8.0, 24-hr
	Gas	CT, Normal	2.0	13.0	2.0, 24-hr
		CT & DB	2.0	18.8	
		CT & DB & (PA or PK)	NA	NA	
PM/PM ₁₀ ^c	Oil/Gas	All Modes	Fuel Specifications		
			Visible emissions shall not exceed 10% opacity for each 6-minute block average.		
SAM/SO ₂ ^d	Oil/Gas	All Modes	2 gr S/100 SCF of gas, 0.0015% sulfur fuel oil		
VOC ^e	Oil	CT	2.8	7.5	NA
	Gas	CT, normal	1.3	2.9	
		CT & DB	1.9	5.0	
Ammonia ^f	Oil/Gas	CT, All Modes	5	NA	NA

Notes:

- ^a Continuous compliance with the continuous 24-hour CO standards shall be demonstrated based on data collected by the required CEMS. The initial and annual EPA Method 10 tests associated with the certification of the CEMS instruments shall also be used to demonstrate compliance with the

individual standards for natural gas, fuel oil, and basic duct burner mode. Compliance with the 24-hour CO CEMS standards shall be determined separately for the Duct Burner/Power Augmentation mode and all other modes based on the hours of operation for each mode. A 24-hour compliance average may be based on as little as 1-hour of CEMS data or as much as 24-hours of CEMS data.

- b. Continuous compliance with the NO_x standards shall be demonstrated based on data collected by the required CEMS. The initial and annual EPA Method 7B or Method 20 tests associated with demonstration of compliance with 40 CFR 60; Subpart GG or certification of the CEMS instruments shall also be used to demonstrate compliance with the individual standards for natural gas, fuel oil, and duct burner modes during the time of those tests. NO_x mass emission rates are defined as oxides of nitrogen expressed as NO₂. A 24-hour compliance average may be based on as little as 1-hour of CEMS data or as much as 24-hours of CEMS data.
- c. The sulfur fuel specifications established in Condition No. 8 of this section combined with the efficient combustion design and operation of each gas turbine represents (BACT) for PM/PM₁₀ emissions. Compliance with the fuel specifications, CO standards, and visible emissions standards shall serve as indicators of good combustion. Compliance with the fuel specifications shall be demonstrated by keeping records of the fuel sulfur content. Compliance with the visible emissions standard and Section 24.41.1 of the Miami-Dade County Code shall be demonstrated by conducting tests in accordance with EPA Method 9.
- d. The fuel sulfur specifications effectively limit the potential emissions of SAM and SO₂ from the gas turbines and represent BACT for these pollutants. Compliance with the fuel sulfur specifications shall be determined by the requirements in Condition No. 25 of this section. Compliance with the SO₂ BACT also insures compliance with Section 24.41.3 of the Miami-Dade County Code.
- e. Compliance with the VOC standards shall be demonstrated by conducting tests in accordance with EPA Method 25A. Optionally, EPA Method 18 may also be performed to deduct emissions of methane and ethane. The emission standards are based on VOC measured as methane.
- f. Each SCR system shall be designed and operated for ammonia slip limit of no more than 5 ppmvd corrected to 15% oxygen based on the average of three test runs. Compliance with the ammonia slip standard shall be demonstrated by conducting tests in accordance with EPA Method CTM-027.
- g. The mass emission rate standards are based on a turbine inlet condition of 59° F and may be adjusted to actual test conditions in accordance with the performance curves and/or equations on file with the Department.

{“DB” means duct burning. “PA” means power augmentation. “PK” means peaking, “SCR” means selective catalytic reduction. “NA” means not applicable. The mass emission rate standards are based on a turbine inlet condition of 59° F and may be adjusted to actual test conditions in accordance with the performance curves and/or equations on file with the Department.}

2. If the steam-electrical turbine generator is off line, the licensee is authorized to operate the gas turbine/HRSG systems by dumping steam to the condenser. This is not considered a separate mode of operation with respect to emission limits. When operating in this manner, each unit shall comply with the respective standards given in Condition XXVIII.D.1 for each mode of operation indicated therein.

3. The duct burners are also subject to the provisions of Subpart Da of the New Source Performance Standards (NSPS) in 40 CFR 60. The Best Available Control Technology (BACT) limits applicable during duct firing are much more stringent than the standards of NSPS Subpart Da for duct burners. Therefore compliance with the BACT limits insures compliance with the emission limitations in Subpart Da.

4. The distillate fuel oil tanks are subject to NSPS Subpart Kb.

E. Excess Emissions

1. The BACT determinations established in the PSD permit process rely on good operating practices to reduce emissions. Therefore, all operators and supervisors shall be properly trained to operate and maintain the gas turbines, HRSGs, and pollution control systems in accordance with the guidelines and procedures established by each manufacturer. The training shall include good operating practices as well as methods of minimizing excess emissions.

2. Excess emissions caused entirely or in part by poor maintenance, poor operation or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. All such preventable emissions shall be included in any compliance determinations based on CEMS data.

3. Visible emissions due to startups, shutdowns, and malfunctions shall not exceed 10% opacity except for up to ten, 6-minute averaging periods during a calendar day, which shall not exceed 20% opacity.

4. Excess emissions resulting from startup, shutdown, oil-to-gas fuel switches and documented malfunctions are allowed provided that operators employ the best operational practices to minimize the amount and duration of emissions during such incidents. A "documented malfunction" means a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile transmittal, or electronic mail. For each gas turbine/HRSG system, excess emissions resulting from startup, shutdown, or documented malfunctions shall not exceed two hours in any 24-hour period except for the following specific cases.

a. For cold startup of the steam turbine system, excess emissions from any gas turbine/HRSG system shall not exceed six hours in any 24-hour period. Cold startup of the steam turbine system shall be completed within twelve hours. A cold "startup of the steam turbine system" is defined as startup of the 4-on-1 combined cycle system following a shutdown of the steam turbine lasting at least 48 hours.

b. For shutdown of the combined cycle operation, excess emissions from any gas turbine/HRSG system shall not exceed three hours in any 24-hour period.

c. For cold startup of a gas turbine/HRSG system, excess emissions shall not exceed four hours in any 24-hour period. "Cold startup of a gas turbine/HRSG system" is defined as a startup after the pressure in the high-pressure (HP) steam drum falls below 450 psig for at least a one-hour period.

d. For oil-to-gas fuel switching excess emissions shall not exceed 1 hour in any 24-hour period.

e. Ammonia injection shall begin as soon as operation of the gas turbine/HRSG system achieves the operating parameters specified by the manufacturer. As authorized by rule 62-210.700(5), F.A.C., the above conditions allow excess emissions only for specifically defined periods of startup, shutdown, fuel switching, and documented malfunction of the gas turbines.

5. CEMS data collected during initial or other major DLN tuning sessions shall be excluded from the CEMS compliance demonstration provided the tuning session is performed in accordance with the manufacturer's specifications. A "major tuning session" would occur after completion of initial construction, a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the licensee shall provide the Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail.

F. Emissions Performance Testing

1. Any required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
CTM-027	Procedure for Collection and Analysis of Ammonia in Stationary Source {Notes: This is an EPA conditional test method. The minimum detection limit shall be 1 ppm.}
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources

9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources {Notes: The method shall be based on a continuous sampling train.}
18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography {Note: EPA Method 18 may be used (optional) concurrently with EPA Method 25A to deduct emissions of methane and ethane from the measured VOC emissions.}
20	Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines
25A	Determination of Volatile Organic Concentrations

Note: Method CTM-027 is published on EPA's Technology Transfer Network Web Site at "<http://www.epa.gov/ttn/emc/ctm.html>". The other methods are described in Appendix A of 40 CFR 60, adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department.

2. Each gas turbine shall be stack tested to demonstrate initial compliance with the emission standards for CO, NO_x, VOC, visible emissions, and ammonia slip. The tests shall be conducted within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after the initial startup of each unit configuration. Each unit shall be tested when firing natural gas, when using the duct burners and when firing distillate fuel oil. Stack test data collected during the required Relative Accuracy Test Assessments (RATA) may be used to demonstrate compliance with the initial CO and NO_x standards. With appropriate flow measurements (or fuel measurements and approved F-factors), CEMS data may be used to demonstrate compliance with the CO and NO_x mass rate emissions standards. CO and NO_x emissions recorded by the CEMS shall also be reported for each run during tests for visible emissions, VOC and ammonia slip. The Department may require the licensee to conduct additional tests after major replacement or major repair of any air pollution control equipment, such as the SCR catalyst, DLN combustors, etc.

3. After initial compliance with the VOC standards is demonstrated, annual compliance tests for VOC emissions are not required. Compliance with the continuously monitored CO standards shall indicate efficient combustion and low VOC emissions.

5. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

6. The licensee shall demonstrate continuous compliance with the 24-hour CO and NO_x emissions standards based on data collected by the certified CEMS. Within 45 days of conducting any Relative Accuracy Test Assessments (RATA) on a CEMS, the licensee shall submit a report to the Compliance Authority summarizing results of the RATA. Compliance with the CO emission standards also serves as an indicator of efficient fuel combustion, which reduces emissions of particulate matter and volatile organic compounds. The Department also reserves the right to use data from the continuous monitoring record and from annual RATA tests to determine compliance with the short term CO and NO_x limits for each method of operation given in Condition XXIII.D.1.

7. During each federal fiscal year (October 1st to September 30th), each gas turbine shall be tested to demonstrate compliance with the emission standards for visible emissions. Annual testing to determine the ammonia slip shall be conducted while firing the primary fuel. NO_x emissions recorded by the CEMS shall be reported for each ammonia slip test run. CO emissions recorded by the CEMS shall be reported for the visible emissions observation period.

G. Continuous Monitoring Requirements

1. The licensee shall install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) to measure and record the emissions of CO and NO_x from the combined cycle gas turbine in a manner sufficient to demonstrate continuous compliance with the CEMS emission standards of this section. Each monitoring system shall be installed, calibrated, and properly functioning prior to the initial performance tests. Within one working day of discovering emissions in excess of a CO or NO_x standard (and subject to the specified averaging period), the licensee shall notify the Compliance Authority.

2. The CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of section seven shall be made each calendar quarter, and reported semiannually to the Compliance Authority. The RATA tests required for the CO monitor shall be performed using EPA Method 10 in Appendix A of 40 CFR 60 and shall be based on a continuous sampling train. The CO monitor span values shall be set appropriately considering the allowable methods of operation and corresponding emission standards.

3. Each NO_x monitor shall be certified, operated, and maintained in accordance with the requirements of 40 CFR 75. Record keeping and reporting shall be conducted pursuant to Subparts F and G in 40 CFR 75. The RATA tests required for the NO_x monitor shall be performed using EPA Method 20 or 7E in Appendix A of 40 CFR 60. In addition to the requirements of Appendix A of 40 CFR 75, the NO_x monitor span values shall be set appropriately considering the allowable methods of operation and corresponding emission standards.

4. The oxygen (O₂) or carbon dioxide (CO₂) content of the flue gas shall be monitored at the location where CO and NO_x are monitored to correct the measured emissions rates to 15% oxygen. If a CO₂ monitor is installed, the oxygen content of the flue gas shall be calculated using F-factors that are appropriate for the fuel fired. Each monitor shall comply with the performance and quality assurance requirements of 40 CFR 75.

5. Hourly average values shall begin at the top of each hour. Each hourly average value shall be computed using at least one data point in each fifteen-minute quadrant of an hour, where the unit combusted fuel during that quadrant of an hour. Notwithstanding this requirement, an hourly value shall be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour). If less than two such data points are available, the hourly average value is not valid. An hour in which any oil is fired is attributed towards compliance with the permit standards for oil firing. The licensee shall use all valid measurements or data points collected during an hour to calculate the hourly average values. The CEMS shall be designed and operated to sample, analyze, and record data evenly spaced over an hour. If the CEMS measures concentration on a wet basis, the CEM system shall include provisions to determine the moisture content of the exhaust gas and an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Alternatively, the owner or operator may develop through manual stack test measurements a curve of moisture contents in the exhaust gas versus load for each allowable fuel, and use these typical values in an algorithm to enable correction of the monitoring results to a dry basis (0% moisture). Final results of the CEMS shall be expressed as ppmvd corrected to 15% oxygen. The CEMS shall be used to demonstrate compliance with the CEMS emission standards for CO and NO_x as specified in this permit. For purposes of determining compliance with the CEMS emissions standards of this permit, missing (or excluded) data shall not be substituted. Upon request by the Department, the CEMS emission rates shall be corrected to ISO conditions to demonstrate compliance with the applicable standards of 40 CFR 60.332.

6. A 24-hour block shall begin at midnight of each operating day and shall be calculated from 24 consecutive hourly average emission rate values. If a unit operates less than 24 hours during the block, the 24-hour block average shall be the average of available valid hourly average emission rate values for the 24-hour block. For purposes of determining compliance with the 24-hour CEMS standards, missing (or excluded) data shall not be substituted. Instead, the 24-hour block average shall be

determined using the remaining hourly data in the 24-hour block. There may be more than one 24-hour compliance demonstration required for CO and NO_x emissions depending on the use of alternate methods of operation.

7. Each CEMS shall monitor and record emissions during all operations including episodes of startup, shutdown, malfunction, fuel switches and DLN tuning. CEMS emissions data recorded during some of these episodes may be excluded from the corresponding CEMS compliance demonstration subject to the provisions of Conditions XXVIII.E.4 and 5 of this section. All periods of data excluded shall be consecutive for each such episode. The licensee shall minimize the duration of data excluded for such episodes to the extent practicable. Data recorded during such episodes shall not be excluded if the episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented. Best operational practices shall be used to minimize hourly emissions that occur during such episodes. Emissions of any quantity or duration that occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited.

8. Monitor availability for the CEMS shall be 95% or greater in any calendar quarter. The quarterly permit excess emissions report shall be used to demonstrate monitor availability. In the event 95% availability is not achieved, the licensee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The licensee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of these Conditions of Certification, except as otherwise authorized by the Department's Compliance Authority.

9. In accordance with the manufacturer's specifications, the licensee shall install, calibrate, operate and maintain an ammonia flow meter to measure and record the ammonia injection rate to the SCR system by the time of the initial compliance tests. The licensee shall document and periodically update the general range of ammonia flow rates required to meet permitted emissions levels over the range of load conditions allowed by this permit by comparing NO_x emissions recorded by the CEM system with ammonia flow rates recorded using the ammonia flow meter. During NO_x monitor downtimes or malfunctions, the licensee shall operate at the ammonia flow rate and, as applicable for fuel oil firing, the water-to-fuel ratio, which is consistent with the documented flow rate for the combustion turbine load condition.

H. Records and Reports

1. The licensee shall monitor and record the operating rate of each gas turbine and HRSG duct burner system on a daily average basis, considering the number of hours of operation during each day (including the times of startup, shutdown and malfunction). Such monitoring shall be made using a monitoring component of the CEM system required above, or by monitoring daily rates of consumption and heat

content of each allowable fuel in accordance with the provisions of 40 CFR 75 Appendix D.

2. By the fifth calendar day of each month, the licensee shall record the following for each fuel in a written or electronic log for each gas turbine for the previous month of operation: fuel consumption, hours of operation, hours of power augmentation, hours of peaking, hours of duct firing, and the updated 12-month rolling totals for each. Information recorded and stored as an electronic file shall be available for inspection and printing within at least three days of a request by the Department. The fuel consumption shall be monitored in accordance with the provisions of 40 CFR 75 Appendix D.

3. In conjunction with the provisions of 40 CFR 75 Appendix D, the licensee shall demonstrate compliance with the fuel sulfur limits specified in this certification by maintaining the following records of the sulfur contents:

a. Compliance with the fuel sulfur limit for natural gas shall be demonstrated by keeping reports obtained from the vendor indicating the average sulfur content of the natural gas being supplied from the pipeline for each month of operation. Methods for determining the sulfur content of the natural gas shall be ASTM methods D4084-82, D3246-81 or more recent versions.

b. Compliance with the distillate fuel oil sulfur limit shall be demonstrated by taking a sample, analyzing the sample for fuel sulfur, and reporting the results to each Compliance Authority before initial startup. Sampling the fuel oil sulfur content shall be conducted in accordance with ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, and one of the following test methods for sulfur in petroleum products: ASTM D129-91, ASTM D1552-90, ASTM D2622-94, or ASTM D4294-90. More recent versions of these methods may be used. For each subsequent fuel delivery, the licensee shall maintain a permanent file of the certified fuel sulfur analysis from the fuel vendor. At the request of a Compliance Authority, the licensee shall perform additional sampling and analysis for the fuel sulfur content. The above methods shall be used to determine the fuel sulfur content in conjunction with the provisions of 40 CFR 75 Appendix D.

4. Within one working day of a malfunction that causes emissions in excess of a standard (subject to the specified averaging periods), the licensee shall notify the Compliance Authority. The notification shall include a preliminary report of: the nature, extent, and duration of the emissions; the probable cause of the emissions; and the actions taken to correct the problem. If requested by the Compliance Authority, the licensee shall submit written quarterly reports summarizing the malfunctions.

5. Within 30 days following the end of each calendar quarter, the Licensee shall submit a report to the Compliance Authority summarizing periods of CO and NO_x emissions in excess of the limits contained in these Conditions of Certification following the NSPS format. The report shall follow the format specified by NSPS. For

purposes of reporting emissions in excess of NSPS Subpart GG, excess emissions from the gas turbine are defined as: any CEMS hourly average value exceeding the NSPS NO_x emission standard identified in NSPS Subpart GG; and any monitoring period during which the sulfur content of the fuel being fired in the gas turbine exceeds the NSPS standard identified in NSPS Subpart GG. For purposes of reporting emissions in excess of NSPS Subpart Da, excess emissions from duct firing are defined as: NO_x or PM emissions in excess of the NSPS standards except during periods of startup, shutdown, or malfunction; and SO₂ emissions in excess of the NSPS standards except during startup or shutdown. Such information shall be summarized for all exceedances including startups, shutdowns, malfunctions, and major tuning sessions. In addition, the report shall summarize the CEMS systems monitor availability for the previous quarter.

6. The licensee shall keep readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of each storage tank. Records shall be retained for the life of the facility. The licensee shall also keep records sufficient to determine the annual throughput of distillate fuel oil for each storage tank for use in the Annual Operating Report.

7. The Licensee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year.

8. All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least five (5) years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request.

I. Emissions and Controls

Unless otherwise specified in these conditions of certification, the following conditions apply to all emissions units and activities at this facility:

1. If temporarily unable to comply with any of these Conditions of Certification due to breakdown of equipment or destruction by fire, wind or other cause, the Licensee shall notify the Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the Licensee from any liability for failure to comply with these Conditions of Certification or the regulations

2. The Licensee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly.

3. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) 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 for longer duration.

4. Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited.

5. In case of excess emissions resulting from malfunctions, the Licensee shall notify the Department or the appropriate Local Program 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 Department.

6. The Licensee shall not store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.

7. The Licensee shall not cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.

8. The Licensee shall not cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20 percent opacity.

9. During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary

J. Testing Requirements

1. 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 two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard.

2. Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the 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.

3. For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule.

4. Tests shall be conducted in accordance with all applicable requirements of Chapter 62-297, F.A.C.

a. 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. The minimum observation period for a visible emissions compliance test shall be thirty (30) minutes. The observation period shall include the period during which the highest opacity can reasonably be expected to occur.

b. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet.

c. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.

K. Determination of Process Variables

1. The Licensee 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 of an emissions unit for which compliance tests are required.

2. 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.

3. The Licensee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C.

4. The owner or operator shall notify the Department, 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.

5. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

6. The Licensee shall file a report with the Department on the results of each such test of an emissions unit for which a compliance test is required. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information:

- a. The type, location, and designation of the emissions unit tested.
- b. The facility at which the emissions unit is located.
- c. The owner or operator of the emissions unit.
- d. 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.
- e. 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.
- f. 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.

g. 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.

h. The date, starting time and duration of each sampling run.

i. 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.

j. The number of points sampled and configuration and location of the sampling plane.

k. 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.

l. The type, manufacturer and configuration of the sampling equipment used.

m. Data related to the required calibration of the test equipment.

n. Data on the identification, processing and weights of all filters used.

o. Data on the types and amounts of any chemical solutions used.

p. Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.

q. The names of each individual who furnished the process variable data, conducted the test, analyzed the samples or prepared the report.

r. All measured and calculated data required to be determined by each applicable test procedure for each run.

s. The detailed calculations for one run that relate the collected data to the calculated emission rate.

t. The applicable emission standard, and the resulting maximum allowable emission rate for the emission unit, plus the test result in the same form and unit of measure.

u. A certification that all submitted data 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.

XXIX. WETLANDS

A. Mitigation – Mitigation shall include on-site restoration and enhancement, purchase of credits in a mitigation bank, and contribution of wetlands for conservation purposes, as described in the document "Turkey Point Expansion Project, Refined Mitigation Proposal, FPL, April 2004" or as subsequently amended or modified.

1. Initial mitigation, by planting wetland plant species and hydrologic improvements, shall occur within 30 days of completion of construction; at this time the Licensee shall submit to the Department a baseline ("time zero") report. The report shall include details on the progress of the hydrologic improvements, a list of species planted, the number of individuals planted, and the date of the plantings. The report shall contain photographs, taken from referenced locations, to represent the entire site. Additionally, a drawing shall be included to show the location and direction of the camera. Subsequent monitoring reports shall be submitted quarterly, the first report being due 90 days after the baseline report. The quarterly reports shall include the number of plants surviving from the initial planting, additional seedlings planted, and explanations if survivorship is trending toward failure. The reports shall include photographs from the locations referenced in the baseline report.

2. Mitigation will be deemed successful when all of the following criteria have been continuously met on the mitigation site for a period of at least two growing seasons (but no earlier than two years after the initial planting), without intervention in the form of irrigation, dewatering, removal of undesirable vegetation, or replanting of desirable vegetation:

a. The percent cover of the mitigation wetland area exceeds 80% of native wetland plants

b. Nuisance and exotic species are limited to 5% or less of the total cover.

c. The desirable plants are reproducing naturally, either by normal, healthy vegetative spread, or through seedling establishment, growth and survival.

d. The size distribution of the desirable species increases with time.

e. The functional assessment scores indicate that the functional value of the wetlands have made up for the functional loss of the project's impacts.

3. The Licensee shall notify the SED whenever the Licensee believes the mitigation is successful, but in no event earlier than two years after the mitigation is implemented.

a. The notice shall include a copy of the most recent Annual Progress and Mitigation Success Report and a narrative that describes how the reported data support the claim that each of the mitigation success criteria has been met. The Licensee shall allow SED personnel the opportunity to schedule and conduct an on-site inspection of the mitigation site.

b. Within 60 days of receipt of the notice, the SED shall notify the Licensee by certified mail that:

(1) That the mitigation has been successfully completed, or

(2) That the mitigation is not successful, identifying specifically those elements of the mitigation that do not meet the success criteria, or

(3) That the mitigation cannot be determined to be successful at this time, identifying specifically those elements of the mitigation that prevent the SED from determining whether the mitigation is successful.

c. When the SED notifies the Licensee that the mitigation is successful, or, if the SED fails to notify the Licensee within the time period prescribed by this condition, then the Licensee's mitigation obligation under the terms of this certification shall be deemed satisfied.

4. The Licensee shall prepare a revised mitigation plan if, three (3) years after completion of planting, it is determined by the SED or the Licensee that the mitigation site will not meet the success criteria. The revised plan shall be submitted to the SED for review and approval and shall include the following:

a. The plan shall discuss why the mitigation site is not meeting the success criteria and propose a plan of action by which to correct any deficiencies in the original plan.

b. The Licensee shall propose a schedule for implementation and completion of the provisions of the revised mitigation plan. Upon approval by the SED, the Licensee shall begin implementing the revised plan within 60 days of SED approval. The approved revised plan shall be copied to the Siting Coordination Office and shall be made a part of these Conditions of Certification.

B. Narrative progress reports shall be submitted every 6 months indicating the status of the mitigation efforts. The cover page shall indicate the certification number, project name and the Licensee name. The first semi-annual progress report shall be submitted six months after the date of certification issuance. Reports shall be submitted every six (6) months thereafter until all mitigation work required by these conditions of certification has been completed. The reports shall include the following information:

1. The date activities were begun. Indicate whether work has begun on-site.

2. A brief description of the extent of work (i.e., dredge, fill, monitoring, mitigation, management, maintenance) completed since the previous report or since this certification was issued. Show on copies of the site drawings those areas where work has been completed.

3. A brief description and the extent of work (i.e. dredge, fill, monitoring, mitigation, management, maintenance) anticipated to be accomplished within the next six months. Indicate on copies of the site drawings those areas where it is anticipated that work will be done.

4. The reports shall include photographs taken from the permanent stations, some of which must be in the vegetation sampling areas, a description of problems encountered and solutions undertaken, and anticipated work for the next six months.

5. The reports shall include, on the first page and just below the title, a signed certification by the individual who supervised preparation of the report the following statement: "This report represents a true and accurate description of the activities conducted during the six month period covered by this report."

C. Best management practices for erosion control shall be implemented and maintained at all times during construction to prevent siltation and turbid discharges in excess of State water quality standards pursuant to Rule 62-302, F.A.C., or in excess of the ambient turbidity levels of Outstanding Florida Waters. Methods shall include, but are not limited to the use of staked hay bales, staked filter cloth, sodding, seeding, and mulching; staged construction; and the installation of turbidity screens around the immediate project site.

D. The Licensee shall be responsible for ensuring that erosion control devices/procedures are inspected and maintained daily during all phases of construction authorized by these Conditions of Certification until all areas that were disturbed during construction are sufficiently stabilized to prevent erosion, siltation, and turbid discharges.

E. The following measures shall be taken immediately by the Licensee whenever turbidity levels within waters of the State surrounding the project site exceed 29 NTUs above background or exceed the ambient water quality levels of Outstanding Florida Waters:

1. Immediately cease all work contributing to the water quality violation. Operations may not resume until the SED gives authorization to do so.

2. Notify the SED Environmental Resource Compliance/Enforcement Section at 561/681-6643 within 24 hours of the time the violation is first detected.

3. Stabilize all exposed soils contributing to the violation. Modify the work procedures that were responsible for the violation, install additional turbidity containment devices and repair any non-functioning turbidity containment devices.

F. The Licensee shall be responsible for ensuring that the construction and operation of the Project results in no significant degradation of the adjacent Biscayne National Park, an Outstanding Florida Water, in violation of Rule 62-4.242 and 62-302, F.A.C.

XXX. DOMESTIC AND INDUSTRIAL WASTE

A. The construction and operation of the Turkey Point Unit 5 project shall be in accordance with all applicable provisions of any permit required under a federal program such as any NPDES permit issued for Turkey Point Unit 5 and of any updates or modifications thereto.

B. The Licensee is hereby authorized to operate water and wastewater facilities as shown or described in the Turkey Point Unit 5 Site Certification Application and other documents on file with the Department and made a part hereof. The Licensee 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.

XXXI. STORMWATER

A. Prior to construction, the Licensee shall submit a revised analysis to demonstrate that:

1. The post-development peak discharge rate does not exceed the pre-development discharge rate for the 25-year, 72-hour design storm, and

2. That the volume of the water quality treatment facility for off-site discharges is adequate to handle the post-development peak flow.

B. Final drainage plans illustrating all stormwater treatment facilities and conveyances for construction phase and for the operational phase of the Unit 5 site shall be submitted to the SED for review and approval prior to construction of any such conveyance or facility. The SED shall indicate its approval or disapproval within 60 days of the submittal or the submittal shall be considered approved.

C. Site construction activities shall be conducted in a manner which does not cause violations of state water quality standards. The Licensee shall implement best management practices for erosion and pollution control to prevent violation of state water quality standards. Temporary erosion control measures shall be implemented prior to any construction, and installation of permanent control measures shall be completed within seven (7) days of the start of any construction activity.

D. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into a receiving water body exists. Turbidity barriers shall remain in place at all locations until construction is completed, soils are stabilized, and vegetation has been established. The Licensee shall correct any erosion or shoaling that causes adverse impacts to water resources.

E. All construction at the facility shall be pursuant to the design standards presented in the application or amended application and the standards or plans and drawings submitted and signed by an engineer registered in the state of Florida. Specific SED acceptance of plans will be required based upon a determination of consistency with approved design concepts, regulations, and these conditions prior to initiation of construction of the stormwater management system Review and approval or disapproval shall be accomplished in accordance with Chapter 120, F.S., or these conditions of certification as applicable.

F. Within 30 days after completion of construction of the Stormwater management system, the Licensee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the form "Environmental Resource Permit As-Built Certification by a Registered Professional" (Form No. 62-343.900(5), F.A.C.). The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the Department that the system is ready for inspection. Additionally, if deviation from the approved drawings is discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor.

XXXII SOLID AND HAZARDOUS WASTE

No solid or hazardous waste is to be permanently stored onsite. Any hazardous waste generated on site shall be contained and transferred for disposal to a properly licensed contractor in accordance with the Department's rules and regulations.

XXXIII WATER MANAGEMENT DISTRICT

A. GENERAL

1. If this Certification is transferred, pursuant to Condition XVI, from the Licensee to another party, the Licensee from whom the Certification is transferred shall remain liable for corrective actions that may be required as a result of any violations that occurred prior to the transfer.
2. This Certification is based in part on the Licensee's submitted information to the SFWMD which reasonably demonstrates that harm to the site water resources will not be caused by the authorized activities. The plans, drawings and design specifications submitted by the Licensee shall be considered the minimum standards for compliance with conditions XXXIII.
3. This project must be constructed, operated and maintained in compliance with and meet all non-procedural requirements set forth in Chapter 373, F.S., and Chapters 40E-2 (Consumptive Use), 40E-3 (Water Wells); and 40E-20 (General Water Use Permits), F.A.C.
4. It is the responsibility of the Licensee to ensure that harm to the water resources does not occur during the construction, operation, and maintenance of the project.
5. The Licensee shall hold and save the SFWMD harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment and/or use of any system authorized by this Certification, to the extent allowed under Florida law.
6. The Licensee shall be responsible for the construction, operation, and maintenance of all facilities installed for the proposed project.
7. SFWMD representatives shall be allowed reasonable escorted access to the power plant site, the water withdrawal facilities and any associated facilities to inspect and observe any activities associated with the construction of the proposed project and/or the operation and/or maintenance of the on-site wells in order to determine compliance with these Conditions of Certification. The Licensee shall not refuse entry or access to any SFWMD representative who, upon reasonable notice, requests entry for the purpose of the above noted inspection and presents appropriate credentials.

8. Information submitted to the SFWMD subsequent to Certification, in compliance with these Conditions of Certification, shall be for the purpose of the SFWMD determining the Licensee's compliance with conditions XXXIII and the non-procedural criteria contained in Chapters 40E-2, 40E-3, and 40E-20, F.A.C., as applicable, prior to the commencement of the subject construction, operation and/or maintenance activity covered by this Certification.

9. The SFWMD may take any and all lawful actions that are necessary to enforce any condition of this Certification based on the authorizing statutes and rules of the SFWMD. Prior to initiating such action, the SFWMD shall notify the Siting Coordination Office of DEP of the proposed action.

10. At least ninety (90) days prior to the commencement of construction of any portion of the project, the Licensee shall submit to SFWMD staff, for a completeness and sufficiency review, any pertinent additional information required under conditions XXXIII for that portion of project. If SFWMD staff does not issue a written request for additional information within thirty (30) days, the information shall be presumed to be complete and sufficient.

11. Within sixty (60) days of the determination by SFWMD staff that any additional information is complete and sufficient, the SFWMD shall determine and notify the Licensee in writing whether the proposed activities conform to SFWMD rules, as required by Chapters 40E-2, 40E-3, and 40E-20, F.A.C., and these Conditions of Certification. If the information is not complete or sufficient, the SFWMD shall identify what items remain to be addressed. No construction activities shall begin until the SFWMD has notified the Licensee in writing that the activities are in compliance with the applicable SFWMD criteria, or failed to notify the Licensee in writing within sixty (60) days of finding the information to be complete and sufficient.

12. The Licensee shall submit any proposed revisions to the site specific design authorizations specified in this Certification to the SFWMD for review and approval prior to implementation. The submittal shall include all the information necessary to support the proposed request, including detailed drawings, calculations and/or any other applicable data. Such requests may be included as part of an appropriate additional information submittal required by this Certification provided they are clearly identified as a requested amendment or modification to the previously authorized design.

B. Water Use Authorizations

1. In the event of a declared water shortage, the Licensee must comply with any water withdrawal reductions ordered by the SFWMD in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C.

2. The Licensee shall mitigate interference with existing legal uses that were caused in whole or in part by the Licensee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include

pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means. Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1 in 10 year drought event that results in the:

a. Inability to draw water consistent with provisions of the permit, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the interference; or

b. Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

3. The Licensee shall mitigate harm to existing off-site land uses caused by the Licensee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the SFWMD will require the Licensee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to these Conditions of Certification includes:

a. Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other government authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g., fill for construction, mining, drainage canal, etc.);

b. Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use;

c. Land collapse or subsidence caused by reduction in water levels associated with consumptive use.

4. The Licensee shall mitigate harm to natural resources caused by the Licensee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the SFWMD will require the Licensee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:

a. Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface;

b. Reduction in water levels that harm the hydroperiod of wetlands;

c. Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond;

d. Harmful movement of contaminants in violation of state water quality standards; or

e. Harm to the natural system including damage to habitat for rare or endangered species.

5. At any time, if there is an indication that the well casing, valves, or controls associated with the on-site well system leak or have become inoperative, the Licensee shall be responsible for making the necessary repairs or replacement to restore the well system to an operating condition acceptable to the SFWMD. Failure to make such repairs shall be the cause for requiring that the well(s) be filled and abandoned in accordance with the procedures outlined in Chapter 40E-3, F.A.C.

C. Site Specific Design Authorizations

1. Authorization to commence withdrawals from the Upper production zone of the Floridan Aquifer for cooling water will not be granted until the Aquifer Performance Test (APT) currently underway is completed, evaluated by the SFWMD, and a determination is made by the SFWMD that reasonable assurances have been provided confirming that interference to existing legal users will not occur. The report submitted to the SFWMD on the APT shall include the following and shall be signed and sealed by a Florida Registered Professional Geologist:

a. The transmissivity and storage of the proposed pumping zone of the Floridan aquifer.

b. An analysis of the potential impacts to existing legal users.

c. An impact mitigation analysis, if potential impacts to existing legal users are identified.

d. A request for a maximum daily withdrawal rate associated with filling the cooling tower from cold start-up.

2. Upon submittal of the technical report, the SFWMD shall have 30 days to review the report for completeness. If the information is not complete, accurate or fully documented, the SFWMD shall, within the 30 day time period, request additional information needed to complete the review of the technical documents. Once the report is deemed complete, the SFWMD shall evaluate the potential for impacts to existing legal users in accordance with the applicable criteria in Rule 40E-2 and the Basis of Review for Water Use Permit Applications in the SFWMD.

a. If the SFWMD determines that the results of the additional site-specific test data confirms the initial conclusion that interference to existing legal users will not occur, then the SFWMD shall provide the Licensee and DEP with written

confirmation of this finding within 30 days of submittal of a complete report to the SFWMD on the APT. Such written confirmation shall constitute authorization of an average daily withdrawal of 14.06MGD (which represents the average expected 90-day water demand of the heat dissipation system for the cooling tower) and an average annual withdrawal of 4,599 MGY from the Upper production zone of the Floridan aquifer for cooling water.

b. If the SFWMD determines that the potential exists for interference with existing legal users as a result of the site-specific test data, then the SFWMD will advise the Licensee and DEP, within 30 days of submittal of a complete report to the SFWMD on the APT, of this conclusion. The SFWMD will review additional submittals of data such as additional modeling, alternative water supplies, and mitigation plans that may be proposed by the Licensee to provide reasonable assurances that interference with existing legal users will not occur. The SFWMD shall have 30 days to review the additional submittals for completeness. Upon completion of the evaluation, the SFWMD will provide the Licensee and DEP with notification of authorization to commence withdrawals from the Floridan aquifer at acceptable rates and will require mitigation, as necessary and appropriate, pursuant to the Basis of Review for Water Use Permits in the SFWMD, to prevent interference with existing legal users.

3. Upon written notification from the SFWMD that a reliable source of reclaimed water is available at the project site to serve Unit 5 in a quantity and quality acceptable to the Licensee for cooling purposes for Unit 5, the Licensee shall provide the SFWMD with a schedule for use of reclaimed water, for the SFWMD's review and approval, within 90 days of such notification. Once the use of reclaimed water has been established, the use of Floridan Aquifer water shall be reduced in proportion to the volume of reclaimed water made available to Unit #5, such that the combined sources meet the total demand of a 90-day average withdrawal of 14.06 MGD and an average annual withdrawal of 4,599 MGY. Should reclaimed water become temporarily unavailable, the Licensee shall notify the SFWMD within 24 hours of commencing temporary withdrawals from the Floridan aquifer.

4 The Licensee is authorized to construct four withdrawal wells as follows:

ID	Casing Diameter (inches)	Cased Depth (feet)	Max. Depth (feet)	Max Flow (gpm)
1	36	1,100	1,400	5,000
2	36	1,100	1,400	5,000
3	36	1,100	1,400	5,000
4	36	1,100	1,400	5,000

5. The Licensee shall maintain records of the calibrated daily withdrawals from each pump. These records shall be available for review upon request by

SFWMD staff. Monthly withdrawals for each pump shall be submitted to the SFWMD quarterly. Maximum daily withdrawals for each month for the entire system shall be submitted to the SFWMD quarterly. The water accounting method and means of calibration shall be stated on each report. Every two years from the date of Certification, the Licensee shall submit re-calibration data for each water pumping accounting facility if the accounting method(s) require re-calibration.

6. Modifications

a. Within five years of Certification and every five years thereafter, unless extended by mutual agreement between the Licensee and the SFWMD, the Licensee shall submit to the SFWMD a report on the project's consistency with the consumptive water use requirements contained within Chapter 40E-2, F.A.C. in effect at that time. Within 90 days after receipt of the completed report, the SFWMD shall evaluate the information contained therein and issue a written notification to the DEP and the Licensee as to whether the groundwater withdrawals for consumptive use authorized by this Certification remain in compliance with the provisions of Chapter 373, F.S., and Chapter 40-2, F.A.C., in effect at that time. If the notification indicates that the withdrawals are not in compliance with these provisions, it shall recommend possible alternatives for bringing the withdrawals into compliance or otherwise meeting the minimum consumptive water use needs of the power plant. If mutual agreement cannot be reached within 90 days after issuance of the written notification on whether the withdrawals of groundwater for consumptive use remain in compliance, then the written notification shall be immediately referred to the Division of Administrative Hearings (DOAH) for resolution in accordance with the procedural provisions of Condition XXIV.

b. The SFWMD retains the right to petition for a modification of the groundwater withdrawals for consumptive use authorized by this Certification, in accordance with the provisions of Condition XV. Any request for an increase in water withdrawals shall be made pursuant to the provisions of Condition XV.

7. Prior to the commencement of construction of those portions of the project which involve dewatering activities, the Licensee shall submit a detailed plan for the proposed dewatering activities to the SFWMD for a determination of compliance with the non-procedural requirements of Chapters 40E-2, 40E-3 and 40E-20, F.A.C., in effect at the time of submittal. The following information, referenced to NGVD where appropriate, shall be submitted:

- a. A detailed site plan which shows the location(s) for each proposed dewatering area;
- b. The method(s) used for each dewatering operation;
- c. The maximum depth for each dewatering operation;
- d. The location and specifications for all proposed wells and/or pumps associated with each dewatering operation;

- e. The duration of each dewatering operation;
- f. The discharge method, route, and location of receiving waters generated by each dewatering operation, including the measures (Best Management Practices) that will be taken to prevent water quality problems in the receiving water(s);
- g. An analysis of the impacts of the proposed dewatering operations on any existing on and/or off-site legal users, wetlands, or existing groundwater contamination plumes;
- h. The location of any infiltration trenches and/or recharge barriers; and
- i. All plans must be signed and sealed by a Professional Engineer or a Professional Geologist registered in the State of Florida.

8. If, during the control of these conditions of certification, any on-site wells require repair, replacement, and/or abandonment, the Licensee shall submit the information described in Chapter 40E-3, F.A.C. for review by the SFWMD prior to initiating such activities.

9. Prior to construction of the proposed on-site wells, the Licensee shall submit the drilling plans and other pertinent information required by Chapter 40E-3, F.A.C. to the SFWMD for review and approval. If the final well locations are different from those originally proposed in the site certification application, the Licensee shall also submit to the SFWMD for review and approval an evaluation of the impacts of the proposed pumpage from the alternate well location(s) on adjacent existing legal users, pollution sources, environmental features, and water bodies.

10. Groundwater Monitoring Plan

a. Within three months of issuance of this Certification, a preliminary groundwater monitoring plan shall be submitted to the SFWMD for a determination of compliance with the non-procedural requirements of Chapter 40E-2, F.A.C. In developing the monitoring plan, the Licensee shall consider well locations, depth and method of construction, types of screens, and frequency of data collection.

b. Within six months of issuance of this Certification, the Licensee shall implement the groundwater monitoring plan.

11. Water Conservation Plan

a. Prior to the commencement of construction, the Licensee shall submit a water conservation plan, as described in Chapter 40E-2, F.A.C., for review and approval by SFWMD staff.

b. The water conservation plan shall incorporate the following components:

(1) An audit of the amount of water needed in the Licensee's operational processes. The following measures shall be implemented within one year of audit completion if found to be cost effective in the audit:

(a) Implementation of a leak detection and repair program;

(b) Implementation of a recovery/recycling or other program providing for technological, procedural or programmatic improvements to the Licensee's facilities; and

(c) Use of processes to decrease water consumption.

(2) Development and implementation of an employee awareness program concerning water conservation.

XXXIV. TRANSPORTATION

A. Traffic control is to be maintained during plant construction and operations in compliance with the standards in the *Manual on Uniform Traffic Control Devices*; *Statewide Minimum Level of Service Standards*, Rule Chapter 14-94, F.A.C.; Florida Department of Transportation's *Roadway and Traffic Design Standards*; and Florida Department of Transportation *Standard Specifications for Road and Bridge Construction*, whichever is more stringent.

B. Operation of overweight or overdimensional vehicles by the applicant on State transportation facilities during the construction and operation of Turkey point Unit 5, shall be subject to safety and permitting requirements of Chapter 316, F.S., and *Safety Regulations and Permit Fees for Overweight and Overdimensional Vehicles*, Rule Chapter 14-26, F.A.C.

C. Any new access to the State Highway System shall follow the provisions of, *State Highway System Connection Permits, Administrative Process*, Chapter 14-96, F.A.C. and *State Highway Access Management Classification System and Standards*, Rule Chapter 14-97, F.A.C.

D. Any use of State of Florida right of way and certain activities on State transportation facilities will be subject to the requirements of the Department of

Transportation's *Utility Accommodation Manual* (Document 710-020-001) and *Utilities Installation or Adjustment*, Rule Chapter 14-46, F.A.C.

E. Any drainage onto State of Florida right of way and transportation facilities will be subject to the requirements of *Drainage Connections*, Rule Chapter 14-86, F.A.C.

F. Any structures proposed in the application which exceed 200 feet in height will be subject to an aeronautical study by the Federal Aviation Authority under the provisions of 14 CFR Part 77. The Licensee must obtain any necessary variances.

XXXV. EMERGENCY MANAGEMENT

A. FPL shall incorporate the Unit 5 site into the Comprehensive Hurricane Preparation and Recovery Plan for the overall Turkey Point Power Plant Site.

B. FPL shall submit a formal update of the Comprehensive Hurricane Preparation and Recovery Plan to the Department of Community Affairs, the Miami-Dade County Office of Emergency Management every five (5) years following commencement of commercial operation of the Unit 5 and whenever an additional electrical generating unit is brought into service at the Turkey Point Plant site.

XXXVI. MIAMI-DADE COUNTY

A. Construction and operation of the certified facilities shall be in accordance with all applicable nonprocedural requirements of the laws and ordinances of Miami Dade County in effect on November 14, 2003, including, but not limited to, the Miami Dade Comprehensive Development Master Plan and Chapters 8, 11C, 14, 18A, 24, and 33 of the Code of Miami Dade County, Florida.

B. Protection of Existing Legal Water Users

1. As provided in Condition XXXIII.B.2., if SFWMD determines that the potential exists for Licensee's proposed Floridan Aquifer withdrawals to cause interference with existing legal users, authorization for such withdrawals shall be contingent upon SFWMD establishing acceptable withdrawal rates and requiring necessary and appropriate mitigation, pursuant to SFWMD's Basis of Review for Water Use Permits, to prevent interference with existing legal users. Licensee shall submit copies of any reports on additional modeling, alternative water supplies, and mitigation plans to WASD.

2. Licensee shall provide a copy to WASD of any notice received from SFWMD pursuant to Condition XXXIII.C.3., that a reliable source of reclaimed water is available at the Project site to serve Unit 5.

3. If reclaimed water from the South District Wastewater Treatment Plant is used as a source of makeup to the Unit 5 cooling tower, blowdown from the cooling tower shall be returned to the South District Wastewater Treatment Plant for treatment and disposal. The requirements of Section 24-11(9) of the Code of Miami Dade County, as revised in March 2004, or as subsequently revised pursuant to federal or state law, shall apply to such blowdown returned to the South District Wastewater Treatment Plant.

C. The following detailed plans must be submitted to Miami Dade County Department of Environmental Resources Management (DERM) prior to initiation of work in tidal waters or wetlands:

1. The site plan layout shall be consistent with, or have wetland impacts less than, the plans described in the document *"Turkey Point Expansion Project, Refined Mitigation Proposal, FPL, April 2004"* or as subsequently amended or modified.

2. Two or more sets of construction drawings and engineering calculations signed and sealed by a professional engineer registered in the State of Florida and a land survey sealed by a licensed land surveyor registered in the State of Florida for those elements of the project that involve wetlands. These plans must include sufficient detail and be prepared at a scale that clearly identifies the limits of filling in wetlands and tidal waters, on-site mitigation areas, structures other than fill in tidal waters or wetlands, and typical cross-sections of all elements of the project that affect wetlands.

3. A construction management plan which shall include methods or best management practices for preventing or controlling secondary impacts from turbidity, siltation, fugitive dust, unpermitted impacts to adjoining waters or wetlands, fill or excavated material, construction debris, noise, or artificial lighting.

4. A plan for further assessment of materials proposed to be used for filling tidal water and wetlands, including physical, chemical and biological effects tests as determined in cooperation with local and state environmental agencies. Placement of fill shall not commence until additional testing and analysis of physical, chemical, and biological characteristics of fill material have been completed in accordance with requirements of DERM.

5. A water quality and biological monitoring plan for documenting compliance with narrative and numerical water quality targets during construction.

6. A post-construction long-term water quality and biological monitoring plan for areas near or downstream of the built areas, on-site mitigation areas, and on-site restoration areas.

7. A detailed on-site mitigation and restoration plan including signed and sealed construction drawings (plan views and cross-sections), planting configuration

and species list, hydraulic or tidal exchange calculations, exotic control and maintenance methods, and success criteria. This plan shall be consistent with the document "*Turkey Point Expansion Project, Refined Mitigation Proposal, FPL, April 2004*" or as subsequently amended or modified.

8. A plan for monitoring and responding to the occurrence of endangered (or other listed species) in the construction area.

9. A stormwater management plan, including calculations and construction drawings.

10. A plan for training all on-site construction-related workers with respect to environmental resource protection requirements.

D. The applicant shall mark in a conspicuous fashion the boundaries or limits of all work/fill areas, mitigation areas, preservation areas, or protected species habitat. This may be accomplished with fencing, flagging, buoys, silt barriers, hay bales, or other forms of durable demarcation. Field markers shall include survey benchmarks or reference points that can be compared to approved construction plans and drawings. Prior to construction in wetlands or tidal waters, the layout must be approved by DERM. The markers shall be maintained for the entirety of construction to facilitate compliance inspections and also to reduce the chance of unauthorized impacts to resources.

E. Seven days prior to the start of construction in wetlands or tidal waters, the Licensee shall allow prior approved third party access for the salvage of desirable native vegetation occurring within the areas to be filled or cleared.

F. Dredging and filling of coastal wetlands shall be limited to the minimum amount for public necessity or enhancement of biological, chemical or physical characteristics of adjacent waters.

G. On-site mitigation and restoration areas shall be maintained free (less than 1% cover) of invasive exotic vegetation in perpetuity.

H. Within 90 days of the start of construction, the Licensee shall convey title of 307 acres of wetland, as defined in the "*Turkey Point Expansion Project, Refined Mitigation Proposal, FPL, April 2004*" or as subsequently amended or modified, to the appropriate federal, state, or local resource management agency for conservation or restoration purposes consistent with the goals of ongoing regional restoration plans.

I. Unconsolidated shorelines created as a result of the project shall be stabilized with native vegetation, such as but not limited to mangroves. If seawalls or bulkheads are constructed in or adjacent to tidal waters, they shall include the use of rip-rap or similar wave attenuation devices in their design.

J. Construction of on-site mitigation shall be initiated within 90 days of the beginning of filling of coastal wetlands or tidal waters. Construction of on-site mitigation shall be completed within 90 days of the completion of filling of wetlands except areas to be restored after completion of project construction.

K. Restoration of temporarily filled wetlands shall commence within 60 days of completion of construction on the power block or by January 2010, whichever first occurs.

L. Should upland construction damage or require removal of upland trees, the Licensee shall be required to preserve specimen trees (trunk > 18 in. DBH) and replace upland tree canopy in accordance with the requirements of Article III. Tree Preservation and Protection Sec. 24-60 of the Code of Miami-Dade County. This requirement includes trees along entrance roads and existing landscaped areas, and shall be in addition to establishment of coastal hammocks proposed as part of on-site mitigation.

M. Exotic pest plant species on the development site uplands shall be removed prior to development.

N. Temporary and permanent fill pads shall be graded to slope away from tidal waters and wetlands.

O. Construction of permanent parking areas, walkways, and amenities shall use semi-pervious materials to reduce runoff where feasible and compatible with safety requirements.

P. This Certification does not replace or eliminate the need for appropriate annual operating permits from Miami-Dade County for any existing, new or improved facilities located at the Turkey Point Power Plant site but not within the area covered by this Certification as delineated in the Site Certification Application. If reclaimed water is used as makeup to the Unit 5 cooling tower and cooling tower blowdown is returned to the South District Wastewater Treatment Plant, FPL shall apply for such permit from DERM as may be required under Chapter 24 of the Code of Miami-Dade County for such disposal pursuant to federal law.

ATTACHMENT A
CONDITIONS OF CERTIFICATION

PA 03-45

FLORIDA POWER & LIGHT COMPANY
TURKEY POINT UNIT 5 ELECTRIC POWER GENERATION FACILITY

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

IN RE: FLORIDA POWER & LIGHT)
TURKEY POINT UNIT 5 POWER PLANT)
SITING APPLICATION NO. PA03-45,) Case No. 03-4391EPP
_____)

RECOMMENDED ORDER

Pursuant to notice, the Division of Administrative Hearings,
by its duly-designated Administrative Law Judge, J. Lawrence
Johnston, held a certification hearing in the above-styled case on
September 20-21, 2004, in Miami, Florida.

APPEARANCES

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EXHIBIT "A"

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STATEMENT OF THE ISSUE

The issue to be resolved in this proceeding is whether the Governor and Cabinet, sitting as the Siting Board, should issue certification to Florida Power & Light Company ("FPL"), to construct and operate a new combined cycle generating unit providing an additional 1150 megawatts, at FPL's existing Turkey Point site in Miami-Dade County, Florida, in accordance with the Florida Electrical Power Plant Siting Act, Section 403.501, et seq., Florida Statutes.

PRELIMINARY STATEMENT

This proceeding was conducted pursuant to the Florida Electrical Power Plant Siting Act ("PPSA"), Chapter 403, Part II, Florida Statutes, and Florida Administrative Code Chapter 62-17 to consider FPL's application for power plant site certification of the Turkey Point Expansion, or Unit 5, Project (the "Project"). On November 14, 2003, FPL applied for

certification to construct and operate an 1150 megawatt natural gas-fired electrical power plant in Miami-Dade County, Florida, referred to as "Unit 5," pursuant to the PPSA. The Florida Department of Environmental Protection ("DEP") determined the application for site certification to be complete on December 1, 2003. (PS p 3).¹

Comments on the sufficiency of the application were timely submitted by the Department of Transportation, the Florida Fish and Wildlife Conservation Commission, the South Florida Water Management District ("SFWMD"), and the South Florida Regional Planning Council. FPL filed responses to all agency sufficiency comments. (FPL Ex 2). The application was found sufficient on April 7, 2004. (Id.)

On April 14, 2004, the SFWMD Governing Board, which has exclusive jurisdiction to regulate consumptive use of water within the District's boundaries pursuant to Section 373.217, Florida Statutes, adopted its staff's report recognizing that the Project can be constructed consistent with SFWMD statutes and rules, recommending approval of FPL's withdrawal of 17.89 million gallons per day (90-day average)/4,599 million gallons per year to provide cooling water for Unit 5, subject to certain conditions and restrictions, and requiring FPL to use a reliable source of reclaimed water, if and when SFWMD notifies FPL that it is available at the Project site in a quantity and quality

acceptable to FPL for Unit 5 cooling purposes. (DEP Ex 2, Appendix IV).

Miami-Dade County ("M-DC") filed its "Preliminary Statement of Issues" on February 2, 2004, and on February 3, 2004, filed its "Amended Preliminary Statement of Issues." FPL voluntarily submitted responses to M-DC's "Amended Preliminary Statement of Issues" on April 9, 2004. (FPL Ex 8; PS p. 3).

On April 15, 2004, a land use hearing was held for the purposes of determining whether the Project is consistent and in compliance with local land use plans and zoning ordinances of M-DC. On May 7, 2004, the assigned Administrative Law Judge entered his Recommended Order (on Land Use) concluding that the Project and its site are consistent and in compliance with M-DC's land use plans and zoning ordinances. On August 10, 2004, the Siting Board unanimously approved a final Land Use Order adopting the Recommended Order (on Land Use) and finding the Project to be consistent and in compliance with applicable land use plans and zoning ordinances. The Siting Board's Land Use Order was signed by Governor Bush and issued on August 18, 2004. (FPL Ex 6; PS p. 3).

Pursuant to Section 403.519, Florida Statutes, the Florida Public Service Commission issued Order No. PSC-04-0609-FOF-EI, dated June 18, 2004, affirmatively determining the need for Turkey Point Unit 5 as proposed by FPL. (FPL Ex 4).

Pursuant to Section 403.507(3), Florida Statutes, the certification hearing shall also serve as the hearing on any petition for an administrative hearing concerning the preliminary determination and draft permit issued by DEP on the separately-issued federal prevention of significant deterioration ("PSD") permit for the Project. No such petition has been timely filed.

The various reviewing agencies have submitted reports on the Project and proposed conditions of certification. (T-II 73-74; DEP Ex 2). On July 15, 2004, DEP issued its Staff Analysis Report on the Project, incorporating the reports of the reviewing agencies and recommending certification of Turkey Point Unit 5, subject to a comprehensive set of Conditions of Certification. (DEP Ex 2; PS p 4). At the hearing on this matter, DEP submitted a revised and corrected Staff Analysis Report that, among other things, incorporated an updated comprehensive set of Conditions of Certification. (DEP Ex 2). Those Conditions of Certification were also submitted by all parties participating in the certification hearing as a Joint Exhibit. (Jt Ex 1).

On July 23, 2004, notice of the certification hearing scheduled for September 7, 2004, was published in the Miami Herald and the South Dade News Leader, both local newspapers in the vicinity of the Project. The Miami Herald is the newspaper

of general circulation with the largest daily circulation in Miami-Dade County and has its principal office in that County. Notice of this certification hearing was also published by DEP on its website on July 23, 2004. (FPL Comp Ex 5; PS p 4).

FPL filed an Emergency Motion for Continuance and an Emergency Motion for Alteration of Time Limits on September 2 and 3, 2004, respectively, due to the uncertainties associated with the landfall of Hurricane Frances. A hearing on the Motion for Continuance was held on September 3, 2004, and an Order granting the continuance and re-scheduling the hearing to September 13, 2004, was entered on September 8, 2004. Notice of the continuance was published by FPL in the Miami Herald on September 4, 2004, and by DEP on its website on September 10, 2004. (FPL Comp Ex 9). In addition, FPL employees were stationed at the original hearing time and location to notify anyone who appeared of the continuance. No persons appeared to attend the hearing scheduled for this date. (FPL Comp Ex 9.D & 10.C).

On September 10, 2004, FPL filed a Second Emergency Motion for Continuance and Alteration of Time Limit due to the uncertainties associated with the landfall of Hurricane Ivan. An Order granting the continuance and re-scheduling the hearing to commence September 20, 2004, was issued on September 13, 2004. Notice of the continuance was published by DEP on its

website on September 17, 2004. In addition, an FPL employee was stationed at the first re-scheduled hearing time and location to notify anyone who appeared of the continuance. No persons appeared to attend the hearing scheduled for this date. (FPL Comp Ex 10).

After proper notice by the Applicant and by DEP, the certification hearing was held on September 20-21, 2004, in Miami, Florida. (T-I & T-II; FPL Ex 5, 9 & 10). The hearing was conducted for the purpose of receiving evidence as to whether certification authorizing construction and operation of the Project should be approved, approved with conditions, or denied. (PS p 1).

On September 1, 2004, FPL, DEP, Florida Fish and Wildlife Conservation Commission, Florida Department of Transportation, Florida Department of Community Affairs, SFWMD and M-DC filed a Prehearing Stipulation addressing certification issues. (FPL Ex 3). The Stipulation indicated that all parties agreed that the Project should be certified, subject to appropriate conditions of certification. (T-I 3-4; FPL Ex 3; Jt Ex 1). All parties other than M-DC were in agreement on the appropriate conditions of certification. (FPL Ex 3). M-DC's position was that certain additions and revisions to the otherwise agreed-upon conditions were warranted. (T-I 17).

At the certification hearing, the parties filed as a Joint Exhibit revised and updated Conditions of Certification. (Jt Ex 1). All parties agreed that certification should be made subject to those conditions set forth in Joint Exhibit 1. (T-I 3-4). M-DC announced at the commencement of the hearing that the single remaining issue it intended to pursue was that the conditions of certification be altered to include a requirement that FPL perform additional modeling to further assess the impact of FPL's proposed withdrawals from the Upper Floridan aquifer on existing legal users, in particular M-DC. (T-I 17-18).

FPL presented the testimony of 10 witnesses and the following exhibits were received into evidence without objection: FPL Exhibits 1 through 10;² JG-1 through 11, HF-1 through 10, KFK-3 through 5, and PA-1 through 6. The Applicant's expert witnesses and the subject of their testimony included:

Peter Andersen, Groundwater Hydrology and Groundwater Modeling;

Karl Bullock, Terrestrial and Wetlands Ecology;

Harold Frediani, P.E., Surface Water Hydrology, Civil Engineering, and Power Plant Systems Operation;

John Gnecco, P.E., Power Plant Design, Engineering and Construction;

Kennard Kosky, P.E., Power Plant Siting, Licensing, Public Interest Determinations, and Regulatory Compliance, Air Pollution Control Technology Design and Engineering, Best Available Control Technology Design and Engineering, Air Quality Impact Analysis including impacts to Visibility and Noise Evaluation and Impact Analysis;

Bill L. Maus, Wetland Ecology, Mitigation and Functional Assessment Methodology;

Heriberto Nunez, Power Plant Operations;

Winifred Perkins, Management of Wildlife Species Programs; and

Richard Zwolak, Land Use Planning, Socioeconomic Impact Analysis and Traffic Impact Analysis.

FPL also presented the testimony of David N. Hicks, a fact witness.

DEP presented the testimony of Steven L. Palmer, an expert in the field of Electrical Power Plant Site Certification in Florida, including the Site Certification Procedures and Substantive Requirements. In addition, DEP Exhibits 1 and 2 were admitted in evidence.

SFWMD presented the testimony of Scott Burns, an expert in the field of Hydrogeology and Consumptive Use Permitting.

M-DC presented the testimony of Virginia Walsh, P.G., an expert in the field of Groundwater Modeling and Hydrology. In addition, MD-C Exhibit 1 was admitted in evidence.

Opportunity was afforded for members of the general public to appear. Six members offered oral comments:

Norman Hatch, Director of Engineering for the Florida Keys Aqueduct Authority ("FKAA"), offered sworn testimony about the FKAA's intent to install an aquifer storage and recovery ("ASR") facility within the Upper Floridan aquifer in South Dade County and the FKAA's desire for conditions on FPL's Project that will safeguard the FKAA ASR facility. (T-I 129-33). In addition, FKAA may in the future seek approval to use water from the Upper Floridan aquifer, with desalinization, to augment its water supplies. (T-I 131-132).

Mark Oncavage, Conservation Chair of the Sierra Club's Miami Group, provided unsworn public comment expressing concern for the environment. (T-I 133-35).

Otis Wallace, Mayor of Florida City, provided unsworn public comments recognizing FPL's historical demonstrations of its ability to conduct business in an environmentally sensitive way and the need for the Unit 5 Project, and expressing the City Commission's support for certification of the Project. (T-I 135-36).

Denise Heacock, of the Perrine-Cutler Ridge Council, provided unsworn public comments about the area's need for power to support growth and maintain electric system reliability, and expressed the Council's support for certification of the Project. (T-I 136-38).

Donna Masson, President of the Chambers South, a Chamber of Commerce that serves south Miami-Dade County, provided unsworn public comments recognizing the need for the Project and expressing support for certification of the Project. (T-I 138-39).

Mary Finlan, Executive Director of the Greater Homestead Florida City Chamber of Commerce, provided unsworn public comments in support of certification for FPL's Project. (T-I 140-41).

In addition, written documents containing unsworn public comments were submitted by Sierra Club, Biscayne National Park, City of Homestead, Dade County Farm Bureau, Homestead Hospital and Miami-Dade College. These submissions were marked Public Comment Exhibits and placed in the record.

Upon concluding the taking of evidence, FPL elected to order the two-volume Transcript of the proceedings which was filed with the Division of Administrative Hearings on September 30, 2004. A Joint Proposed Recommended Order by FPL, DEP, and SFWMD was timely submitted and has been considered in rendition.

of this Recommended Order. M-DC joined in portions of the Joint Proposed Recommended Order and also filed a separate Proposed Recommended Order in which it proposed that certain portions of the Joint Proposed Recommended Order be replaced or otherwise amended; M-DC also suggested that a proposed condition of certification be modified to require FPL to perform density-dependent groundwater modeling, using values observed at multiple sites in the aquifer system, following the completion of FPL's Aquifer Performance Test (APT), in order to determine what, if any, impact FPL will have on existing M-DC ASR wells.

FINDINGS OF FACT

Background

1. FPL, the largest electric utility in Florida, serves more than 4.17 million customers, and a population of 8 million people, in 35 counties along the eastern seaboard and the southern and southwestern portions of Florida. (FPL Ex 1, Vol 1, p 1-2; FPL Comp Ex 7, Hicks p 2 & Ex DH-1). FPL owns 82 generating units in the state of Florida, representing approximately 18,144 megawatts ("MW") of electrical generating capacity, and has partial ownership of two units located in Jacksonville and one unit in Georgia. (FPL Ex 1, Vol 1, p 1-2; FPL Comp Ex 7, Hicks p 3).

2. FPL last added new generation in Miami-Dade County in 1973, at which time the Miami-Dade load was 2,435 MW. FPL projects the Miami-Dade load will grow to 5,445 MW by 2007, an

increase of 124% over the peak load in 1973. (FPL Comp Ex 7, Hicks p 6). Based on a detailed reliability assessment, FPL projects that it will need 1,066 MW of additional capacity to meet the needs of its customers and provide adequate reserve margins in 2007. (PSC Need Order, FPL Ex 4).

3. On June 18, 2004, the Florida Public Service Commission ("PSC") issued an Order Granting Determination of Need for the FPL Turkey Point Unit 5 Project. (FPL Ex 4; PS p 29). In its Order issued pursuant to Section 403.519, Florida Statutes, the PSC determined there is a need for the Project, taking into account the need for electric system reliability and integrity and for adequate electricity at a reasonable cost. (Id.) The PSC further determined that the Project is the best, most cost-effective alternative available. (Id.)

4. Another important benefit of the Project to the reliability of Southeast Florida's electric service is the Project's location in South Miami-Dade County. This location will reduce the growing imbalance between load and generation capacity in Southeast Florida and the associated increasing reliance on transmission import capability to serve the Southeast Florida area load. The location of new generation in Southeast Florida also avoids higher costs related to transmission losses and increased uneconomic operation of Southeast Florida gas combustion turbines.

caused by the growing imbalance between load and generation capacity. (FPL Comp Ex 7, Hicks p 4; FPL Ex 1, Vol 1, p 1-8).

5. The Project was selected as FPL's Next Planned Generating Unit (NPGU) to meet FPL's 2007 need because it was determined to be the only practicable alternative from among all the self-build options identified and evaluated by FPL. (FPL Comp Ex 7; Hicks p. 5).

6. On August 18, 2004, the Siting Board rendered a Land Use Order, in which it determined that the 90-acre Project site ("the Project area"), at which the production of electricity will be fueled by natural gas and/or ultra low-sulfur distillate oil, is consistent and in compliance with the existing land use plans and zoning ordinances of M-DC. (FPL Ex 6).

The Existing Turkey Point Power Plant Site

7. The 90-acre Project area is wholly within FPL's existing 11,000-acre Turkey Point Power Plant site, which is the location of four existing generating units with a total capacity of approximately 2,200 MW. (FPL Ex 1, Vol 1, pp 1-3, 2-1 & 3-4; PS p 27; FPL Ex JG-3 & JG-8). Existing Turkey Point Units 1 and 2 are both nominal 400-MW capacity residual oil and/or natural gas-fired steam units, which began operation in 1967 and 1968, respectively. (FPL Ex 1, Vol 1, pp 1-3, 2-1 & 3-1; T 29). Existing Turkey Point Units 3 and 4 are both nominal 700-MW capacity nuclear units, which began operation in 1972 and 1973, respectively. (Id.)

8. The southern portion of the Turkey Point Power Plant site is dominated by a closed-loop 5,900-acre cooling canal system that provides cooling water for Turkey Point Units 1-4. (PS p 27; T-I 33; FPL Ex 1, Vol 1, p 1-3). DEP has classified the Biscayne aquifer in the Project area east of the L-31-E canal as G-III, which is non-potable with no reasonable potential to be used as a source of drinking water. (T-I 89. See also FPL Ex 1, Vol 1, p 5-1). The water levels in the cooling canals and the westerly adjacent interceptor ditch are maintained at levels that result in hydraulic gradients with groundwater flow towards the cooling canal system, thus preventing cooling canal water from moving into the L-31E Canal or potable groundwater to the west or into Biscayne Bay to the east. (T-I 81-83; FPL Ex HF-9B; FPL Ex 1, Vol 1, pp 2-20 & 2-21). The cooling canals also serve as feeding and nesting habitat for the federally-listed endangered American Crocodile. (FPL Comp Ex 7, Bullock p 10, Perkins p 5 & Ex. WP-3. See also FPL Ex 1, Vol 1, p 4-19).

9. The existing facilities on the Turkey Point Power Plant site also include: two 268,000-barrel residual fuel oil tanks; a system substation with associated electrical transmission lines; Unit 1 and 2 support facilities, including an administration and maintenance building, and warehouse; Unit 3 and 4 support facilities, including an administration building, security entrance building, simulator facility, maintenance facility and

warehouse; an entrance road; a gas pipeline that supplies the site with natural gas; and a fuel barge unloading facility where residual fuel oil is delivered. (T-I 28-29; FPL Ex 1, Vol 1, p 2-1; FPL Comp Ex 7, Hicks p 8).

10. The Turkey Point Power Plant site is surrounded by undeveloped land to the south and west; most of which is part of the FPL-owned and operated 13,000-acre Everglades Mitigation Bank; and by recreational facilities to the north and east, including Homestead Bayfront Park; Biscayne National Park and Biscayne Bay. (T-I 26; FPL Ex. JG-3; FPL Ex 1, Vol 1, p 2-2; FPL Comp Ex 7, Zwolak, p 6). FPL's property ownership in and around the Turkey Point Plant site totals approximately 24,000 acres. (T-I 25).

11. The Turkey Point Power Plant site is underlain by the Floridan aquifer system, a regionally-extensive aquifer system that underlies much of Florida and several southeastern states. (T-II 10-11; FPL Ex HF-5A). The Floridan aquifer system transmits fairly large quantities of water. (T-II 10-11).

12. The Upper Floridan aquifer lies beneath the Biscayne aquifer, a surficial aquifer, and is separated from the Biscayne aquifer by the Hawthorn formation, which serves as a semi-confining layer that restricts flow between the Upper Floridan aquifer and the overlying Biscayne aquifer. (T-II 11; FPL EX HF-5A). In the Turkey Point Power Plant site area, the Upper Floridan is about 850 feet thick, composed of limestone, with the

top of the aquifer being about 1000 feet below land surface. . . .
Beneath the Upper Floridan aquifer is another semi-confining bed
that separates it from the Lower Floridan aquifer, which contains
poor-quality water. (Id.) The Upper Floridan aquifer in South
Florida contains brackish water and, therefore is considered non-
potable.³ (T-II 12; FPL Ex HF-5B).

13. The Upper Floridan receives recharge from precipitation
in the upland area in Central and Northern Florida, and the water
moves toward exit points further south. Water flows in the Upper
Floridan aquifer, therefore, in a southeasterly direction. (T-II
12; FPL Ex HF-5A). As the aquifer dips toward the southeast, the
water in the aquifer is under pressure, such that the
potentiometric surface in the Turkey Point area is about 40 feet
above land surface. (T-II 13). This means that if water is
allowed to rise in a well, it would rise above land surface about
40 feet. (Id.)

The Proposed Unit 5 Project Area

14.. The proposed 96-acre Turkey Point Unit 5 Project area
("Project area") is located to the north of the existing Units 1-4
within the Turkey Point Power Plant site. (PS p 27; T-I 30; FPL
Ex JG-3 & JG-7). The choice of this location was based on an
alternatives analysis that included consideration of three other
potential locations within the Turkey Point site. (T-I 51; FPL Ex
JG-10). The other three potential locations were rejected as

being more costly, being too close to the federally-mandated nuclear security zone around Units 3 and 4, and having wetland impacts, among other things. (Id.)

15. The vegetative and ecological habitats within the Project area consist of dwarf/shrub mangroves, hypersaline dwarf mangrove marsh, a man-made open-water lagoon, tidal creeks, and the upland "Red Barn" peninsula. (FPL Ex 1, Vol 1, pp 2-28 thru 2-29; FPL Comp Ex 7, Bullock p 7).

16. The dwarf red mangroves in the Project area are less than 3 feet in height, likely reduced in size due to decreased nutrient availability and/or increased salinity resulting from the lack of freshwater sheet flow. The shrub/scrub red mangroves are up to 5 feet in height. (FPL Ex 1, Vol 1, p 2-28; FPL Comp Ex 7, Bullock p 8).

17. The hypersaline dwarf mangroves, which occur west of the existing transmission line patrol road, are more hydrologically isolated from Biscayne Bay and have water depth ranging from 1 to 8 inches. (FPL Comp Ex 7, Bullock p 8).

18. The man-made open-water lagoon was dredged soon after the construction of the Turkey Point facilities in the late 1960s. Its depth ranges from 1 to approximately 5 feet. About 67 percent of the 1.74-acre lagoon contains sparse to moderately dense seagrass. The vegetation along the banks of the lagoon is dominated by red mangroves, some individuals up to 20 feet in

height; with the exotic species Australian pine located on the northern edge upon the spoil piles remaining from excavation of the lagoon. (FPL Comp Ex 7, Bullock pp 8-9).

19. There are two narrow, shallow tidal creeks within the Project area that connect to the man-made lagoon. The banks of these creeks support mangroves up to 20 feet in height. (FPL Comp Ex 7, Bullock p 9).

20. The Red Barn peninsula is located on the eastern edge of the Project area. This area was used for recreational purposes prior to September 11, 2001. (Id.)

21. The Project area provides limited high-quality wildlife habitat. The existing Turkey Point facility, its access road and transmission line patrol road diminish the value of the habitat with regard to wildlife usage. The roadway and patrol road, which have been in place for over 40 years, have altered natural hydrology and limited the tidal flushing of mangroves on the western portion of the Project area. This lack of flushing as a result of reduced hydrologic connectivity has resulted in stressful hypersaline conditions for this area of proposed impact. The eastern portion of the Project area supports mangrove growth that is not conducive to utilization by birds or animals because nearby areas provide easier access for wildlife. (FPL Comp Ex 7, Maus p 17).

22. The vegetation and ecological habitats surrounding the

Project area include:

1. Dwarf mangrove wetlands and tidal creeks, similar to those within the Project area, to the north;
2. Biscayne Bay, an Outstanding Florida Water and Aquatic Preserve that contains large expanses of seagrasses and supports a variety of marine life, to the east;
3. Cleared land associated with the existing electric generating facilities to the south;
4. An area of freshwater sawgrass marsh west of the Turkey Point Power Plant access road;
5. A series of 5 test cooling canals dominated by the exotic species Australian pine to the southwest of the Project area; and
6. Further to the south and west of the Project area is the 5,900-acre closed cooling canal system that provides feeding and nesting habitat for the federally-endangered American Crocodile.

(FPL Ex 1; Vol 1, Figure 2.2-4; FPL Ex 2, p FDEP-19; FPL Comp Ex 7, Bullock pp 9-10 and Zwolak p 6).

23. Land uses in the vicinity of the Project area include:

1. Transmission infrastructure and undeveloped land to the west and north;
2. Power plant generation and ancillary uses to the east and south;
3. Biscayne Bay, Biscayne National Park and Biscayne Aquatic Preserve offshore to the east;

4. Card Sound, which is included within the Biscayne Bay Aquatic Preserve, to the southeast;

5. Biscayne National Park headquarters about 1.8 miles to the north;

6. Mangrove County Preserve north of the National Park headquarters;

7. Homestead Bayfront Park about 1.3 miles to the north;

8. The Everglades Mitigation Bank to the south and west; and

9. Model Lands Basin, a Save Our Rivers acquisition, west of the FPL-owned lands.

(FPL Ex 1, Vol 1, p 2-2 & Figure 2.1-1; FPL Comp Ex 7, Zwolak pp 6-7; T-I 87).

24. The Project area is outside the boundaries of the Biscayne National Park, an Outstanding Florida Water, as FPL owns in fee simple the Turkey Point Power Plant site out to a depth of three feet mean high water in Biscayne Bay. (T-I 25-26 & 36; FPL Comp Ex 7, Bullock p 10).

25. The nearest residence is located 3.4 miles northwest of the Project area, and there is no residential neighborhood within five miles of the Project area. (Id.; FPL Ex 1, Vol 1, p 2-4).

Project Design

26. The Project involves the creation of a new "4-on-1" combined cycle unit, that is, for combustion turbines/heat recovery steam generator units that supply steam to a single steam

turbine generator. (PS pp 27-28; T-I 32; FPL Ex 1, Vol 1, p 1-3). A combustion turbine is similar to a large jet engine. It combines air and fuel in the combustion turbine, where the fuel is ignited and the air expanded to rotate a shaft that has an electric generator attached to it. Heat from the combustion turbine, in addition to supplemental heat from duct burners, is exhausted into a heat recovery steam generator which produces steam to rotate a conventional steam turbine shaft that is attached to a separate electric generator. The recovery of waste heat from the combustion turbine for use in the steam turbine results in the combined-cycle design having efficiency gains over conventional combustion turbines. (T-I 31; FPL Ex JG-5; FPL Ex 1, Vol 1, p 1-3).

27. The new Unit 5 will be fueled primarily by natural gas delivered by an existing pipeline, with ultra low-sulfur light oil, delivered by truck, as a backup fuel for up to 500 hours per year per combustion turbine. (FPL Ex 1, Vol 1, pp 1-3 & 3-5; PS pp 27-28; T-I 39).

28. A new cooling tower will be used in the Unit 5 heat dissipation system. A cooling tower is a device that brings water into contact with air for the purpose of cooling the water. (T-I 40, 83). Use of the cooling tower will increase the efficiency of the steam turbine-generator by allowing the steam to condense at a lower pressure and temperature than exhausting the

steam to the atmosphere, and will facilitate recycling of the high-quality water needed in the boiler and heat recovery steam generators. (T-I 66-67).

29. The source of makeup water for the new cooling tower will be brackish groundwater from the Upper Floridan aquifer, drawn from wells up to 1400 feet below ground surface. (PS p 28; T-I 40; FPL Ex 1, Vol 1, p 3-11). Unit 5 will also be able to accept reclaimed water when that source becomes available at the site in an acceptable quality and quantity for the new power plant's cooling tower. (Id.)

30. Because the cooling water is recycled in the cooling tower, going through multiple cycles of evaporation and condensation, the buildup of dissolved minerals in this heat dissipation system must be controlled to avoid chemical scaling and diminished system performance. Dissolved mineral buildup is controlled by releasing a portion of the cooling tower's circulating water and replacing it with new makeup water. This process is called "blowdown." (T-I 84).

31. FPL initially estimated that 17.89 million gallons per day ("MGD") (maximum 90-day average) of Upper Floridan aquifer water would be needed for cooling tower makeup. (T-I 40. See also FPL Ex 1, App 10-9 p 1). Subsequently, FPL determined that it could reduce the maximum 90-day average withdrawal rate from the Upper Floridan aquifer to 14.06 MGD. (T-I 40).

32.. FPL recognizes that use of reclaimed water is a high priority for DEP, SFWMD and M-DC. (T-I 44). Consequently, FPL began evaluating reclaimed water as an alternative water source for the Project from the inception of the Project. (T-I 43; FPL Ex 1, Vol 3, App 10.10). FPL perceives use of reclaimed water as a win-win situation, provided that the reclaimed water can come to the facility at a quality and a quantity that is acceptable for the use in the power plant.. (T-I 44):

Currently, the nearest source of reclaimed water, the South District Wastewater Treatment Plant, is 7.5 miles away from the Turkey Point Power Plant site, which is beyond the five-mile distance within which DEP generally requires feasibility studies. (T-I 41; FPL Ex 1, Vol 3, App 10.10). The water quality of that source is such that it could require additional treatment before it could be used in the Unit 5 cooling tower.

(Id.)

33. If water from the Upper Floridan aquifer is used for cooling tower makeup, cooling tower blowdown would be to the existing 5,900-acre cooling canal system; a permitted wastewater treatment facility at the Turkey Point Power Plant Site, with no adverse impact to the chemical composition of the cooling canal system. If reclaimed water is used for cooling tower makeup, blowdown will be returned to the South District Wastewater Treatment Plant. Due to some of the constituents in reclaimed

water, both organic and inorganic, FPL would not discharge blowdown from this source into its cooling canal system which serves as habitat for the federally-endangered American crocodile. (PS p 28; T-I 68, 84-85). Prior to returning the reclaimed water blowdown stream to the South Dade Wastewater Treatment Plant, additional pretreatment may be required. (T-I 42)...

34. Other industrial wastewaters will be treated in an onsite facility and recycled to the cooling pond. Domestic wastewater will be treated in an existing on-site permitted facility. Process water, service water and potable water for Turkey Point Unit 5 will be supplied from Miami-Dade County. (PS pp 28-29; T-I 69; FPL Ex 1, Vol 1, p 3-11).

35. The Unit 5 discharges of industrial wastewater to surface waters and groundwater will comply with applicable water quality standards. (PS p 30; T-I 17-18. See also FPL Ex 1, Vol 1, p 3-3):

36. Of the 90-acre Project area, approximately 55 acres will be used for construction of Unit 5. The original site plan for Unit 5 would have resulted in 40 acres of wetland impact. (T-I 37-38; FPL Ex JG-9). Subsequently, FPL had numerous discussions with local, state and federal agencies and identified opportunities to reconfigure the site plan to further minimize wetland impacts. (T-I 37; FPL Comp 7, Bullock p 13-14). The site

plan for which certification is sought in this proceeding involves impact to 24.35 acres, only 19.01 of which are permanently impacted. (FPL Comp Ex 7, Bullock pp.13-14; FPL Ex JG-7 and JG-9). This represents a reduction of permanent impacts to wetlands and potential listed species habitat of 52.5 percent compared to the original Project conceptual design.

37. Unit 5 will use numerous existing Turkey Point Power Plant facilities, including: the Units 1 and 2 control building, warehouse, and administration and maintenance building; the existing potable water supply pipeline and natural gas pipeline; the existing closed-loop cooling canal system for blowdown from the new cooling tower; the existing electrical substation, which will be expanded; and the transmission system. (T-I 38-39, 84; FPL Ex 1, Vol 1, p 3-1; FPL Ex JG-7).

38. Environmental controls and safeguards are an important part of FPL's design philosophy. (T-I 45). Unit 5 is designed to meet all applicable regulatory requirements and to use best available methods to minimize impacts of the Project (T-I 45), including:

1. Use of an existing power plant site rather than a "green field" site, allowing utilization of numerous existing facilities (Id.);
2. Use of combustion turbines in a combined-cycle configuration to maximize efficiency, making Unit 5 one of the most efficient power

plants in Florida (Id.; FPL Ex 1, Vol 1, p 1-3; T-I 45);

3. Use of design features to minimize air emissions, including (1) the combined cycle technology (2) use of clean fuels that minimize emissions of sulfur dioxide, particulate matter and other fuel-bound contaminants, (3) use of combustion controls such as dry low-NO_x combustors on the combustion turbines and low-NO_x duct burner for the heat recovery steam generator when firing natural gas that minimize the formation of nitrogen oxides (NO_x), and (4) use of a Selective Catalytic Reduction system on each heat recovery steam generator to further reduce NO_x emissions (PS p 28; T-I 45; FPL Ex 1, Vol 1, p 3-9; FPL Comp Ex 7, Kosky p 7);

4. Refinement of the Project's site plan to minimize wetland impacts (T-I 46; FPL Comp Ex 7, Bullock pp 13-14);

5. Use of construction safeguards to protect adjacent wetlands during construction of Unit 5, including the use of impervious barriers and turbidity screens around the initial dredging and filling of impacted wetlands, the installation of treatment facilities for stormwater prior to discharge into adjacent wetlands, and the implementation of a monitoring program for the surrounding wetlands during the construction period (T-I 46-47); and

6. Implementation of a mitigation plan that includes wetlands and wildlife habitat creation, enhancement and/or preservation, and provides a margin of benefit to the environment (T-I 46; FPL Comp Ex 7, Maus p 20, FPL Ex BM-7).

39. The Project's design and construction is consistent with the Conditions of Certification contained in Joint Exhibit 1.

(also Appendix I to DEP Exhibit 2, which is the revised and corrected DEP Staff Analysis Report). Turkey Point Unit 5 will comply with the applicable nonprocedural requirements of all agencies. (T-I 55). In addition, the Project can be operated in compliance with those conditions. (T-I 103)

Construction of Unit 5 Facilities

40. Construction of Unit 5 is scheduled to commence in March 2005, with commercial operation needed for June 2007. (T-I 44; FPL Ex 4, p 3).

41. No explosives for blasting will be used during construction of the Project.

42. Fugitive dust generation from traffic and/or excavations will be minimized through paving, the use of water sprinkling, or other dust suppressant techniques. (Id.). Pockets of material unsuitable for buildings or heavy equipment foundations may be found at the site during site clearing operations. Removal of any unsuitable material and the unavoidable removal of some adjacent material may be required. Unsuitable material (i.e., muck) will be stockpiled onsite for future use in the Everglades Mitigation Bank to enhance the wetlands in accordance with state and federal permits. The removed material will be replaced, as necessary, with structural fill obtained from an onsite construction source, such as limerock stockpiled along the existing cooling canal berms

when that system was constructed. (FPL Ex 1, Vol 1, pp 3-18 & 4-2; FPL Ex 2, p FDEP 7).

43. Temporary dewatering, when required, for initial site preparation will be accomplished by localized pumping in the dewatered area.

44. FPL has developed for this Project monitoring plans and management programs for listed species, including the American crocodile, Eastern indigo snake, wood stork and wading birds, and the Florida Manatee, which will be implemented prior to the commencement of construction and during construction. In addition, biologists and environmental specialists working for FPL and its contractor will conduct extensive wildlife training for the construction crews to educate them on possible wildlife species they might encounter and the appropriate actions and notifications they will be required to make if any listed species are encountered. (FPL Comp Ex 7, Perkins pp 10-11 and FPL Ex WP-4). Similar wildlife management programs, designed and implemented by FPL in the past, have been successful. (See FPL Comp Ex 7, Perkins p 8).

45. It is anticipated that onsite construction activities for the Project will be completed by June 2007. Demobilization, site restoration, and clean-up will extend to November 2007. (FPL Ex 1, Vol 1, p 4-4).

Stormwater Management

46. The areas that will be dredged and then filled during construction of Unit 5 will be isolated from Biscayne Bay and adjacent wetlands by an impermeable barrier. The areas of the site where no filling will occur will be protected by silt fence or hay bales. (T-I 90, 92).

47. There will be four stormwater detention ponds built to handle and treat runoff during the construction phase. Three of those ponds will be constructed prior to any other construction on the site, and the fourth will be partially constructed and then completed as the power block area is filled. Following treatment, water from these ponds will flow into either the cooling canal system or a small tidal creek. (T-I 90-91; FPL Ex HF-3).

48. During operation of Unit 5, runoff from potentially oil-contaminated areas will first be collected in a sump, pumped through oil-water separators, before ultimate discharge to the cooling canal system, which is an industrial wastewater facility. (T-I 52-53, 93; FPL Ex HF-4; FPL Ex 1, p 3-18). Runoff from other areas will be collected in three stormwater ponds and discharged either to the cooling canal system or a small tidal creek after treatment by sedimentation. The water discharged to the creek will be released to the same tidal stream and at approximately the

same flow rate as water currently drains from the area. (T-I 93-95, 99; FPL Ex HF-4).

49. The proposed stormwater system for the Unit 5 Project, both during the construction and operational phases, including any discharges to surface water and groundwater through percolation, will comply with all applicable non-procedural standards of DEP, SFWMD and M-DC. (T-I 95-98; FPL Ex HF-10).

Water Uses and Sources

50. The three principal water uses for Turkey Point Unit 5 are:

1. Makeup water to replace net evaporation and blowdown from the cooling tower heat dissipation system;
2. Demineralized water to be used in the inlet air foggers, for combustion turbine power augmentation, for NO_x control in the combustion turbine during oil firing, and for steam cycle makeup. Collectively, this is known as "process water"; and
3. General "service" water for washdowns, fire protection, pump seals, etc.

(T-I 65-66; FPL Ex 1, Vol 1, p 3-11).

51. FPL will install four wells, three production wells and one spare, to withdraw brackish, non-potable water from the upper 300 feet of the Upper Floridan aquifer for cooling water. (T-I 73-74; FPL Ex 1, Vol 1, p 3-11). Even if reclaimed water becomes available in an acceptable quantity and quality at the Turkey Point site and is used for cooling tower makeup, FPL may

need these Upper Floridan aquifer wells to provide a back-up supply in case of some upset in the reclaimed water system. Also, it is not anticipated that reclaimed water can be available in time for the 2007 Unit 5 startup. (T-I 85-86).

52. FPL will use M-DC potable water for service water and will use it to make demineralized water for use as process water. (T-I 75):

53. The SFWMD criteria for approval of a consumptive use of water require that FPL provide reasonable assurances that the proposed use of water:

1. Is a reasonable-beneficial use as defined in Section 373.019, Florida Statutes
2. Will not interfere with any presently existing legal use of water; and
3. Is consistent with the public interest.

(T-II 95; § 373.223(1), Fla. Stat.).

54. "Reasonable assurances" is a term used to address the uncertainties that abound in natural systems. (T-II 97). It differs from an absolute guarantee insofar as the SFWMD water use permitting program deals with a variety of uncertainties that change daily, or even hourly, in the south Florida environment. (Id.). Conditions may be placed on a permit to account for certain things that could occur despite reasonable assurances having been provided, that will allow the conditions of the permit to be met

through modifications of an operation if it, in fact, becomes necessary. (T-II 98).

55. It would be impossible for SFWMD to administer its consumptive use permitting program if applicants had to provide guarantees. Instead, the system is flexible, as is necessary to meet the demands of all the varied interests within SFWMD's 16-county area and the over 7 million people it serves. (T-II 98).

56. To assess whether a consumptive use of water is reasonable and beneficial, one must evaluate the volume and source of water. (T-II 100). There is no dispute as to the reasonableness of the volume of water FPL requires for operation of the Project. (See FPL Ex 3). For FPL's proposed water use, the Floridan aquifer is the most appropriate source since it is a reliable source of consistent reasonable quality water, is economically feasible, and is not subject to water shortages. (T-I 40; T-II 102-103). It is an environmentally compatible source of water as well. (T-II 103).

57. Both the SFWMD Governing Board and the State of Florida have found the generation of power to be consistent with the public interest. (T-II 121). In this case, there is no question whether this Project serves the public and the public interest. (Id.; FPL Ex 3).

Potential for Interference with Existing Legal Users
of the Upper Floridan Aquifer

58. The sole issue contested in this proceeding, only by M-DC, is whether FPL should be required to perform additional modeling to further demonstrate that its proposed water withdrawals will not interfere with existing legal users, particularly M-DC. (See T-I 17). Specifically, M-DC is concerned about interference with the operation of its 3 aquifer storage and recovery ("ASR") wells at its West Wellfield, located 20 miles from FPL's proposed well, and two wells at its Southwest Wellfield, located 18 miles from FPL's proposed well, that are not yet operating. (T-II 40).

59. The definition of "interference with an existing legal user" under SFWMD rules, which is the threshold upon which permitting determinations are made, requires either:

1. The inability to withdraw water consistent with the provisions of the permit or the exempt use, such as when remedial structural or operational actions that are not materially authorized by the existing permit must be taken to address the interference;
2. A change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or when such change is imminent; or
3. The inability of an existing legal user to meet its permitted demands without exceeding the permitted allocation.

(T-II 106-109. See also SFWMD Basis of Review for Water Use Permit Applications, § 3.7.B.(1)-(3)).

60. A measurable impact does not necessarily constitute "interference with an existing legal user" under SFWMD rules. (T-II 112-113). Existing legal users, including ASR operators, cannot expect zero impacts to their water. (T-II 111-112). Rather, they must share the water resources with other users. (T-II 112). It is widely accepted, for ASR facilities and all other water users, that impacts will occur among users. (Id.) For a proposed use to be non-permittable, it must cross one of the thresholds established by SFWMD rules defining interference with existing legal users for which the resulting interference could not be mitigated. (Id. See also SFWMD Basis of Review for Water Use Permit Applications, § 3.7(C)).

61. The parties, including M-DC, agreed in the Prehearing Stipulation that SFWMD has exclusive authority over consumptive use regulation within its jurisdiction. (See PS p 27; T-II 163). The SFWMD's position is that FPL has provided reasonable assurances that FPL's proposed withdrawals will meet the applicable consumptive use-permitting criteria, including the requirement that the proposed use will not interfere with any existing legal user. (DEP Ex 2, SFWMD Report; T-II 99-110). SFWMD's position is based on an evaluation performed by FPL. FPL's evaluation included groundwater modeling of the impacts from

its proposed withdrawals from the Upper Floridan aquifer. (T-II 18; FPL Ex PA-3). For several reasons, FPL used a groundwater model called MODFLOW.

62. MODFLOW is a mathematical model used to analyze how an aquifer system will respond to a new stress and is required by SFWMD for evaluating groundwater withdrawals. (T-II 17-18). A MODFLOW model is constructed using values for three physical properties of water that affect groundwater flow, together with information from boring logs and a literature search. (T-II 17).

63. The three physical properties used by MODFLOW are transmissivity, storage coefficient, and leakance. (T-II 14). Transmissivity is basically a measure of how readily an aquifer can transmit water from one point to the next. (Id.) Storage coefficient is a measure of how much water is released from the aquifer matrix when you lower the potentiometric head through pumping. (T-II 15; FPL Ex PA-2). Leakance is a measure of how much water can enter or exit an aquifer through the confining layers that sandwich the aquifer layer. (T-II 15-16; FPL Ex PA-2). Each of these properties can be determined through an aquifer performance test ("APT"). (T-II 16).

64. SFWMD specifically recognizes the MODFLOW model as an acceptable numeric model in circumstances such as this for modeling and assessing impacts. (FPL Ex 3, p 3; SFWMD Basis of Review for Water Use Permit Applications, § 1.7.5.2.A). While a

relatively simple and uniform-density model, MODFLOW was used because it is capable of representing the Upper Floridan aquifer's natural hydrologic system in a mathematical framework, is widely used, well tested, extensively documented, and publicly available. (FPL Ex 3, p. 3). Through the evaluation of thousands of cases, SFWMD has found that an inexpensive, analytic, rather simplified model, using very broad generalizations, such as MODFLOW, will conservatively overstate the impact of a proposed drawdown. (T-II 121-123, 125). In order to further ensure conservatism, SFWMD rules also require that sensitivity analyses be conducted to determine how the results would change if the values for the three physical properties used in the model are increased or decreased by orders of magnitude.

65. If the simpler evaluation indicates that the permitting criteria are met, no further analysis is required because the model would overstate the actual extent of impact. (Id.) If the simplified model shows that some of the permitting criteria may not be met, it does not necessarily mean that the modeled effects will occur in real life. (T-II 123-124). In that circumstance, SFWMD's rules allow for use of a second type of model, called a "calibrated numerical system simulation model," such as density-dependent type of models. (Id.; SFWMD Basis of Review for Water Use Permit Applications, § 1.7.5.2.B). The more complex models, however, add progressively more uncertainty into the results,

since one must estimate water quality, flow path, and chemical interactions in addition to the estimate of the physical conditions of the flow field. (T-II 124-125). As a result, in conjunction with the use of the more complex models, it is necessary to have a lot of real good field data, i.e., actual measured data, to be able to say with confidence that the complex model accurately represents how the system really works. (T-II 124-125).

66. The values input to FPL's MODFLOW model for various hydrogeologic properties, including the three physical properties affecting groundwater flow, were obtained from the literature, including a Dames and Moore report on a 90-day APT conducted at the Turkey Point site in 1975. (FPL Ex PA-3, pp 4-5, 13). The APT reported by Dames and Moore is superior to any other tests that have been conducted in the area and is the best information available on the Upper Floridan aquifer's physical properties in the Turkey Point area. (T-II 47-48). The values reported by Dames and Moore also were very close to those obtained from the pump tests performed at the Florida Keys Aqueduct Authority's ("FKAA's") proposed ASR project, located about 10 miles west of FPL's Turkey Point Project area, the operation permit for which is being reviewed by DEP. (T-II 138).

67. FPL's MODFLOW groundwater model was run for a 90-day simulation, which is in accordance with the SFWMD Basis of Review.

(T-II 19-20, 23, 28, 164). The initial results indicated that two existing legal users were barely within the "cone of depression," from FPL's proposed Upper Floridan withdrawals--i.e., the distance beyond which a draw-down impact of less than foot would be expected, which SFWMD considers to be de minimis such that no further evaluation would be required. Those existing legal users were the Ocean Reef golf course irrigation system and the Card Sound golf course irrigation system, both located approximately nine miles to the south-southeast of the FPL Project area. When FPL conducted sensitivity analyses with its model, varying factors in its model by orders of magnitude, the model results showed the FKA site also just inside the cone of depression.⁴ (T-II 126, 138-139). Consequently, a condition has been agreed to by all parties that FPL will conduct another APT when it constructs its withdrawal wells to confirm the values for the three properties that affect groundwater flow used in its modeling. (T-II 127; Jt Ex 1, p 38-39). If the results of that additional APT shows the potential exists for interference with existing legal users, SFWMD will require additional analysis and, if necessary, mitigation to prevent such interference. (Jt Ex 1, p 39).

68. According to SFWMD's rules, no further analysis of impact is required at this time to provide reasonable assurances that FPL's proposed withdrawals will not interfere with these existing legal users. (T-II 30, 105-06, 128, 131). FPL

nevertheless performed additional evaluation of its proposed withdrawals from the Upper Floridan aquifer and its potential to interfere with the three closest, existing legal users. (T-II 30).

69. The primary concern of the FKAA ASR facility is similar to the concern of MD-C with regard to its significantly more distant ASR operations. (T-II 34). These ASR facilities will operate cyclically. (T-I 131). That is, water will be injected into the Upper Floridan aquifer during one period of time during the year (generally, during the wet season), and withdrawn for another period of time during the year (the dry season). (T-II 25-26). The intent of an ASR facility is to serve as an underground reservoir of fresh water. (T-I 131; T-II 30-31). When fresh water is injected during periods of excess water, the water flows radially from the well and forms a cylinder, or bubble, around the well and is surrounded by poorer quality water. (T-II 31). Later, during periods of drought, the fresh water is withdrawn from the same well used to inject it. (T-II 32). The concern about FPL's proposal is, if the gradient is too great, the bubble of fresh water will move away from the well and be unavailable for future withdrawal. (T-II 34-35).

70. The natural gradient at the FKAA ASR will move the fresh water bubble in a southerly direction at a rate of about 4.5 feet per year. (T-II 35). FPL's MODFLOW evaluation indicates that,

when FPL's proposed pumping is combined with the natural gradient, the fresh water bubble will move to the southeast at a rate of 5.1 to 8.1 feet per year. (T-II 35-36). This amount of movement is on the same order as the natural gradient movement that was determined when the facility was designed and is fairly small in comparison to the size of the bubble expected to be created. (T-II 37; FPL Ex PA-6A through 6C).

71. The primary concern at the two golf clubs is drawdown, because excessive drawdown would decrease the productivity of their wells used for golf course irrigation. (T-II 37-38). Each of the two golf clubs withdraws about 7.5 MGD and creates their own drawdown of approximately 40 feet at their wells. (T-II 38). FPL's withdrawal will create a drawdown of about a foot, which is insignificant compared to the self-imposed drawdowns at those golf course wells. (Id.)

72. Located 18-20 miles away, M-DC's ASR facilities are well outside the area of influence of the cone of depression associated with FPL's proposed Turkey Point Unit 5 withdrawal well. (T-II 106). Consequently, the M-DC's ASR facilities were not considered under FPL's water use certification evaluation as an "existing legal user," as SFWMD considers the impacts from FPL's proposed withdrawal at the M-DC's facilities to be de minimis. (Id. See also SFWMD Basis of Review for Water Use Permit Applications, § 1.7.5.2.).

73. Even though its facilities are outside the area for consideration as an "existing legal user" that must be evaluated for FPL's proposed withdrawals under SFWMD's rules (Id.; T-II 105-106, 128), M-DC has expressed concern about the potential impact from FPL's proposed withdrawals on its two ASR facilities. (T-II 39). M-DC does not oppose certification of the Turkey Point Unit 5 power plant and does not allege that FPL's withdrawals will definitely impact its ASR facilities. (See T-I 17; T-II 160). Instead, M-DC believes approval should be conditioned on FPL performing additional modeling of the aquifer using a variable-density (also called density-dependent) model. (Id.)

74. No statute or rule would require FPL to conduct density-dependent modeling to assess the potential impacts of its proposed groundwater withdrawals, as suggested by M-DC. (T-II 166). Instead, FPL has complied with all applicable regulatory requirements in performing its groundwater modeling. (Id.) M-DC could not cite a single applicant or permit-holder that has ever been required to perform density-dependent modeling to assess groundwater withdrawal impacts in Miami-Dade County. (Id.). In addition, SFWMD has issued numerous permits over the years for which density-dependent modeling was not required; and M-DC could not cite to a single failure or problem with any of those permits. (T-II 175).

75. Nonetheless, to evaluate the potential for impact on the M-DC ASR facilities, FPL expanded the boundaries of its original model by 23 miles in each direction to envelope the M-DC ASR facilities and ensure the model boundaries were well beyond those facilities. (T-II 41). In addition to running the 90-day model, which showed no effect on the M-DC ASR facilities, FPL also ran the model to a "steady state," which approximates the condition of maximum drawdown. (T-II 41). Under a "steady state" condition, FPL's model showed a maximum drawdown of 1.5 feet, and a gradient velocity change of 4.9 feet per year, at the M-DC ASR facilities. (T-II 42-43). FPL's drawdown effect at the M-DC ASR facilities is within the natural variability that is seen in the aquifer just due to climate changes and is on the same order of magnitude that would be seen from variations in M-DC's own operational schemes. (Id.) The velocity change is also small, particularly considering M-DC consultants' estimate that the fresh water bubble at these facilities will be about 13,000 feet in diameter. (Id.)

76. The additional analysis FPL conducted supports the conclusion that FPL's proposed withdrawals will not interfere with or have an adverse impact on the M-DC ASR facilities. (T-II 42, 51-52). FPL has provided reasonable assurance that its proposed withdrawals will not prevent M-DC's ASR facilities from withdrawing water consistent with their permits, will not create a change in the quality of water pursuant to State Primary Drinking

Water Standards to the extent that the M-DC ASR water can no longer be used for its authorized purpose, and will not require M-DC to exceed its permitted allocations to meet its permitted demands. (T-II 113-118). Any impact of FPL's proposed withdrawals on M-DC's ASR facilities will be de minimis and consistent with SFWMD's rule criteria. (T-II 117-118).

77. Because FPL's withdrawal will result in small drawdown amounts at the existing legal users in the vicinity, no significant amount of the poorer-quality water that underlies these wells will be drawn upward. (T-II 38-39).

78. Based on all of the evidence, FPL gave reasonable assurance that the proposed withdrawals from the Upper Floridan aquifer will not interfere with or adversely affect any existing legal users; will not cause harm to or adversely impact existing off site land uses; and will not cause harm to or adversely impact natural resources. (See PS p. 29; T-II 39; 131).

79. In the event FPL's proposed withdrawals were determined to interfere with an existing legal user, SFWMD's rules allow for the formulation of a mitigation plan to alleviate that impact in lieu of denying the proposed withdrawal. (T-II 119-120, 131). Under the facts of this case, M-DC's concern for potential impacts to its ASR facilities is appropriately addressed by Condition of Certification XXXIII.B.2., which requires FPL to mitigate any future interference with

existing legal users that is caused in whole or in part by FPL's withdrawals. (Joint Ex 1; T-II 82).

Air Emissions Control Technology

80. Air emissions from Turkey Point Unit 5 will be minimized through the inherent efficiency of the combined cycle design, and the use of: natural gas as the primary fuel, with ultra-low sulfur light oil as a backup fuel; advanced combustion control technology; and post-combustion control technology. Natural gas, the cleanest of fossil fuels, has very low levels of impurities. Ultra-low sulfur light oil is also very low in impurities and will be used as a backup fuel for no more than 500 hours per year per combustion turbine. Natural gas and ultra-low sulfur light oil can be burned very efficiently to minimize the formation of air pollutants. The use of dry low NO_x combustion design in the combustion turbines, and low NO_x burners in the duct burners, will also minimize air emissions by inhibiting formation of thermal NO_x by premixing of fuel and air prior to combustion, and by reducing flame temperatures. Selective Catalytic Reduction (SCR) will provide additional control of emissions of NO_x from Unit 5 when operating in combined cycle mode. The cooling tower will have high efficiency "drift" or "mist" eliminators to minimize the amount of drift and resulting particulate matter that is formed. These

drift eliminators will reduce drift by over 99.99 percent. (FPI Ex 1, pp 3-7 thru 3-11 & App 10:1.5; FPI Comp Ex 7, Kosky p 7).

81. State and federal PSD regulations require that Turkey Point Unit 5 meet all applicable emission limiting standards and that Best Available Control Technology ("BACT") be applied in order to control emissions. BACT is defined in Florida Administrative Code Chapter 62-210.200(38) as:

An emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted which the Department [of Environmental Protection], on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant.

The BACT requirements are intended to insure that the air emission control systems for Unit 5 reflect the latest in control technologies used in the electric utility industry and take into consideration existing and future air quality in the vicinity of the Project. BACT review includes a cost-benefit analysis of alternative control technologies capable of achieving a higher degree of emission reduction than the proposed technology. DEP's determination on what constitutes BACT for Turkey Point Unit 5 is to be based on a balancing of

environmental benefits with environmental, energy, and economic impacts and other costs. (FPL Ex 1, App 10.1.5 at pp 3-2 thru 3-4; FPL Comp Ex 7, Kosky p 8).

82. In its review for the PSD permit for the Project, DEP determined that the emission limits for the Project represent BACT for purposes of the PSD permit. (PS p 28; FPL Comp Ex 7, Kosky pp 9-10, FPL Ex KFK-3).

83. The Project's use of extremely clean fuels, combined with advanced combustion control technology, will provide the maximum degree of emission reduction for sulfur dioxide, particulate matter, volatile organic compounds, carbon monoxide and sulfuric acid mist. The dry low NO_x control technology for the combustion turbine combustors and the duct burners, along with SCR, reflect the latest available control technologies for reducing NO_x emissions from combined cycle systems. (FPL Ex 1, pp 3-7 thru 3-11 & App 10.1.5; FPL Comp Ex 7, Kosky pp 9-10).

84. The emission limits for Turkey Point Unit 5 in the recommended Conditions of Certification contained in Joint Exhibit 1 are identical to the emission limits proposed as BACT by DEP. The recommended NO_x emission limit of 2.0 parts per million for combined cycle operation firing natural gas and 8.0 parts per million when firing ultra-low sulfur light oil are the lowest NO_x emission limits that have been approved as BACT for identical units, and are more stringent than those for any

project previously certified by the Siting Board under the PPSA and are the lowest NO_x emission limits for any power plant in Florida. (T-I 111; FPL Comp Ex 7, Kosky pp 10-11).

Air Quality Impact Analysis

85. Ambient air quality standards have been established by the U.S. EPA and DEP to protect public health and welfare. Miami-Dade County has also established ambient air quality standards for sulfur dioxide that are more stringent than the Florida standards. Air quality in the vicinity of the Turkey Point Plant, and throughout Southeast Florida, currently meets all federal and state ambient air quality standards. Miami-Dade County is designated as in "attainment" for all ambient air quality standards, and no area of Florida is currently designated as "nonattainment" for any air pollutant. (FPL Ex 1, pp 5-14 thru 5-15 & App 10.1.5; FPL Comp Ex 7, Kosky p 13).

86. DEP determined during its PSD review that air emissions from Unit 5, as specified in the application for the permit, would comply with all federal, state and local ambient air quality standards, and all PSD increments for Class I and Class II air quality areas, and would not adversely impact Air Quality Related Values ("AQRVs"). (PS p 28; FPL Comp Ex 7, Kosky pp 15-16, FPL Ex KFK-4).

87. In its review for the PSD permit for the Project, DEP determined that air quality modeling demonstrates that Turkey

Point Unit 5 will comply with all state and federal ambient air quality standards, as well as PSD Class I and II increments.

The air quality modeling conducted for the Project followed EPA

and FDEP modeling guidelines. Two air quality models were

utilized to assess air quality impacts in the area surrounding

the Turkey Point Plant site, including assessing the impacts in

the nearest PSD Class I area, which is the Everglades National

Park, located approximately 13 miles west of the Turkey Point

Plant site. Local and regional meteorological data from the

National Weather Service was used in the modeling. The modeling

incorporated maximum air emissions from the Unit 5 at various

operating modes, fuels, loads, and ambient air temperatures,

which may affect the emission rates from the Unit. The air

quality modeling results support DEP's determination that the

maximum air impacts from the Project will comply with all

ambient air quality standards and PSD Class I and II increments.

(FPL Ex 1, pp 5-17 thru 5-22 & App 10.1.5; FPL Comp Ex 7, Kosky

pp 16-18, FPL Ex KFK-4 & -5).

88. EPA has established "Significant Impact Levels" for

the various pollutants that are subject to PSD review, and the

Department has adopted these Significant Impact Levels at

Florida Administrative Code Rule 62-204.200(29). The comparison

of a project's air quality impacts with the Significant Impact

Levels represents an initial screening analysis to determine;

which pollutants require a more detailed modeling analysis.

(FPL Ex 1, pp 5-16 thru 5-21 & App 10.1.5; FPL Comp Ex 7, Kosky pp 15-18).

89. In its review for the PSD permit for the Project, the DEP determined that impacts of the emissions of all air pollutants from Unit 5 would be below the PSD Class I and Class II Significant Impact Levels, with the exception of the maximum three-hour and the 24-hour Class I impacts for PM_{10} . (FPL Ex 1, pp 5-21 thru 5-22; App 10.1.5; FPL Comp Ex 7, Kosky p 17, FPL Ex KFK-5).

90. For the three-hour and 24-hour averaging times for SO_2 and the 24-hour averaging time for PM_{10} , comparison of the maximum Project impact and other increment consuming sources in the region was performed. This is called "multi-source modeling." In its review for the PSD permit for the Project, DEP determined that the modeling demonstrated that the Project would comply with the applicable PSD Class I increments. The maximum impact of the Project in the Everglades National Park could not be measured even with the most sophisticated monitoring equipment. (FPL Ex 1, pp 5-21 thru 5-22 & App 10.1.5; FPL Comp Ex 7, Kosky pp 17-18, FPL Ex KFK-5).

91. The predicted impacts of the Project on AQRVs, which include deposition and visibility, were all found to be acceptable to the Federal Land Manager (FLM) (the Superintendent

of the Everglades National Park) for this PSD Class I area. The basis for that determination is comparison of the maximum impacts to the screening criteria, which are guideline thresholds to assess impacts to AQRVs. For visibility, the maximum regional haze impacts when firing natural gas or ultra-low sulfur light oil were low compared to the screening criteria established by the FLM. The National Park Service concluded that the emissions from the Project are not anticipated to adversely impact the sensitive resources at the Everglades National Park. (FPL Ex 1, pp 5-22 thru 5-25 & App 10.1.5; FPL Comp Ex 7, Kosky pp 18-19).

92. The air quality impacts of the Project, including deposition and visibility, were also evaluated in the Biscayne National Park. As a result of these analyses, the National Park Service concluded that the emissions from the Project are not anticipated to adversely impact the sensitive resources at the Biscayne National Park. (FPL Comp Ex 7, Kosky pp 18-19).

93. The Project's predicted impact on atmospheric deposition in Everglades National Park and Biscayne National Park for the relevant pollutants is extremely small compared to the amount of deposition previously observed in the region. The low levels of atmospheric deposition predicted for the Project would have no measurable or discernible impact on water quality

in either Everglades National Park or Biscayne National Park.

(Id.)

94. Nitrogen oxides and volatile organic compounds are precursors to the formation of ozone in the atmosphere. In its review for the PSD permit for the Project, the DEP determined that the emission of these air pollutants from Turkey Point Unit 5 will not interfere with the ongoing compliance with the ambient air quality standard for ozone in the Southeast Florida region. (FPL Ex 1, App 10.1.5 p 7-7; T-I 111).

95. There are expected to be no air quality impacts due to industrial, commercial, or residential growth associated with the Project. (FPL Ex 1, p 5-22 & App 10.1.5 pp 7-1 thru 7-7).

Wetland Impacts

96. Construction of the Unit 5 Project will impact 24.35 acres of wetlands, of which 19 acres will be permanent impacts. (FPL Comp Ex 7, Bullock p.11). Those wetlands permanently impacted include 16.742 acres of dwarf and shrub mangroves, 1.74 acres of man-made lagoon comprised of 1.2 acres of seagrass and 0.54 acres of open water with unvegetated bottom, 0.19 acres of spoil piles, and 0.34 acres of tidal creeks. (Id.) Of those permanent impacts, 0.432 acres will be impacted to retain area functions, that is, the reconnection of the two tidal creeks north of the new power block; the re-establishment of the tidal creek channel adjacent to that power block, and connection of the re-

created man-made lagoon to the adjacent tidal creek. (FPL Comp Ex 7, Bullock pp 11-12 and Maus p 18).

97. No offsite surface waters or wetlands will be adversely impacted by the Project's construction activities. (FPL Comp Ex 7, Bullock p 12).

98. FPL has implemented practicable design modifications for the Project to eliminate or reduce impacts to wetland and other surface water functions. (See PS p 30).

99. FPL developed a comprehensive wetland impact mitigation plan to offset wetland functional loss. The goal of mitigation is to maintain all of the functional values of wetland systems that otherwise would be lost as a result of development. To assess wetland functional loss, FPL evaluated wildlife utilization, listed animals and plants, vegetation characteristics, hydrologic parameters, location characteristics, soil parameters and water quality. This evaluation was performed using the Wetland Assessment Technique for Environmental Review ("WATER"), a methodology designed specifically for use in Florida to develop an overall ranking of wetland functional value. (FPL Comp Ex 7, Maus p 6-7 and FPL Ex BM-7 at Appendix A).

100. FPL's mitigation plan will more than offset the wetland impacts associated with the Project through a combination of on- and off-site mitigation. The permanent and temporary wetland impacts of the Project will be permanently compensated through

preservation, enhancement, and/or restoration of over 400 acres of wetlands within the Project's same drainage basin. Onsite mitigation activities include the installation of culverts under the transmission line patrol road to improve the mangroves' hydrologic connection with Biscayne Bay and alleviate hypersaline conditions. In addition, two of the upland test cooling canal berms will be converted to wetlands through removal of exotic vegetation, topographic grading to saturated soil elevation, and planting with native wetland shrubs. Offsite mitigation includes the preservation and transfer of title to governmental agencies of over 300 acres of mangrove property adjacent to the Biscayne National Park, and the purchase of 8.99 mitigation credits from the Everglades Mitigation Bank. The credits purchased from the Everglades Mitigation Bank will support the creation, restoration and enhancement of 63 acres of wetlands, and partially fund the restoration of over 293 acres of tidal creeks. (FPL Comp Ex 7, Bullock pp 15-16, 20, Maus pp 11-14 and FPL Ex BM-7).

101. The restoration plan for the Everglades Mitigation Bank calls for significant hydrologic improvement that will re-establish freshwater flows to large areas that are currently blocked from overland sheetflow. This activity will also provide benefits to the marine resources of Card Sound and Biscayne Bay. The restoration will benefit seagrass beds and

fish habitat, American Crocodile habitat, and a vast array of macro-invertebrates, fish, amphibians, reptiles, wading birds, raptors, and mammals. The seagrass restoration within the Everglades Mitigation Bank will increase the acreage of this natural resource within the drainage basin and surpass the acreage lost by the implementation of FPL's proposed Unit 5 Project. (FPL Comp. Ex 7, Maus p 14).

102. Overall, FPL's mitigation activities will generate 26.88 credits of mitigation, whereas the Project's impacts require 25.88 credits of mitigation.⁵ FPL's proposed mitigation plan is more than adequate to offset impacts associated with the Project and will provide a greater level of wetland function than those functions displaced by the Project. (FPL Comp. Ex 7, Bullock p 16 and Maus p 18-19; FPL Ex BM-3).

103. All of the functions of wetlands and surface waters affected by the construction and operation of the Project will be more than replaced by the proposed mitigation activities. Since the proposed mitigation activities will fully replace any lost habitat, there will not be a permanent adverse effect on the functional values that the surface water and wetland habitats provide to fish and wildlife, including listed species, as a result of construction and operation of the proposed Project. The landscape characteristics that contribute to the continued use by wildlife, including listed species, are

remaining in the immediate area as a direct result of the proposed mitigation. (FPL Comp Ex 7, Maus p 18).

104. In addition to the mitigation to offset wetland impacts, FPL is proposing additional onsite enhancement activities. These additional activities are not being conducted to generate wetland mitigation credits, but rather to ensure an overall increase in the ecological value of areas surrounding the Project site, to hasten the permitting process, and to assist in the seamless integration of the mitigation activities into the area ecosystem. These additional enhancement activities include hydrologic improvements, re-creation of the man-made lagoon, removal of exotic species upon the three remaining test cooling canal berms and the creation of habitat for the American crocodile and Eastern indigo snake upon those berms, and restoration of the temporary construction parking, laydown, and access roads. (FPL Comp Ex 7, Bullock p 16 and Maus pp 14-16).

105. The Project's impacts to surface water and wetland habitats will not adversely affect the public health, safety, or welfare or the property of others. Instead, aspects of the Project's proposed mitigation plan will provide benefits to the property of others through the preservation of wetlands adjacent to the Biscayne National Park that may be used to aid the Comprehensive Everglades Restoration Plan's ("CERP's") goal of

restoring freshwater inputs to Biscayne Bay. (FPL Comp Ex 7, Bullock p 14).

106. The Project's mitigation plan would benefit CERP by improving tidal connections between Biscayne Bay and mangroves on the Turkey Point Power Plant site, thus preparing the property for CERP's restoration of historical freshwater flows. In addition, the preservation and transfer of title to government agencies of over 300 acres of wetlands property adjacent to Biscayne National Park provide additional natural areas that may be utilized for the CERP goals of restoring freshwater flows. (FPL Comp Ex 7, Bullock pp 14-15).

107. The construction and operation of the Project, in conjunction with the proposed mitigation, will not adversely affect threatened and endangered or other protected plant and animal species, the conservation of fish and wildlife, or their habitats, and will not adversely affect navigation. (See PS p 30; FPL Comp Ex 7, Bullock pp 17-18) The Project also will not adversely affect fishing, recreational values, or marine productivity in the vicinity. (FPL Comp Ex 7, Bullock pp 18-19 & FPL Ex KB-4).

108. Protective measures enacted during construction will be designed to reduce or eliminate secondary impacts to water resources. These measures include sedimentation barriers and non-porous barriers that will isolate areas of dredge and fill

activities from adjacent undisturbed areas, and direction of stormwater from construction laydown and parking areas to stormwater ponds designed to meet applicable treatment standards. Notwithstanding these protective measures during construction, FPL will provide additional mitigation to offset the potential for secondary impacts to these adjacent areas. (FPL Comp Ex 7, Bullock p 21).

109. The Project will not result in discernible degradation of Biscayne Bay, due to the lack of water quality impacts associated with construction and operation. The Project will comply with the specific anti-degradation standards presented in Florida Administrative Code Rule 62-4.242 through the use of protective measures during construction that are designed to prevent any discharge of dredge/fill materials or other pollutants outside of construction areas. Additional measures to ensure that the Project does not degrade Biscayne Bay include the aspects of the Project's mitigation plan that are specifically beneficial to Biscayne Bay, such as the enhancement of tidal wetlands, re-creation of fish habitat, and the preservation of over 300 acres. (FPL Comp Ex 7, Bullock pp 21-22).

110. The Project will not result in unacceptable cumulative impacts upon wetlands and other surface waters. Rather, the Project will result in a net increase in wetland

functional values through implementation of the proposed mitigation plan, which provides over 400 acres of preserved, enhanced, restored, and created wetlands to offset the permanent loss of 19 acres of wetlands. (FPL Comp Ex 7, Bullock p 22).

Other Interests of the Public:

111. No archaeological resources or other historic or cultural resources will be affected by construction of the Project. (PS p 29).

112. The location, construction, and operation of Turkey Point Unit 5 will utilize available and reasonable methods, which will minimize adverse effects on human health and the environment. Turkey Point Unit 5 will not unduly conflict with the goals established by the Miami-Dade County Comprehensive Development Master Plan or with the state comprehensive plan or the Strategic Regional Policy Plan of the South Florida Regional Planning Council. Turkey Point Unit 5 will utilize safeguards that are technically sufficient for the protection of the health and welfare of the citizens of Florida. (PS p 29).

113. The Project will have minimal visual impacts. (FPL Comp Ex 7, Zwolak p 7). The tallest Unit 5 structure will be the heat recovery steam generator stacks, which will not exceed 150 feet from finished grade. (T 38). The existing stacks at Units 1 and 2 are much taller, about 400 feet in height. (FPL Comp Ex 7, Zwolak p 8). Similarly, the existing Units 1 and 2 boilers, at

200 feet in height, are much larger than the proposed Unit 5 heat recovery steam generators, which will be about 90 feet tall.

(Id.) While the proposed Unit 5 will add additional infrastructure to the viewshed, the new infrastructure will be smaller in height and bulk when compared to the existing infrastructure on the Turkey Point Power Plant site. (FPL Comp Ex 7, Zwolak pp 7-8).

114. The expected Project impact on land use and recreational and protected areas will be minimal. Undeveloped FPL-owned land and existing power generation infrastructure provide a significant buffer to existing non-FPL owned land uses and recreation and protected areas to the south, west and north. (FPL Comp Ex 7, Zwolak p 8).

115. There will be no audible or air quality effects on the recreation facilities associated with the National Park, the County Park and Preserve, and Save Our Rivers lands. Views of the proposed Project from the parks are very limited and the change in view will not be substantial. (FPL Comp Ex 7, Zwolak p 9).

116. The maximum noise impacts from Unit 5 construction and operation activities will be minimal at the property boundary of the Turkey Point Plant site. Neither M-DC, nor the State of Florida, has specific numerical noise standards, but the Project's noise impacts are less than noise criteria

generally considered to be acceptable as numerical noise standards by many municipalities and counties in Florida and other states. Also, the noise associated with the construction and operation of the Project will not violate M-DC's nuisance regulation. (FPL Ex 1, Vol 1, pp 5-26 thru 5-27; FPL Comp Ex 7, Kosky p 20).

117. The proposed Unit 5 Project is compatible with existing land uses because of, among other things, its proximity to existing power plant facilities and its distance from residential and recreational land uses. (FPL Ex 1, Vol 1, pp 2-5 thru 2-6; See FPL Comp Ex 7, Zwolak pp 9-10).

118. The proposed Unit 5 Project is consistent with the State Comprehensive Plan, the South Florida Regional Planning Council Strategic Regional Policy Plan, the M-DC Comprehensive Development Master Plan and the M-DC land development regulations. (FPL Ex 1, Vol 1, pp 2-3 thru 2-5; FPL Ex 2; FPL Comp Ex 7, Zwolak, pp 10-14).

119. The proposed Project will provide approximately 290 jobs and total direct wages are estimated at \$57.5 million dollars during construction. In addition to jobs and wages, the proposed Project will generate substantial revenue to the County and the state from various forms of payments including user fees, sales taxes and corporate income taxes. Sales tax benefits during construction are anticipated to be \$600,000,

with the local portion estimated at \$50,000. (FPL Comp Ex 7, Zwolak p 14).

120. Socioeconomic costs associated with construction are primarily a result of increased construction traffic. Traffic delays, however, are anticipated to be minor since highway Level of Service (LOS) will only be minimally affected for a short-to-moderate duration, roadway segments will continue to operate at an acceptable LOS, and Project commuting patterns will be opposite of existing peak hour flows... (FPL Ex 1, Vol 1, pp 7-5 thru 7-6; FPL Comp Ex 7, Zwolak p 15-17).

121. Due to the small increase in employment after the Project is operational and the resultant low volume of trip generation, operation impacts on roadways and intersections will be negligible. Traffic impacts will not result in a lowering of the LOS below standards established by the Florida Department of Transportation and M-DC. As a result, mitigation measures for roadway and intersection impacts are not warranted. (PS p 29; FPL Ex 1, Vol 1, pp 7-5 thru 7-6; FPL Comp Ex 7, Zwolak pp 17-18).

122. Jobs and payroll during operation are estimated to be 12 full-time equivalent employees with an average annual wage of \$40,000 per employee. User fees, sales taxes and corporate income taxes will also be generated during the operation period. Requirements for public service facilities needed to support the

additional unit are minimal. (FPL Ex 1, Vol 1, pp 7-1 thru 7-3; FPL Comp Ex 7, Zwolak p 15).

123. No significant negative economic effects of Project operations are anticipated. (FPL Comp Ex 7, Zwolak p 15. See also FPL Ex 1, Vol 1, pp 7-1 thru 7-3).

124. FPL dispatches its generating units in the inverse order of their operating costs. (FPL Comp Ex 7, Hicks p 6). Since Unit 5 will be a highly efficient natural gas-fired combined cycle unit, it will be dispatched on FPL's economic dispatch system before the less-efficient existing Units 1 and 2. During the first five years that Unit 5 is operational, FPL projects a reduction in barge fuel oil deliveries through Biscayne Bay to Units 1 and 2 in the range of 80-125 fewer barge trips per year and approximately 7,500 tons per year reduction in nitrogen oxides and sulfur dioxide air emissions due to Units 1 and 2 dispatching less frequently with Unit 5 in operation. (FPL Comp Ex 7, Hicks p 7-8 and Kosky p 19).

125. With the operational safeguards for Unit 5, including the highly efficient design technology, clean fuel, and location, together with the recommended Conditions of Certification contained in Joint Exhibit 1 (also Appendix I to DEP Exhibit 2, which is the revised and corrected DEP Staff Analysis Report), Turkey Point Unit 5 will comply with the applicable nonprocedural requirements of all agencies, are adequate to.

protect public health, welfare and the environment. (FPL Comp Ex 7, Kosky pp 20-21).

126. The Turkey Point Unit 5 Project is clearly in the public interest. The PSC determined that the Project is the most cost-effective way to meet the future energy needs of FPL's customers. The Project will have minimal adverse environmental impacts through the use of the latest technologies and maximizing the use of the existing infrastructure at the Turkey Point Site. The comprehensive environmental studies submitted into the record of this proceeding, along with the recommended Conditions of Certification contained in Joint Exhibit 1 (also Appendix I to DEP Exhibit 2), demonstrate that Turkey Point Unit 5 will comply with the applicable nonprocedural requirements of all agencies, demonstrate that the impacts of the Project will be minimal, and in some cases will be beneficial. Indeed, there will be net environmental benefits associated with Turkey Point Unit 5, such as the projected cumulative air emission reductions at the site. (FPL Comp Ex 7, Kosky p 21-22).

CONCLUSIONS OF LAW

127. The Division of Administrative Hearings has jurisdiction over the parties to, and the subject matter of, this proceeding. This proceeding has been conducted in accordance with the Florida Electrical Power Plant Siting Act, Chapter 403, Part II, Florida Statutes, and Florida

Administrative Code Chapter 62-17, Part I, which sets out the procedures for power plant siting reviews.

128. In accordance with Chapters 120 and 403, Florida Statutes, and Florida Administrative Code Chapter 62-17, proper notice was accorded to all persons, entities, and parties entitled to such notice, and appropriate notice was provided to the general public by both DEP and FPL. All necessary and required governmental agencies participated, and the general public had the opportunity to fully participate, in the certification process. Reports and studies were issued by DEP, the Department of Community Affairs, the Florida Department of Transportation, the Florida Fish and Wildlife Conservation Commission, the Department of State - Division of Historical Resources, SFWMD, the South Florida Regional Planning Council, and M-DC, in accordance with their various statutory duties under the PPSA.

129. The PSC has issued its affirmative determination that a need exists for the electrical generating facility and the electricity it will produce, in accordance with Section 403.519, Florida Statutes.

130. SFWMD has exclusive authority to regulate and permit the consumptive use of water within its geographical boundaries. (PS p 27; § 373.217, Fla. Stat.).

131. By its own terms, the PPSA "shall not apply" to electrical power plants for which applications for permits were made prior to 1973. § 403.506(1), Fla. Stat., Ch. 73-33, Laws of Fla. FPL applied for permits for Turkey Point Units 1 through 4 prior to 1973, and thus the PPSA does not apply to those existing units. FPL has not in this proceeding sought to invoke the jurisdiction of the PPSA with respect to existing Turkey Point Units 1 through 4, nor has FPL elected to apply for certification of Units 1 through 4 under the optional PPSA provision for certification of existing electrical power plants codified at Section 403.5175, Florida Statutes:

132. There is reasonable assurance that construction and operation of the Project will comply with all applicable standards of jurisdictional agencies, and that no variances or other relief from non-procedural agency standards is requested or necessary for the construction and operation of Turkey Point Unit 5. (See PS p 30; T-II 83).

133. The evidence and testimony produced at the certification hearing demonstrates that FPL has met its burden of proof to demonstrate that Turkey Point Unit 5 meets the criteria for certification under the PPSA. Testimony and other evidence produced at the hearing demonstrates that the safeguards for construction and operation of Turkey Point Unit 5 are technically sufficient to protect the public welfare of the

citizens of Florida and are otherwise reasonable and available methods to achieve that protection of the public. Turkey Point Unit 5 will result in minimal adverse effects on human health, the environment, the ecology of the land and its wildlife, and the ecology of state waters and their aquatic life. (T-II 84).

134. In addition, the Project will not conflict with the state comprehensive plan or the local comprehensive plan for M-DC, the Miami-Dade County Comprehensive Development Master Plan. If operated and maintained in accordance with this Recommended Order and the Conditions of Certification contained in Joint Exhibit 1 (also Appendix I to DEP Exhibit 2), Turkey Point Unit 5 will comply with the applicable nonprocedural requirements of all agencies. Furthermore, certification of the Project will fully balance the increasing demand for electrical power plant location and operation in this State with the broad interests of the public that are protected by the PPSA.

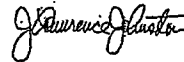
RECOMMENDATION

Based upon the foregoing Findings of Fact and Conclusions of Law, it is

RECOMMENDED that the Siting Board grant full and final certification to Florida Power & Light Company, under Section 403, Part II, Florida Statutes, for the location, construction, and operation of Turkey Point Unit 5, representing a 1150 MW combined cycle unit, as described in the Site Certification

Application and the evidence presented at the certification hearing, and subject to the Conditions of Certification contained in Joint Exhibit 1. (also Appendix I to DEP Exhibit 2).

DONE AND ENTERED this 18th day of November, 2004, in Tallahassee, Leon County, Florida.



J. LAWRENCE JOHNSTON
Administrative Law Judge
Division of Administrative Hearings
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Filed with the Clerk of the
Division of Administrative Hearings
this 18th day of November, 2004.

ENDNOTES

1/ Abbreviations used in references to the record will be as follows: App = Appendix; Ex = exhibit; Comp Ex = Composite Exhibit; Jt = Joint; p = exhibit page number; PS = Prehearing Stipulation; T-I and T-II = transcript of certification hearing on 9/20/04 and 9/21/04, respectively; and Vol = Volume.)

2/ FPL Composite Exhibit 7 includes the prefiled written testimony of some FPL witnesses, along with FPL Exhibits DH-1 & 2, KFK-1 through 5, BM-1 through 7, EN-1, WP-1 through 4, RZ-1, and KB-1 through 4, all of which were also received into evidence without objection.

3/ However, since the upper portion of the Upper Floridan aquifer has less than 10,000 TDS, it is considered an underground source of drinking water under the U.S. Environmental Protection Agency's standard. (T-II 45-46).

4/ FCAA may in the future seek approval to use water from the Upper Floridan aquifer, with desalinization, to augment its water supplies. (T-I 131-132).

5/ Actually, the acreage of impacts has decreased since the mitigation plan was developed, but none of the proposed mitigation has been reduced. (FPL Comp 7, Maus p 20).

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NOTICE OF RIGHT TO SUBMIT EXCEPTIONS

All parties have the right to submit written exceptions within 15 days from the date of this Recommended Order. Any exceptions to this Recommended Order should be filed with the agency that will issue the Final Order in this case.

