SOUTH FLORIDA WATER MANAGEMENT DISTRICT
IMPACT ASSESSMENT REPORT
ON
FLORIDA POWER & LIGHT COMPANY
TURKEY POINT UNITS 6 & 7
ELECTRIC TRANSMISSION LINE CORRIDORS

PA 03-45A3

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sfwmd.gov

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ACRONYMS AND ABBREVIATIONS USED IN THIS REPORT

ALJ	Administrative Law Judge
C&SF	Central and Southern Florida
CERP	Comprehensive Everglades Restoration Plan
CLBSA	Central Lake Belt Storage Area
DC	Direct Current
Decomp	Decompartmentalization
DEP	Department of Environmental Protection
DOAH	Division of Administrative Hearings
EIS	Environmental Impact Statement
ENP	Everglades National Park
ERP	Environmental Resource Permit
FPL	Florida Power and Light
FWC	Florida Fish and Wildlife Conservation Commission
GDM	General Design Memorandum
IDS	Integrated Delivery Schedule
IP	Internet Protocol
IT	Information Technology
kV	kilovolt
MAP	Monitoring and Assessment Plan
Modwaters	Modified Water Deliveries to Everglades National Park
MOU	Memorandum of Understanding
MW	megawatts
NAVD88	North American Vertical Datum of 1988
NEPA	National Environmental Policy Act
OSHA	Occupational Safety and Health Administration
PDT	Project Delivery Team
PIR	Project Implementation Report
PRMA	Pennsuco Regional Mitigation Area
RECOVER	Restoration Coordination and Verification
RTU	Remote Terminal Unit
SCADA	Supervisory Control and Data Acquisition
SFWMD	South Florida Water Management District
SMP	Seepage Management Project
SMPP	Seepage Management Pilot Project
SOR	Save Our Rivers
SRF	Systematic Reconnaissance Flight
USFWS	United States Fish and Wildlife Service
WCA	Water Conservation Area
WMDCSF	Water Management District Communication Systems and Facilities
WPAC	Water Preserve Area Conveyance
WRDA	Water Resources Development Act

1 OVERVIEW AND SUMMARY

1.1 Introduction

The South Florida Water Management District (SFWMD, District) Impact Assessment Report on the Florida Power & Light Company (FPL; Licensee) Turkey Point Units 6 and 7 Electric Transmission Line Corridors has been prepared in response to FPL's Site Certification Application to the Florida Department of Environmental Protection (DEP) for two new nuclear power generating units (Units 6 and 7) and associated transmission lines for its Turkey Point power plant facilities. This report addresses only the proposed electric transmission lines as lines and encompassing corridors are being reviewed sooner than the proposed plant facilities. SFWMD will issue a separate impact assessment report to DEP at a future date on the proposed electrical power plant and associated non-transmission facilities.

1.2 Statutory Basis

Chapter 403, Part II, Electrical Power Plant and Transmission Line Siting, sections 403.501-403-539, Florida Statutes (F.S.), consists of two components: The Florida Electrical Power Plant Siting Act and The Florida Electric Transmission Line Siting Act. Both components are collectively referred to herein as "The Siting Act". FPL is also referred to as "Licensee" in this report as issuance of the certification constitutes a license under the Siting Act.

According to sections 403.502 and 403.521, F.S., the purpose of the Siting Act, is to certify the location, construction, operation, and maintenance of electrical power plant sites and electric transmission lines, including associated facilities, through a centralized and coordinated planning and licensing process administered by DEP. Authority to issue the Certification Order is assigned to the Governor and Cabinet acting as the State Siting Board or the DEP Secretary after issuance of a Recommended Order by an Administrative Law Judge (ALJ). The legislative intent of the Siting Act is to provide an efficient, simplified, centrally coordinated and "one-stop" licensing process. The Siting Act pre-empts all other existing state, regional, and local permits normally required, including SFWMD Right-of-Way Occupancy, Consumptive Use and Environmental Resource Permit (ERP) review processes[1]. More importantly, it is the only opportunity that SFWMD will have to review and recommend conditions for the proposed project prior to Certification that will be in effect for the life of the transmission lines.

The Siting Act sets forth a list of agencies that must participate in the review process and may participate as formal "Parties" in the certification hearing. Those listed agencies (the Department of Community Affairs, water management district(s), affected local government(s), Florida Fish and Wildlife Conservation Commission, affected regional planning council(s), Florida Department of Transportation, and Public Service Commission) are referred to as "affected agencies." After the ALJ is appointed and the Division of Administrative Hearings (DOAH) proceedings commence, outside third parties may also become formal parties to the ongoing DOAH proceedings. SFWMD is an affected agency with a multitude of proprietary land interests and one of several formal parties to the current DOAH administrative proceedings.

Affected agencies have several statutory requirements as part of their respective roles in the certification review process. SFWMD submission of this agency report to DEP is one of the associated statutory requirements.

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[1] Under an Operating Agreement concerning the division of responsibilities between DEP and SFWMD for management and storage of surface waters regulation and wetland resource regulation under Chapter 373, Part IV, F.S., DEP is responsible for conducting the ERP-related review and final agency action for power plants, electric distribution and transmission lines, and other facilities related to production, transmission, and distribution of electricity.

1.3 Agency Report Responsibilities

Sections 403.507 and 403.526 of the Siting Act direct water management districts to prepare a report as to the potential impacts of the proposed project on matters within their jurisdiction including, but not limited to, impacts on water resources, regional water supply planning, and on lands and works owned by water management districts. In addition, SFWMD has broad responsibilities regarding water resources under Chapter 373, F.S.

Through the agency report review process, SFWMD must comment on the project's compliance with SFWMD technical (non-procedural) criteria and recommend approval or denial of the corridors proposed in the application. The conditions of certification included in this report are the means by which SFWMD recommends to DEP all applicable SFWMD criteria, that would have otherwise been required for a non-Siting Act project's design, construction, operation and maintenance are duly considered by DEP (and Siting Board if necessary) for inclusion as conditions in the certification.

The impact evaluation and the recommended conditions in this report address the proposed corridors, each of which may be as wide as one mile, and the transmission lines and facilities within those corridors as proposed by the Licensee. To the extent that the future construction, operation and maintenance of the electric transmission lines and facilities potentially impact those matters within SFWMD jurisdiction, this report must: a) provide evaluations of those potential impacts; b) recommend conditions of FPL's certification to ensure compatibility with SFWMD technical criteria and c) recommend either approval or denial of each proposed corridor based on these considerations.

1.3.1 Matters within SFWMD Jurisdiction

SFWMD is a regional governmental agency that oversees the water resources in the southern half of Florida, including all or part of 16 counties from Orlando to the Florida Keys with a population of more than 7.5 million. SFWMD is the oldest and largest of the state's five water management districts. SFWMD mission is to manage water and related resources for the benefit of the public and in keeping with the needs of the region. The key elements of SFWMD mission are: environmental protection and enhancement, water supply, flood protection, and water quality protection.

1.3.2 Central and Southern Florida Project

SFWMD operates and maintains, as non-federal sponsor, the Central and Southern Florida (C&SF) Project, one of the world's largest water management systems. The C&SF Project includes 1,978 miles of canals, 2,873 miles of levees, and 573 water control structures. In Miami-Dade County alone, where the proposed project is located, there are 390.6 miles of canals and 77 water control structures, including many that SFWMD built and are operated and maintained by SFWMD.

SFWMD works (canals, levees, structures, water bodies and other associated facilities) were constructed as part of the C&SF Project on lands within SFWMD rights-of-way acquired for the purpose of providing drainage and flood protection. SFWMD holds proprietary interest with respect to these lands and is responsible for its land holdings and its obligations to the U.S. Army Corps of Engineers (USACE) to operate and maintain the C&SF Flood Control Project as local sponsor of the federal project as required under federal law. Due to the critical importance of works and lands of SFWMD in providing flood protection and other benefits, it is essential that SFWMD retain complete control over the use of such works and lands.

1.3.3 SFWMD Real Property Interests

SFWMD has proprietary interests in real property for drainage, flood protection, conservation, ecosystem restoration, mitigation banking and management of recreational areas. SFWMD rights-of-way, Works of the

District and any property interest evidenced by being recorded in the public records are collectively referred to as “SFWMD real property interests” in this report.

1.3.4 Ecosystem Restoration Projects

SFWMD is non-federal sponsor of and full partner with USACE in the initiative to restore America's Everglades through the Comprehensive Everglades Restoration Plan (CERP), the largest environmental restoration project in North America. It includes more than 60 elements and will take more than 30 years to construct. The State of Florida and SFWMD have committed $2.4 billion through the current fiscal year toward CERP implementation and construction.

Section 601(b) of the Water Resources Development Act of 2000 (WRDA 2000), Public Law 106-541, approved the CERP that is contained in the Final Integrated Feasibility Report and Programmatic Environmental Impact Statement dated April 1, 1999, as modified by the WRDA of 2000. As part of the State Water Resource Plan, Section 373.026(8) (b) requires collaboration between SFWMD and the Florida Department of Environmental Protection in CERP implementation. The legislature found the implementation of CERP to be in the public interest, and necessary for restoring, preserving, and protecting the South Florida ecosystem, amongst other purposes, pursuant to Section 373.1502(2) (a), F.S. Section 373.4592, F.S., contains the Everglades Forever Act. Section 373.470, F.S., contains the Everglades Restoration Investment Act. In accordance with Section 373.470(3) (a), the Florida legislature intends to establish a full and equal partnership for CERP implementation between the State and federal governments. SFWMD is authorized to act as the local sponsor for CERP projects, pursuant to Section 373.1501(4) (d), F.S.

A major goal of CERP is to capture fresh water that is lost to tide. CERP is designed to capture, store and redistribute fresh water lost to tide and to regulate the quality, quantity, timing and distribution of water flows. The majority of the water will be devoted to ecosystem restoration. The remaining water will benefit municipal and agricultural water users by enhancing water supplies for the south Florida economy.

The major components of CERP are:

- Surface Water Storage Reservoirs
- Water Preserve Areas
- Improved Water Deliveries to the Estuaries
- Underground Water Storage
- Treatment Wetlands
- Management of Lake Okeechobee as an Ecological Reservoir
- Improved Water Deliveries to the Everglades
- Removal of Barriers to Sheetflow
- Storage of Water in Existing Quarries
- Reuse of Wastewater
- Pilot Projects
- Improved Water Conservation
- Additional Feasibility Studies

In addition to its role in CERP, SFWMD is also the leader and/or a participant in other ecosystem restoration projects, some of which are designed to complement CERP projects.

1.4 Project Description

1.4.1 Existing Facilities

The FPL Turkey Point power plant is an existing power plant facility located on a ±11,000 acre site in unincorporated southeast Miami-Dade County, east of Florida City and the City of Homestead (see Exhibit 1). The power plant site is located in the area of 344th Street, approximately nine miles east of U.S. Highway 1, and is bordered on the north by Biscayne National Park, on the east by Biscayne Bay, and on the south and southwest by FPL’s ±13,000 acre Everglades Mitigation Bank. Existing features on the power plant site include fossil fuel and nuclear generating units (Units 1 through 5), a 5,900 acre cooling canal system (which is

also a permitted industrial wastewater facility), a network of electrical transmission lines and natural gas pipelines and undeveloped lands.

1.4.2 Proposed Project

New transmission lines will be located in corridors within Miami-Dade County leading both west and north from the Turkey Point facility where units 6 and 7 will be constructed and are referred to as the West and East corridors, respectively. FPL has proposed two alternative West corridors as part of its Site Certification Application. They are named the West Preferred Corridor and the West Secondary Corridor.

This Report evaluates only the FPL corridors as currently proposed. The Siting Act allows for other Parties to formally propose alternate corridors. Reviewing agencies evaluate all alternate corridor proposals filed by other Parties and accepted by both FPL and DEP and must also submit a separate but similar impact analysis report to DEP in accordance with the review schedule issued by the ALJ. On May 2, 2011 four alternate corridor proposals were filed by other Parties; two for the East Corridor and two for the West Corridor. DEP and FPL accepted all four proposals on May 9, 2011, for agency review and consideration. Two of these proposals have been subsequently withdrawn. Therefore, SFWMD will be issuing a separate report to DEP on the two remaining alternate corridor proposals, filed by the Miami-Dade Limestone Product Association (West Corridor) and the Village of Pinecrest and City of Coral Gables (East Corridor).

The proposed ±300 acre site for the new nuclear generating units (Units 6 & 7) is south of the existing nuclear generating units (Units 3 & 4) and lies within the boundaries of the existing industrial wastewater facility (see Exhibit 2). A new substation is proposed adjacent to Units 6 & 7 that will connect the two new nuclear generating units with FPL's existing electrical transmission line network via new electrical transmission line facilities. According to FPL, the new transmission line facilities will deliver approximately 2,200 megawatts (MW) of new generation from Units 6 & 7 to the state's electric grid. Unit 6 is scheduled for operation in 2022. Unit 7 is scheduled for operation in 2023. The proposed transmission lines are scheduled to be constructed and in operation prior to the proposed power plant units, with construction commencing several years in advance of the operational in-service of those power plant units.

FPL is further proposing to construct new 500 kilovolt (kV) and 230 kV transmission lines that will connect its proposed substation (referred to as Clear Sky) to various other substations in Miami-Dade County (see Exhibit 3). Approximately 88.7 miles of transmission line corridors are being proposed (52 miles for the West Preferred Corridor, 51 miles for the West Secondary Corridor, and 36.7 miles for the East Corridor). As part of the West Corridor, FPL is proposing to certify an expansion of its existing Levee substation in northern Miami-Dade County and two access-only corridor laterals (total of 5.25 miles) that will be used solely for access to the new transmission lines. The two access corridors are referred to as the Tamiami Trail Access Corridor and the Krome Avenue Access Corridor.

The West Corridor (see Exhibit 4) will include both 230 kV and 500 kV transmission lines that will connect the proposed Clear Sky substation with the existing Pennsuco and Levee substations. The proposed 230 kV transmission line (52 miles long) will connect the proposed Clear Sky substation with the existing Pennsuco substation, by-passing the Levee substation. The proposed 500 kV transmission lines (43.6 miles long) will connect the proposed Clear Sky substation with the Levee substation. The proposed transmission lines will be located primarily within existing FPL right-of-way acquired in the 1960s/1970s, either in fee or in easement. A 7.4 mile long portion of the 43.6 mile long Clear Sky substation to Levee substation transmission line corridor crosses the 1989 expansion area for Everglades National Park (ENP). Smaller portions cross the 8.5 Square Mile Seepage Management Area south of ENP and Water Conservation Area 3B north of ENP. FPL is proposing to relocate a 12 mile portion of the transmission line right-of-way that crosses these three areas in cooperation with a number of agencies, including the National Park Service, USACE, and SFWMD. This 12-mile portion of the existing FPL right-of-way is the West Secondary Corridor. The proposed relocation of this portion of the existing FPL right-of-way is included as part of the West Preferred Corridor.

The East Corridor (see Exhibit 5) will include a 230 kV transmission line that will connect the proposed Clear Sky substation with the existing Miami substation by way of the existing Davis substation. The Clear Sky substation to Davis substation portion of the proposed transmission line (19 miles long) will be located within an existing FPL right-of-way. The Davis substation to Miami substation portion of the proposed transmission line (17.7 miles long) will require new right-of-way along the U.S. 1 corridor.

FPL is also seeking to certify a short (0.4 mile long) 230 kV transmission line segment that will connect the proposed Clear Sky substation with the existing Turkey Point substation within the existing power plant site. This short segment of transmission line will be constructed within the boundaries of the East Preferred Corridor.

2 TRANSMISSION LINE CORRIDOR ASSESSMENTS

2.1 East Corridor

2.1.1 Central and Southern Florida Project

2.1.1.1 SFWMD Communication System and Facilities

SFWMD operates the extensive the water management system described in section 1.4.2 to protect public health and safety by providing flood protection, water supply deliveries and other core functions. The successful operation of the system is heavily dependent on the South Florida Water Management District Communication System and Facilities (WMDCSF), which provides for on-command and reliable remote operation of water control structures based on real-time data on hydro-meteorological conditions, as well as instant communications during hurricanes and other storm events. More than five million people in Southeast Florida depend on SFWMD operation of the regional water management system to respond in real-time to tropical weather systems and the extreme climatic events that occur throughout the year. The SFWMD communication infrastructure consists of microwave towers, sensors, transmitters, receivers, two-way radios and many other types of equipment which are for security and surveillance, voice radio, and telephone and computer networking between SFWMD sites and structures. The SFWMD telemetry system is designed to provide an extremely high level of continuous and uninterrupted performance to execute flood control operations that protect life and property.

SFWMD has interests related to the proximity of the proposed transmission lines to SFWMD-owned communications facilities and the potential for interference that would degrade or diminish the function and reliability of those facilities. A large portion of SFWMD recommended conditions of certification regarding communications systems consist of a protocol that would be followed by SFWMD and the Licensee to eliminate and reduce adverse impacts to SFWMD communication systems during the design and construction of the Licensee's facilities and to provide for rapid identification, response, and resolution of communications systems problems should they arise. The proposed protocol is extensive and reflects that reliable operation of the flood control system is the paramount core function of the SFWMD.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.1.1.2 Use and Occupancy of SFWMD Rights-Of-Way

Based on SFWMD review of the Site Certification Application the Licensee is proposing aerial electrical transmission line crossings over the following SFWMD Canals: C-100, C-100A, C-100C, C-102, C-102N, C-

103, C-1W, C-1N, C-2, C-3, C-6, L-31E and Military Canal. FPL must meet SFWMD minimum clearance requirements for aerial transmission line facilities, as established in the Criteria Manual for Use and Occupancy of Works of the District or equivalent manual in effect at the time of project design. "Works of the District" means the canals, levees, structures, lands, water bodies (including lakes and water conservation areas), and other associated facilities which have been adopted as such by the SFWMD Governing Board.

FPL must also comply with U.S. Department of Occupational Safety and Health Administration (OSHA) standards and safe clearance requirements, including vertical height and swing clearances, and any other health and safety related governmental requirements or industry standards that may be in effect at the time of project design. These standards are presently incorporated in the Criteria Manual.

There are certain areas within the proposed corridor where SFWMD has existing operational and maintenance constraints that could be exacerbated by new transmission line facilities and other areas where placement of new transmission line facilities could impose operational and maintenance constraints or interfere with future planned improvements to the C&SF Project. There are also certain areas where the proposed corridor overlaps SFWMD rights-of-way and there is a potential for transmission line facilities to be placed parallel to and within SFWMD rights-of-way. The Licensee's proposed use and occupancy of SFWMD rights-of-way must not interfere with SFWMD existing use and currently proposed future use of its rights-of-way, known at the time of FPL's project design.

For all instances identified during review of the SCA where FPL's proposed use and occupancy of SFWMD right-of-way would require a waiver of SFWMD right-of-way permitting criteria, SFWMD is recommending conditions of certification that 1) reflect the applicable right-of-way permitting criteria and 2) constitute a waiver in situations where FPL cannot meet the right-of-way permitting criteria (see Section 4 of this report). SFWMD and FPL have agreed to a process by which, when such instances arise post-certification, SFWMD would consider and authorize FPL's proposed use and occupancy of SFWMD's right-of-way if it otherwise complies with the non-procedural requirements of SFWMD right-of-way permitting criteria and SFWMD conditions of certification. This process would be in lieu of the process by which a waiver is typically obtained and would not require a modification to the certification.

Under SFWMD right-of-way occupancy permitting criteria, any proposed crossings over SFWMD water control structures are typically prohibited. In addition, placement of above-ground permanent or semi-permanent structures within 40 feet of the top of the canal bank or within SFWMD designated 100 foot-long equipment staging areas located at all bridges and pile-supported utility crossings is typically prohibited. This typical prohibition is in order to provide adequate areas to set up and operate equipment, particularly for the purposes of removing and temporarily stockpiling storm debris that accumulate on pilings, SFWMD will set aside and preserve staging areas at bridge and pile-supported utility crossings. These staging areas are 100 feet in length and are located on the upstream and downstream sides of all bridge and utility crossings. Aerial transmission lines and support structures are typically prohibited in these areas because they could interfere with SFWMD operation and maintenance activities, as well as emergency operations during major storm events.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.1.2 Ecosystem Restoration

2.1.2.1 Biscayne Bay Coastal Wetlands Project (Phase I)

The purposes of this CERP project are to:

- Re-establish productive nursery habitat along the shoreline

- Redistribute freshwater flow to minimize point source discharges to improve freshwater
- Re-establish productive nursery habitat along the shoreline
- Redistribute freshwater flow to minimize point source discharges to improve freshwater and estuarine habitat
- Restore and improve quantity, quality, timing, and distribution of freshwater to Biscayne Bay, including Biscayne National Park
- Preserve and restore the spatial extent of natural coastal glades habitat
- Re-establish connectivity between Biscayne Bay coastal wetlands, the C-111 Basin, the Model Lands Basin, and adjacent basins
- Restore nearshore and saltwater wetland salinity regimes

The Draft Project Implementation Report/Environmental Impact Statement (PIR/EIS) for Phase I was published in March of 2010. The Final PIR/EIS has been drafted. Publication is pending resolution of a policy issue.

Project construction activities along the L-31E Canal were completed in June 2010. Deering Estate construction activities are projected to be completed in March 2012. The award for construction of the Cutler flow-way project is contingent upon SFWMD Governing Board approval of funding. Construction will take approximately 18 months. SFWMD is anticipated to take the lead in the construction of the above Phase I project activities. It is anticipated that USACE will be awarding contracts for completion of the CERP features in January 2015.

The East Preferred Corridor coincides with the Licensee's existing transmission line right-of-way along the western boundary of SFWMD L-31E Canal, from just south of S.W. 328th Street to just north of S.W. 261st Street, in the vicinity of the recently installed culverts on the east side of the L-31E Canal right-of-way.

No specific impacts to the Biscayne Bay Coastal Wetlands Project were identified during the Site Certification review process. However, SFWMD will be able to conduct a more detailed review to identify potential impacts during the post-certification review process when the Licensee submits detailed design plans and the final right-of-way location.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.1.2.2 Biscayne Bay Coastal Wetlands Project (Phase II)

Although a National Environmental Policy Act (NEPA) scoping meeting for preparation of the Draft PIR/EIS has not yet been scheduled, it is anticipated that the objectives for Phase II will be similar to those for Phase I. The anticipated objectives for this CERP project are:

- Re-establish productive nursery habitat along the shoreline
- Redistribute freshwater flow to minimize point source discharges to improve freshwater and estuarine habitat
- Restore and improve quantity, quality, timing, and distribution of freshwater to Biscayne Bay, including Biscayne National Park
- Preserve and restore the spatial extent of natural coastal glades habitat
- Re-establish connectivity between Biscayne Bay coastal wetlands, the C-111 Basin, the Model Lands Basin, and adjacent basins
- Restore nearshore and saltwater wetland salinity regimes

This project is not currently shown on the Integrated Delivery Schedule (IDS). The IDS is the South Florida Ecosystem Task Force's schedule of major ecosystem restoration initiatives based on project priorities, benefits, costs, and funding. Since this project is not currently shown on the IDS, project construction may not

commence until sometime after 2020.

The proposed temporary and permanent improvements to the existing electrical transmission line corridor and access road west of the power plant site along 359th Street (i.e., for temporary power plant construction activities and permanent electrical transmission line maintenance activities) would appear to eliminate wetlands which could otherwise be restored by the proposed CERP project. It appears that temporary improvements to the existing access road could likely further compartmentalize the Biscayne Bay Coastal Wetlands study area from both an ecological and hydrologic perspective. These potential adverse impacts could be minimized if the new access road is properly designed and constructed in accordance with the applicable environmental standards and recommended certification conditions.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.1.2.3 Western C-111 Spreader Canal (Phase II)

Although a National Environmental Policy Act (NEPA) scoping meeting for preparation of the Draft PIR/EIS has not yet been scheduled, it is anticipated that the objectives will likely be similar to those identified in CERP.

The anticipated objectives include the following:

- Reduce wet season flows in C-111
- Improve water deliveries to Model Lands Basin and Southern Glades
- Decrease potential flood risk in the southernmost portion of Miami-Dade County

The project supplements the Western C-111 Spreader Phase I Project and is intended to expand the ecological benefits associated with that project.

The project is not currently shown on the IDS. The IDS is the South Florida Ecosystem Task Force's schedule of major ecosystem restoration initiatives based on project priorities, project benefits, costs, and funding. Considering that this project is not currently shown on the IDS, project construction may not commence until sometime after 2020.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2 West Preferred Corridor

2.2.1 Central and Southern Florida Project

2.2.1.1 SFWMD Communication Systems

The text for this section of the report is the same as that for the East Preferred Corridor (see Section 2.1.1.1 of this report).

2.2.1.2 Use and Occupancy of SFWMD Right-Of-Way

Based on SFWMD review of the Site Certification Application, the Licensee is proposing aerial electrical transmission line crossings over the following SFWMD Canals: C-1W, C-102, C-103, C-113, C-4, L-29, L-30, L-31N, L-31E. The Licensee must meet SFWMD requirements as described in Section 2.1.1.2 of this report.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.1.3 L-29 / L-30 / L-31N Cooperation Agreement

In June 2008, the SFWMD Governing Board approved Resolution No. 2008-640 (see Appendix B) authorizing a Cooperation Agreement with FPL for a replacement corridor for FPL's existing unimproved transmission line corridor that bisects a portion of the ENP expansion area and WCA-3B. Presently there are no electric transmission lines located in either corridor. The Cooperation Agreement authorizes SFWMD to issue easements to FPL for the following uses of SFWMD right-of-way, in addition to easements to be issued to the Licensee on certain lands to be conveyed by the National Park Service or the USACE to SFWMD. Below is a brief summary of the Cooperation Agreement. Please refer to Cooperation Agreement (Appendix B) for the actual terms which are controlling.

South of Tamiami Trail: Use of the western L-31N levee road to access the new transmission line corridor for construction, operation, and maintenance purposes and construction of permanent access roads/ramps down from the western L-31N levee road to the new structures in the West Preferred Corridor within ENP. In the vicinity of SW 120th Street , an easement for the construction, placement, operation and maintenance of utility lines and appurtenant facilities including communication facilities, together with the right of ingress and egress to such facilities.

North of Tamiami Trail: Use of that portion of the L-30 right-of-way lying west of the canal for construction of and access to transmission lines and appurtenant facilities, including communication facilities for FPL's sole use and an easement to manage non-native vegetation that poses a potential fire hazard.

However, the FPL's West Preferred Corridor includes additional SFWMD rights-of-way on the east side of the L-30 and L-31N canals, which is outside the terms of the Cooperation Agreement. In its Third Completeness Responses, the FPL states "permanent transmission structures, poles, towers, and overhead wires for the Clear Sky-Levee #1 and #2 500 kV transmission lines and the Clear Sky-Pennsuco 230 kV transmission line will not be located within the east side of SFWMD L-31N and L-30 canal rights-of-way except for the certified transmission overhead wires that will cross the L-31N Canal right-of-way in the area of the intersection of the Krome Avenue (SR 27) Access Corridor and the West Preferred Transmission Corridor".

Any further use of the eastern portion of the SFWMD rights-of-way in this area would require mutual agreement between FPL and SFWMD. Such further use could interfere with SFWMD legally mandated responsibilities for flood protection and other routine access, maintenance and emergency uses.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.1.4 L-30 / L-31N Levee Roads

The Licensee's proposed corridors include the option of potentially using SFWMD L-30 and L-31N canal levees for construction and maintenance of the proposed transmission lines. Portions of the levees have not been designed to accommodate the heavy equipment proposed to be used by the Licensee. Therefore, portions of the levees may need to be enhanced and widened. SFWMD has advised the Licensee that any proposed levee enhancements will need to meet USACE design specifications, including compaction and side slope stabilization (grass/sod) requirements and will require USACE approval prior to implementation. Licensee may be required to obtain a (33 US Code of Federal Regulations) Section 408 permit from USACE. SFWMD has also discussed with the Licensee the possibility of using the berm portion of the levee right-of-way west of the western levee road, between the toe of the levee and the right-of-way line (i.e., the landward side of the levee). In its Second Completeness Responses, the Licensee states that they "will meet applicable design

standards" and they are "willing to evaluate alternatives for access, including using the berm portion of the levee, enhancing and widening the levee, or constructing a seepage management berm parallel to the levee."

There is a longer-term potential that portions of the L-31N levee south of the Krome Avenue detention facility may be removed to create a new flow way into Everglades National Park. This option is being proposed by the Department of the Interior; however, there is no specific implementation date. Access to the Licensee's facilities in this area could be impacted and may require alternative means of access.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.1.5 Use of SFWMD Bridges

Within the Tamiami Trail Access Corridor and SFWMD L-29 and L-30 canal rights-of-way, the Licensee's proposed transmission corridors include the option of using the existing service bridges for the S-334 and S-335 structures that are currently being used by SFWMD and the USACE for operation and maintenance activities. The Licensee's proposed transmission corridors include the option of using these bridges for construction of the proposed transmission line and potentially for the Licensee's future operation and maintenance activities. SFWMD has advised the Licensee that SFWMD is concerned about potential damage to the S-334 and S-335 structures and that the design load capacity of the bridge and the turning radius on the north side of the bridge may not be adequate to accommodate the large vehicles that would be used by the Licensee to deliver and install the proposed transmission line poles and other facilities. Additional fill in WCA-3B would be needed to provide an adequate turning radius, resulting in additional wetland impacts and mitigation requirements.

SFWMD does not allow its construction contractors to use SFWMD service bridges for access to a SFWMD project site for the concerns noted above. However, SFWMD does allow its contractors to use SFWMD rights-of-way, including installation of temporary bridges in SFWMD canals for access, as long as it does not interfere with SFWMD ability to carry out its operation and maintenance responsibilities, including conveyance of flows, and SFWMD access to its structures and facilities. The Licensee shall only be permitted to use the Ratner Bridge, S-334 and S-335 service bridges if the technical concerns noted above are adequately addressed.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.1.6 Other Right-Of-Way Occupancy Issues

Any potential interference between the proposed project and existing authorized facilities within SFWMD right-of-way must be resolved when the final transmission line right-of-way and the location of the proposed transmission line facilities are submitted for SFWMD review during the post-certification review process.

Licensee does not anticipate installation of fencing or landscaping within SFWMD right-of-way for this project. If it is the Licensee's desire to install fencing or landscaping within SFWMD right-of-way, the Licensee is advised that SFWMD right-of-way permitting criteria are established in the Criteria Manual for Use and Occupancy of Works of the District. The Criteria Manual prohibits the installation of fencing and/or landscaping within 40 feet of the top of the canal bank and/or within SFWMD designated 100 foot-long equipment staging areas located at all bridges and pile-supported utility crossings. Where landscaping is allowed, the proposed species must meet SFWMD criteria. The details of any proposed fencing or landscaping must be submitted to SFWMD for review during the post-certification review process. Temporary uses of SFWMD staging areas are acceptable so long as they do not interfere with SFWMD operation and maintenance activities.

The Licensee indicates in the Site Certification Application that any proposed culverts within SFWMD right-of-

way will meet SFWMD right-of-way permitting criteria. This issue will require further evaluation during the post-certification review process.

For those areas where the Licensee proposes use of SFWMD right-of-way for construction or other vehicular access, the details of the proposed activities must be submitted for SFWMD review and monitoring for compliance during the post-certification review process.

For certain portions of SFWMD right-of-way and lands, SFWMD has an easement rather than fee title. Consequently, in order to use those lands, the Licensee will need to obtain permission from the underlying fee owners.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.2 Land Ownership / Management

2.2.2.1 Model Lands Basin

The lands within the Models Lands Basin are managed by SFWMD and Miami-Dade County, pursuant to a Memorandum of Understanding (MOU) that was originally entered into in 2005. The Model Lands Basin project site consists of a combination of fresh and saltwater wetlands, with portions of the land heavily infested with exotic vegetation. Although more than 15,500 acres of the 54,458-acre project area are in public ownership, there is no public use program due to lack of legal access and contiguous ownership. Major management activities have included treating exotic vegetation and restricting detrimental activities, including, but not limited to off-road vehicle use, poaching, and dumping. The primary management focus for SFWMD and Miami-Dade County is the treatment of exotic species. The Interim Management Plan (Exhibit B of the 2010 Memorandum of Understanding modification) acknowledges FPL's Units 6&7 project: "FPL operates several electrical power plants immediately adjacent to the South Dade Wetlands portion of the project, and recently applied to expand power-generating facilities in the area".

The proposed improvements to the existing transmission line access road along S.W. 359th Street may provide the opportunity for additional access to public lands, including SFWMD-owned lands within the Model Lands Basin. This could result in an increase in detrimental activities.

The proposed transmission line access road (and temporary construction haul road) should be designed to prevent illegal access, to the extent practicable.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.2.2 Southern Glades

Within the 34,093-acre Southern Glades project area, SFWMD ownership includes approximately 31,333 acres (fee simple and easements). The lands are cooperatively managed by the Florida Fish and Wildlife Conservation Commission under a lease agreement as the Southern Glades Wildlife and Environmental Area. The project area is open to hiking, wildlife viewing, fishing, hunting, air boating, bicycling, and horseback riding. Treatment of exotic species is a primary management focus.

West of U.S. Highway 1, the West Preferred Corridor crosses SFWMD Southern Glades Save Our Rivers (SOR) property (Parcel #GR701-025). Any potential adverse impacts could be minimized if the proposed transmission line access road is designed in accordance with applicable environmental standards and recommended certification conditions, to maintain existing surface water flows in this area.

Although the proposed transmission line will not interfere with public recreational uses on SFWMD lands, it could provide additional access to SFWMD SOR lands and this could result in an increase in detrimental activities, such as off-road vehicle use, poaching, dumping and other activities that could result in environmental degradation. The proposed transmission line access road should be designed to prevent illegal access to the extent practicable.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.2.3 Pennsuco Regional Mitigation Area

The Pennsuco Regional Mitigation Area (PRMA) is part of the Pennsuco Wetlands or Cell 26 of the East Coast Buffer and covers an area of approximately 13,000 acres. SFWMD began using the Pennsuco wetlands as a regional off-site mitigation area in 1995, allowing permit applicants to make mitigation contributions for the acquisition, enhancement, and long term management of Pennsuco lands as compensation for permitted wetland impacts. Although the developer's mitigation obligation was met in July 2002 and Pennsuco is no longer available as a mitigation option for developers proposing wetland impacts, Pennsuco acquisition, restoration, and long-term management continues as a mitigation option for Lake Belt miners, pursuant to Section 373.4149(1), F.S. Pennsuco emphasizes the enhancement of a degraded ecosystem that would otherwise continue to decline and impact nearby natural areas without efforts to reduce the spread of exotics. The enhancement of Pennsuco has the potential to yield regional ecological benefits and contribute to the goals of Everglades restoration.

The proposed transmission line improvements along SFWMD L-30 Canal may provide the opportunity for additional access to public lands, including SFWMD-owned lands in the PRMA. This could result in an increase in detrimental activities, such as off-road vehicle use, poaching, dumping and other activities that could result in environmental degradation. The proposed transmission line access road should be designed to prevent illegal access to the extent practicable.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.3 Ecosystem Restoration

2.2.3.1 Biscayne Bay Coastal Wetlands Project (Phase II)

A description of this project and related issues is provided in Section 2.1.2.2 of this report.

2.2.3.2 Western C-111 Spreader Canal (Phase II)

A description of this project and related issues is provided in Section 2.1.2.3 of this report.

2.2.3.3 South Dade C-111 Project

The project objective is to increase timely water deliveries into the southern portion (Taylor Slough) of ENP through a series of structural modifications and water control projects within the Central and Southern Florida Flood Control Project. This project includes construction of pumps, control structures, and levees along the eastern boundaries of ENP south of the 8.5 Square Mile Area and filling the L-31W Canal.

Design and construction of the Northern, Southern and Frog Pond detention areas and ENP Seepage Management (L-31W backfill) projects are related projects in the vicinity of the South Dade C-111 project.

Due to the large scope of the South Dade C-111 project, individual project components are in varying stages of completeness, ranging from planning to completion. The Frog Pond Detention Area construction is substantially complete. The Southern Detention Area features have been constructed; however, they are not yet fully operational. Neither the Northern Detention Area nor the ENP Seepage Management project has been constructed.

The project is currently undergoing modifications to the operational plan to adjust operations of the overall project to address design and functional changes brought about during the detailed design process. Some implementation of portions of the project is anticipated in 2014, after the operational plans and permitting have been completed.

The proposed transmission line construction activities cannot compromise levee function, minimum elevation, and structural integrity. During construction, access will need to be maintained for SFWMD operations and flood control activities along the entire length of the levee. Water levels in the vicinity of the corridor south of the 8.5 Square Mile Area and north of the L-31N Canal may be somewhat higher as a result of project implementation. Consequently, the Licensee should design the project to accommodate the projected higher water levels, known at the time of transmission line design.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.3.4 Modified Water Deliveries to Everglades National Park

The Modified Water Deliveries to Everglades National Park project ("Modwaters") is considered to be a foundation project for restoration of the Everglades and a precursor to CERP approved in 1999. The original intent of Modwaters, authorized in 1989, was to reconnect the watersheds of WCAs 3A and 3B with Everglades National Park (ENP) by redirecting water flow to the historic flow channels in Shark River Slough and establishing natural hydrologic conditions.

The final 1992 General Design Memorandum (GDM) Report, Part 1, Supplement 54, and the June 1992 Environmental Impact Statement for Modified Water Deliveries to Everglades National Park, Section H, Recommended Project (page 52), defines the measures for which restoring the natural hydrologic conditions to the extent practicable would be met. The goal of restoring natural hydrologic conditions will be met in terms of all three of its dimensions: location, timing and volume:

a. Location–The historic path of Shark River Slough will be restored by bringing WCA3A/3B and Northeast Shark River Slough back into the flow-way between WCA-3A and ENP.
b. Timing–Water flows through the restored Shark River Slough will reflect natural local meteorological conditions, including the extremes of natural droughts and floods, and variations in the annual seasonal and long-term cycles.
c. Volume–The volume of water delivered will reflect the naturally available supplies based on local meteorological conditions, except in cases where operations of the Central and South Florida Project for other authorized project purposes necessitate increased or decreased deliveries. Natural hydroperiods will be restored.

Components of the Modwaters plan include flood mitigation for the 8.5 Square Mile Area, an agricultural area that could be impacted by higher seepage resulting from the restored hydrology of Shark River Slough, water conveyance structures allowing movement of water from WCA 3A and WCA-3B into ENP, and seepage control for the L-31N Canal to provide protection for southwestern Miami-Dade County.

A significant number of CERP and other federal projects were conceptually designed assuming the Modwaters project components would be completed in advance of the CERP projects. Projects impacted by Modwaters

include the following:

- Water Conservation Area 3A/3B Decompartmentalization
- Broward County Water Preserve Area
- Central Lake Belt
- Everglades National Park Seepage Management Project
- Flows to Northwest and Central Water Conservation Area 3A
- South Dade C-111 Project

Since authorization in 1989, the Modwaters project has been significantly delayed due to uncertainties regarding the means and methods to restore natural flow conditions, funding issues, and legal challenges. Portions of the project have been constructed to facilitate the flow of water. New outflow structures have been completed on the L-29 levee (S-355A/B) to discharge water from WCA-3B into the Tamiami Trail borrow canal and then under Tamiami Trail through culverts into ENP. USACE is currently constructing a one-mile bridge to replace some of these culverts and establish a continuous marsh connection between the borrow canal and ENP. This connection will facilitate more uniform movement of water re-establishing the natural hydrology and providing a greater connection for wildlife. Water control structures connecting WCA 3A and WCA-3B have been delayed due to lack of funding. A seepage control pump station on the L-31N Canal has also been completed; however, an operating permit has not been issued due to concerns over potential water quality impacts to ENP. The seepage protection for the 8.5 Square Mile Area has been completed with the construction of a protective levee, seepage collection canal, and pump station to divert increased seepage away from the developed portions of the area.

The planning process for Modwaters was completed with the release of the 1992 GDM describing the project components. Since then, additional details have been refined for the 8.5 Square Mile Area and the Tamiami Trail Bridge through supplemental planning documents describing construction designs. An overall operating plan integrating the components of Modwaters and the structural flow of water to achieve the desired restoration of ENP has not been developed. A preliminary operating plan called the Combined Structure Operating Plan was developed through a public and interagency effort from 2007-2009; however, it was not adopted by the USACE. A revised operating plan is expected to be completed by 2013, coincident with the completion of the Tamiami Trail Bridge construction and expected operation.

Future plans could result in the removal of the L-31N levee between the Krome Avenue Detention Facility and the southern limits of the existing operating rock mines. The Department of Interior and ENP have expressed a desire to create a flowway utilizing the land and borrow lakes in this region to generate a new overland flow route into ENP. The intent is to route water from the Central Lake Belt and/or WCA-3B projects into this area as new sources of water become available. This will necessitate the removal of the L-31N levee or substantial modifications to the levee to accommodate this new flow path. As a result, water depths in this area will increase substantially above the existing conditions for prolonged periods. Consequently, any construction, operation, and maintenance of transmission line facilities and access roads in this area must take into consideration this future condition, known at the time of transmission line design. In addition, placement of transmission line support structure pads and access roads along the remaining L-31N levee could create obstructions to uniform flow of water in these areas which could create local differences in hydrology on the downstream side of the support structure pads and access roads.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.3.5 Water Preserve Area Conveyance

The purpose of the Water Preserve Area Conveyance (WPAC) projects are to reduce seepage losses to the east from the Pennsuco Wetlands and the southern portion of WCA-3B, enhance hydroperiods in the

Pennsuco Wetlands, and provide recharge to Miami-Dade County's Northwest Wellfield. The project includes water control structures and modifications to the Dade-Broward Levee and associated conveyance systems located in Miami-Dade County.

The following is a list of related projects in the vicinity:

- WCA 3A/3B Seepage Management Area
- Bird Drive Recharge Area
- WCA 3A/3B Decompartmentalization
- Central Lake Belt Storage Area

Implementation of these projects will follow the standard CERP process of federal authorization and appropriation through a PIR. The construction schedule for these projects has not been identified on the South Florida Ecosystem IDS.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.3.6 L-31N (L-30) Seepage Management Pilot Project

The purpose of the L-31N (L-30) Seepage Management Pilot Project (L-31N SMPP) is to determine the appropriate technology needed to control seepage via a level cutoff wall from ENP and to quantify the amount of wet season groundwater flow that will minimize potential impacts to Miami-Dade County's West Wellfield, and Biscayne Bay. The project is located along a 1.25-mile segment of the L-30 Canal between the S-335 and S-336 structures.

Several CERP projects are located in the vicinity of and related to this project, which is one of three components of the Everglades National Park Seepage Management Project (ENP SMP). The other two components of the ENP SMP are the S-356 Pump Station relocation project and the Bird Drive Recharge Area.

This project is currently on hold as a result of budgetary limitations on construction costs. SFWMD is continuing to monitor the groundwater network in the area and is participating in a similar project being conducted by the rock miners in the Lake Belt region of Miami-Dade County, as part of a mitigation plan proposed by the rock miners. The rock miners' seepage management project is anticipated to take place over the next two years. The results of the rock miners' project will be integrated with the groundwater monitoring evaluation to re-formulate the L-31N SMPP.

SFWMD anticipates that the seepage cutoff wall will be built within the footprint of the L-30 levee and right-of-way. Consequently, construction of the proposed transmission line facilities must not interfere with cutoff wall construction and potential blasting activities. During transmission line construction activities, access will need to be maintained for SFWMD operations and flood control activities along the entire length of the levee. SFWMD and Licensee will coordinate any blasting activities in the vicinity of Licensee's transmission facilities.

Depending on the results of the groundwater monitoring evaluation and the rock miners' seepage management project, the seepage barrier may be expanded and constructed seven miles further to the south and three miles further to the north.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.3.7 ENP Seepage Management

The purpose of the ENP SMP is to improve water deliveries to northeast Shark River Slough by controlling seepage via a level cutoff wall from ENP toward the Miami-Dade County urban area. The northern limit of the project is approximately three miles north of structure S-335 on the L-30 borrow canal and extends primarily along the L-31N and L-30 levees south to the G-211 structure and the C-1W canal.

Several CERP projects are located in the vicinity of and related to this project, including the Bird Drive Recharge Area, the S-356 Pump Station relocation, and the L-31N Seepage Management Pilot Project.

This project is currently on hold, pending the results of the L-31N SMPP. SFWMD staff has been directed to monitor the groundwater network in the area and participate in a seepage management project conducted by the rock miners in the Lake Belt region of Miami-Dade County, as part of a mitigation plan proposed by the rock miners. The rock miners' seepage management project is anticipated to take place over the next two years. The results of the rock miners' project will be integrated with the groundwater monitoring evaluation to re-formulate the L-31N SMPP.

Upon determination of an appropriate seepage management control feature, the ENP SMPP will be re-started and a PIR will be prepared. It is anticipated that the project will not resume for at least another 5 years and that construction is not likely to commence until at least 2020.

It is anticipated that the seepage cutoff wall will be built within the footprint of the L-30 and L-31N levees and right-of-ways. During construction, access will need to be maintained for operations and flood control activities along the entire length of the levee. The Licensee's proposed access road must not impede existing hydrologic flows or design flows that are known at the time of transmission line design or result in the creation of artificial impoundments. Close coordination among Licensee, USACE, and SFWMD will be necessary to avoid any potential conflicts. Water levels in the vicinity of the corridor may be higher as a result of project implementation. Consequently, the Licensee should design the project to accommodate the projected higher water levels, known at the time of transmission line design.

At this time, the technology for installation of a large subsurface seepage management control feature has not been determined. The construction contractors that are capable of performing this work are limited to a small group. The corridor width for construction of this feature could be highly variable, depending on which contractor is selected.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.3.8 Central Lake Belt Storage Area

The purpose of the Central Lake Belt Storage Area (CLBSA) project is to store excess water from WCA-2 and WCA-3 and to provide environmental water supply deliveries to northeast Shark River Slough, Water Conservation Area 3B, and Biscayne Bay, in that order, if available. It is assumed that water diverted from WCA-2 and WCA-3 is of adequate quality to return to the Everglades Protection Area and Biscayne Bay. Final configurations and treatment requirements were to come from a Water Preserve Areas Feasibility Study. Although drafted, the study scope became too large, so projects are being revisited separately. A pilot project was started to assess feasibility and cost of the Lake Belt Storage Area projects; however, that project is currently on hold.

The following is a list of related projects in the vicinity:

- WCA 2 Flows to CLBSA
- WCA 3 Flows to CLBSA
- North Lake Belt Storage Area

The project will be constructed in two phases. Phase 1 will be implemented from 2025 to 2030. Phase 2 will be implemented from 2035 to 2040. The PIR has not yet been prepared and a construction schedule does not yet exist.

The West Preferred Corridor runs along the west perimeter of the project. The existing FPL Levee-Midway 500 kV transmission line bisects the west half of the CLBSA project. The conceptual project design anticipates providing storage in the mines to the east of the existing 500 kV line and treatment, if and as necessary, to the west of the existing 500 kV transmission line. A future channel is proposed to convey water from storage to treatment areas. The Licensee's proposed project should be designed to not interfere with the proposed conveyance feature.

Due to the many uncertainties regarding the constructability and cost of the Lake Belt project, the design will remain conceptual until the pilot project is undertaken and successfully completed.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.2.3.9 Protection of Everglades Habitat associated with CERP Restoration

<u>Background</u>

Associated with the CERP goal of enhancing ecological values are objectives to increase the spatial extent of natural areas, improve habitat and functional quality, and improve native plant and animal species abundance and diversity. An important goal of CERP is the restoration of nesting populations of wading birds. The number of nests of some species have declined considerably since the 1930s (Crozier & Gawlik 2003) due to loss of wetland habitat and hydrologic modifications to the Everglades. Several system-wide performance measures and targets were established for five wading bird species, including the wood stork (*Mycteria americana*), by the CERP Restoration, Coordination, and Verification (RECOVER) group. SFWMD focuses its assessment on the wood stork for the following reasons:

1) Important wood stork nesting and foraging habitat occurs in the vicinity of the proposed transmission lines;

2) Avian populations that are already reduced below a certain threshold population level are less able to compensate for anthropogenic related mortality than species with healthy populations. The wood stork is a federally and state listed endangered species whose nesting population in south Florida has declined by about 78% since the 1930s (Crozier & Gawlik 2003). Therefore, any impact of the proposed transmission lines on the wood stork may be relatively greater than on other, more abundant, wading bird species;

3) The biological and ecological attributes of the wood stork (e.g., its relatively long nesting season and the poor flight ability of fledgling birds) suggest SFWMD take a close look at the species in relation to the proposed project; and

4) It is the key wading bird indicator species for hydrological restoration of the Everglades.

Resolving issues related to the wood stork will similarly resolve potential issues associated with other wading birds in the area.

Additional background information and supporting documentation pertaining to SFWMD responsibilities with

respect to restoration of healthy wading bird populations and relevant biological information on the wood stork are provided in Appendix C.

Locations Of Wading Bird Colonies And Federal Guidelines

Data from the annual South Florida Wading Bird Report were used to locate and assess CERP wading bird nesting colonies and foraging areas that have the potential to be negatively impacted by the proposed transmission line corridors. Maps were generated to show colony locations and foraging zones in relation to the West Preferred and West Secondary transmission line corridors.

The West Preferred and West Secondary corridors are located close to a cluster of four wading bird colonies. Three colonies are located adjacent to Tamiami Trail in ENP: Tamiami West, Tamiami East 1, and Tamiami East 2. Another colony is located further north in WCA 3B: 3B-Mud East. This cluster of colonies is a primary nesting area for all five CERP wading bird species. It is also currently one of the most important nesting sites in the Everglades for the wood stork, often supporting approximately half of all annual wood stork nests in the Everglades, as outlined in the table below.

Due to the importance of protecting nesting and foraging habitat for this species, the U.S. Fish and Wildlife Service (USFWS) developed a series of permitting criteria guidelines. These criteria are found in *Habitat Management Guidelines for the Wood Stork in the Southeast Region* (Ogden 1990, USFWS 2006), and are summarized in Appendix C). SFWMD used these guidelines to formulate a preliminary assessment of the potential effects of the proposed corridors on the colony cluster.

These documents identify two protective management zones and provide guidelines on human activities and development in the vicinity of nesting bird colonies. The primary zone (up to 1500 feet from the colony boundary) is the critical area needed to protect the survival of the colony (i.e., the nests, young, and nesting adults). The secondary zone (up to 2500 feet from the colony boundary) is used by wood storks for collecting nest material, roosting, and feeding, particularly for juveniles and recently fledged young. These management zone boundaries were delineated for each of the four colonies in the cluster (see Exhibit 6, which depicts two of the four management zones due to overlapping geographic areas). SFWMD understands that site-specific management zone boundaries will be developed by the USFWS during development of their Biological Opinion on the wood stork as part of their review of this project.

In addition, and more recently, the USFWS developed a wood stork foraging assessment model which must be implemented for any project within the core foraging area of an active wood stork colony. The core foraging area (CFA) for a wood stork colony is defined by the USFWS as the area within an 18.6 mile (30 km) radius of that colony. Refer to Exhibit 6 for the CFAs of Tamiami West and 3B-Mud East colonies. The CFAs of the Tamiami East and Tamiami East2 colonies are not shown because they substantially overlap the Tamiami West CFA at the scale used in Exhibit 6). Both the West Preferred and West Secondary transmission line corridors pass through the core foraging area of the colony cluster. Adult birds from the colony cluster are known to forage in all available wetlands within the CFAs of each colony including the Pennsuco wetlands east of Krome Avenue (see annual South Florida Wading Bird reports).

Wood storks in the Everglades generally feed within 12.4 miles (20 km) of the nesting colony and, therefore, may forage in close proximity to the proposed transmission line corridors (see Exhibit 6). A large population of non-nesting, over-wintering birds from northern states and Canada also forage throughout the Everglades, including areas close to the proposed project. An important foraging area for both nesting and non-nesting birds is Shark River Slough, located to the south of the Tamiami colony cluster in ENP. Systematic Reconnaissance Flights (SRFs; see Portier & Smith 1984, Hoffman et al. 1994 for details) reveal that very large numbers of wading birds forage within this area; for example, during the 2010 breeding season there was, at any given time, an average of 29,081 birds foraging in a 12 square mile area in the northeastern region of Shark Slough (for details see Cook & Kobza 2010).

The federal guidelines (Ogden 1990, USFWS 2006) that are relevant to the proposed transmission line corridors are discussed below in relation to the nesting and foraging attributes of the colony cluster.

West Preferred Corridor (Nesting Attributes)

- Ogden (1990) and the USFWS (2006) recommend that power lines should not be placed within 1 mile of a colony. The West Preferred corridor is within one mile of the colony boundary of two colonies: Tamiami East 1 (1,232 feet) and 3B-Mud East (1,985 feet). It passes within the primary zone of Tamiami East 1 and within the secondary zone of 3B-Mud East (see table below and Exhibit 5).

West Secondary Corridor (Nesting Attributes)

- The West Secondary Corridor is within one mile of the colony boundary of three colonies: Tamiami East 2 (80 feet), Tamiami West (3,986 feet), and 3B-Mud East (669 feet). It passes within the primary zones of Tamiami East 2 and 3B Mud East (see table below and Appendix C).

- Ogden (1990) and the USFWS (2006) recommend no human intrusion within 328 feet (100 m) of the colony during the nesting period. Maintenance activities involving human (rather than vehicular) presence at Tamiami East 2 and 3B Mud East colonies may disturb nesting wood storks.

Table 1 below outlines distances (measured in feet) of colony boundaries from the Western corridors. Distances of colonies within 1 mile (5,280 feet) are highlighted in bold print.

Table 1. Distance (ft.) of Colony Boundaries from West Corridors.

Colony	West Preferred Corridor	West Secondary Corridor
Tamiami West	13550	**3986**
Tamiami East 1	**1232**	5321
Tamiami East 2	7116	**80**
3B-Mud East	**1985**	**669**

West Preferred Corridor (Foraging Attributes)

- Ogden (1990) and the USFWS (2006) recommend that power lines should not be placed within one mile of a major feeding site. The West Preferred Corridor passes through the core foraging area of all four colonies and is within one mile of known foraging areas.

  Ogden (1990) and the USFWS (2006) recommend that foraging sites should not be subject to activities that alter their normal hydrology. Pad and road construction (wetland fill) may affect wetland hydrology and hence wood stork foraging conditions. Consideration of how the proposed project will influence historic or future hydrologic flows associated with implementation of CERP is important.

West Secondary Corridor (Foraging Attributes)

The west secondary corridor passes through the core foraging area of all four colonies and is within one mile of known foraging areas.

Pad and road construction (wetland fill) may affect wetland hydrology and hence wood stork foraging conditions. Consideration of how the proposed project will influence historic or future hydrologic flows associated with implementation of CERP is important.

Literature Review

To ascertain the potential effects of the West Preferred and West Secondary Corridors on the colony cluster, SFWMD conducted a comprehensive review of the published and grey literature regarding the effects of power lines on birds, and related this to relevant biological and ecological information of the wood stork. This review revealed two potential areas of concern for wood storks and other wading bird species: collisions with the transmission lines and habitat loss. A summary of the concerns related to this review is provided below (see Appendix C for details of the review and associated cited literature).

Collisions

- Specific characteristics of an avian species such as its morphology and behavior determine collision risk. According to these characteristics wading birds are classified as a relatively high risk group.

- Collisions appear to increase in open habitats, and birds in open wetland habitats appear to suffer relatively elevated rates of collision-related mortality.

- Mortality risk is greatest when lines cross nesting, feeding and roosting areas, particularly those that support a large abundance and diversity of birds. The proposed corridors cross important wading bird nesting and foraging areas in the Shark River Slough and WCA-3B regions of the Everglades.

- The behavioral characteristics and purpose of a flight affect the probability of collision. This is because they affect the form and altitude of the flight, the distance traveled, the frequency and duration of the flight and ultimately the likelihood of encountering and hitting a tall structure such as a power line or communication tower. Adult wood storks associated with a colony use flight for multiple reasons. Some flights are relatively short in distance (restricted to within the colony management zones), low in elevation (<200 ft), and employ flapping flight, such as courtship, antagonistic, and nest material collection flights. Others, such as foraging flights involve longer distances (>10 km), higher elevations (>1000 ft) and employ more maneuverable gliding and soaring flight.

- Life history stage and age of the bird determine collision risk. Younger birds are less experienced and exhibit reduced flight ability relative to older birds. Several authors [Crivelli, et al., (1988), McNeil, et al., (1985) and Schaub and Pradel, (2004)] have shown that juveniles and recently fledged wading birds appear to be more prone than adults to collisions. Juvenile wood storks (birds that are independent of the nest but still reliant on parental feeding) are poor fliers, travel each day between 100 meters to 1 km from the colony, learning to forage in the local marshes, and frequently return to the nest or a nearby site to be fed by parents.

- Time of day and weather patterns influence collision risk since they affect visibility and the birds' flight ability. Wood storks are known to feed nocturnally and fly during reduced light conditions. Weather conditions such as high winds or fog, which are not uncommon during wood stork nesting, may affect the ability of birds to detect or avoid power lines.

- The size of the population is important to the overall impact of any collision-related mortality on a population. Avian populations can normally compensate for additional mortality deriving from anthropogenic causes but they may decline if the population is already reduced below a certain threshold level. The south Florida CERP population of the wood stork has suffered relatively large declines in

nesting population size.

- Relatively few studies have examined the effects of transmission lines on wading birds and of these none have examined the particular issue of a transmission line in close proximity to a colony. Those few studies that did examine wading birds suggest that this group may be sensitive to collision risk. Very little information is available on the wood stork.

Habitat loss

- Direct loss of wetland foraging habitat may occur due to the construction of pads and access roads.

- Pad and road construction might also incur indirect loss or reduction in the quality of foraging habitat by altering the hydrology of the region.

- FPL will provide SFWMD a calculation of wood stork foraging habitat loss based on application of the USFWS foraging model developed specifically for south Florida.

Assessment of Risk

In response to the avian concerns identified by SFWMD during the completeness review process, FPL submitted an assessment entitled *Ecological Risk Assessment of Potential Impacts of Turkey Point Units 6 & 7 West Corridor Transmission Lines on Wood Storks*, dated July 2010, and a subsequent September 23, 2010 Addendum to this document addressed many of SFWMD concerns after SFWMD review of the initial document. While SFWMD recommended that the responses be deemed complete, SFWMD suggests that additional concerns and information be considered when assessing the ecological risk of the wood stork. These remaining areas of concerns are detailed in Appendix C and summarized below.

Transmission lines potentially pose the greatest risk to wading birds when placed close to the nesting colonies, yet SFWMD is not aware of any transmission lines, 230 kV or greater, placed in an open wetland within one mile of an active wading bird colony. Therefore, quantitative predictions of collision risk associated with the West Preferred and West Secondary Corridors are difficult to determine. A major difficulty with assessing the risk of wood stork collisions with transmission line corridors is the lack of studies on the subject. SFWMD's primary concern is the lack of information on the potential collision risk to adult, fledgling, and post-fledgling wood storks from nearby colonies with transmission lines, as these flights occur within the separation distances between the colonies and the proposed West Preferred and West Secondary Corridors. SFWMD suggest that additional information is needed on:

- Short distance flight behaviors in relation to the proposed corridors (these include the learning flights of fledgling birds and the courtship and nest material collection flights of adult birds);

- Longer distance foraging flight behaviors in relation to the proposed corridors (the approximate number of foraging flights in and out of the colony, when combined with information on the nesting period, the number of birds in the colony, and flight directions, can provide a very useful estimate of the exposure of wood storks from the focal colony to the proposed transmission lines over the course of the breeding season); and

- The impact of any additional mortality on this relatively small wood stork population and its ramifications for CERP wood stork restoration goals

Based on the above information, SFWMD estimated the collision risk for wood storks according to the method outlined in the Licensee's Risk Assessment but further categorizes risk of collision according to age-class

(adult & juvenile) and purpose of the flight (flight within or without the colony). This is detailed for both proposed corridors in the tables 2 and 3 below. In summary, there is a potential risk of collision for both proposed corridors but a considerably higher risk associated with the West Secondary Corridor.

Table 2. Assessment of Collision Risk, West Preferred Corridor.

Age of bird & flight activity	Location of flight relative to Corridor	Flight height	Colony affected	Relative # birds	Duration	Daily Freq of flights	Relative Risk
Juvenile; within colony flight	1 zone -1 mile	low	Tam E1 3B Mud	low	3-4 weeks	high	moderate
Adult; within colony flight	1 & 2 zone	low	Tam E1 3B-Mud	low	nesting period	low	low
Adult; Foraging flight	1 zone -1 mile	variable	All	moderate	nesting period	Low-high	low
Adult from elsewhere; Foraging flight	Entire length	variable	N/A	high	dry season	Unknown	very low

Table 3. Assessment of Collision Risk, West Secondary Corridor.

Age of bird & flight activity	Location of flight relative to Corridor	Flight height	Colony affected	Relative # birds	Duration	Daily Freq of flights	Relative Risk
Juvenile; within colony flight	1 zone -1 mile	low	Tam W Tam E2 3B Mud	moderate	3-4 weeks	high	high
Adult; within colony flight	1 & 2 zone	low	Tam E2 3B-Mud	moderate	nesting period	low	moderate
Adult; Foraging flight	1 zone -1 mile	variable	All	moderate	nesting period	Low-high	moderate
Adult from elsewhere; Foraging flight	Entire length	variable	N/A	very high	dry season	Unknown	low

2.3 West Secondary Corridor

2.3.1 Land Ownership/Management

2.3.1.1 Water Conservation Area 3B

SFWMD also has concerns related to the potential impacts that the construction, operation, and maintenance of the proposed transmission lines would have on SFWMD legally mandated responsibilities for managing its lands within WCA 3B. These lands were specifically acquired for water management related purposes (i.e., flood control, water supply, conservation, reclamation, and allied purposes) and are managed by SFWMD and the Florida Fish and Wildlife Conservation Commission (FWC; formerly known as the Florida Game and Fresh

Water Fish Commission) through a Cooperative License Agreement (see Appendix A), This land includes an existing easement for FPL transmission line right-of-way. Not only must SFWMD consider its responsibilities for operation and maintenance of the existing project system and lands, but also any future needs or uses which may be precluded or limited by a proposed use. Under this Agreement, FWC is authorized to manage the lands within WCA 3B for the preservation, protection and propagation of wildlife and fish and the promotion of recreational features in connection therewith, to the extent that it is not inconsistent with the primary purposes of the WCA lands.

According to terms of the 1971 Permit Agreement executed by SFWMD and FPL, SFWMD granted FPL permission to construct, operate and maintain one or more transmission lines within a 330-foot wide strip of land in WCA 3B. The Agreement states:

> [SFWMD] will endeavor to plan, construct or alter its water control facilities in such a manner as to require minimum alterations by [FPL], but both parties understand that the determination of location, method, time, type and other factors relevant to construction of water control facilities is solely a [SFWMD] determination.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.3.2 Ecosystem Restoration

2.3.2.1 Modified Water Deliveries to ENP

A summary of this project is provided in Section 2.2.3.4 of this report.

Any transmission line facilities placed in the marsh could reduce the effective area of marsh connectivity and the potential movement of wildlife. Presence of transmission line facilities could reduce water velocities through the marsh resulting from the Modwaters project and render portions of the marsh hydraulically isolated. Over time, these marsh areas could develop an ecological response and experience hydropatterns different from other restored areas,. Such maintenance activities could also contribute to soil and peat erosion that could alter adjacent slough hydrology and impact normal fire patterns. Unintentional introduction of hazardous materials or petroleum products resulting from maintenance activities could be transported and dispersed over significant distances within the marsh. This could alter habitat quality for both aquatic and terrestrial wildlife.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.3.2.2 WCA 3A/3B Decompartmentalization

The Water Conservation Area (WCA) 3A/3B Decompartmentalization (Decomp) project is a component of CERP. The purpose of the Decomp Project is to restore natural landscape patterns and native flora and fauna in WCA 3A and 3B and eventually Everglades National Park (ENP).

The project includes construction of pumps, control structures, spreader canals, canal backfilling, and levee degrading within and along the boundaries of WCA's 3A and 3B. The project is currently in the planning phase. A series of (PIRs will be conducted to investigate the anticipated impacts from constructing various components comprising the overall project.

Concurrently, the USACE, in cooperation with SFWMD (its non-federal sponsor) and the CERP Decompartmentalization Interagency Project Delivery Team (PDT), proposes to build and conduct a field-scale

test, also known as a Physical Model. The purpose of the Physical Model is to determine how best to design and formulate plans for future decompartmentalization of WCA-3A and 3B, as visualized under CERP. The Physical Model was designed by the Science Sub-Team of the PDT and is believed to encompass the minimum replication necessary to address the hypotheses it is designed to test. The Decomp Physical Model has been designed and has been submitted for permit approval; construction is scheduled for 2012.
The first PIR will contain a conceptual proposal for the balance of the project (i.e., the Yellow Book Plan) showing in a broad sense how the first increment of the project fits into the overall plan for the project. The follow-up PIRs will draw upon the finding and recommendations of the first PIR and complete the planning process for the region by addressing the remaining features of the overall conceptual plan and any outstanding problems and concerns of the ecosystem in that region.

The first PIR will focus on the Miami Canal and potential improvements to the North New River (NNR) Canal as required to maintain conveyance capacity and to provide water of comparable quantity and quality for natural and other water supply needs. The Miami Canal constitutes a major disruption to sheetflow within WCA 3A and drains the conservation area. Water that historically moved slowly south in a sheetflow manner through the marsh over a large expanse of land or through seepage is now obstructed by berms. This disruption to natural flow was recognized in the Yellow Book and by Congress by placing the Miami Canal within the first part of Decomp that received contingent authorization rather than requiring a return to Congress for approval and authorization for construction. The potential impacts to WCA 3B and ensuing concerns about possible seepage issues along portions of the Dade-Broward levee may be minimized by truncating alteration of the Miami Canal at the northern junction with the L-67A Canal (near structure 151) for the first PIR. Whether or not the remaining southern portion of the Miami Canal will be backfilled or modified will be addressed under a subsequent PIR.

Water levels in the vicinity of the West Secondary Corridor north of Tamiami Trail/U.S. 41 within WCA 3B may be altered as a result of implementation of the Decomp project. Construction of the proposed transmission lines should not impede access to SFWMD facilities, compromise levee function, or compromise minimum levee elevation and structural integrity. Transmission line access roads cannot impede existing surface water flows north of Tamiami Trail.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.3.2.3 Central Lake Belt Storage Area

A summary of this project is provided in Section 2.2.3.8 of this report.

2.3.2.4 Protection of Everglades Habitat associated with CERP Restoration

Section 2.2.3.9 of this report addresses the potential impacts from the West Secondary Corridor on wading bird habitat. SFWMD believes that the potential habitat impacts associated with construction of transmission facilities within the West Secondary Corridor are greater than those associated with the West Preferred Corridor.

2.4 General

2.4.1 Construction Dewatering

According to the Site Certification Application, the only water use associated with construction of the proposed transmission lines may be dewatering of holes prior to installation of transmission line support structures; however, FPL has indicated that such dewatering activities are normally not necessary.

SFWMD is recommending conditions of certification to address the issues outlined above (see Section 4 of this report).

2.4.2 Wetland Mitigation

Certain FPL mitigation proposals involve SFWMD lands/projects. Under the current Operating Agreement between DEP and SFWMD concerning the division of responsibility for management and storage of surface waters regulation and wetland resource regulation under Chapter 373, Part IV, F.S., DEP is responsible for conducting the project's ERP-related review and final agency action for power plants, electrical distribution and transmission lines, and other facilities related to production, transmission, and distribution of electricity, including FPL's wetland mitigation proposals. SFWMD will work with DEP and the other jurisdictional reviewing agencies in the review and approval of FPL's wetland mitigation proposals during the post-certification review process.

3 TRANSMISSION LINE CORRIDOR RECOMMENDATIONS

This section of the report contains SFWMD conclusions and recommendations to DEP concerning certification of the proposed transmission line corridors, pursuant to Sections 403.526(2)(a)2 and 403.526(2)(b)2, F.S., and Rule 62-17.590(3)(c), F.A.C.

3.1 East Preferred Corridor

SFWMD recommends certification of the East Preferred Corridor subject to the recommended certification conditions in Section 4 of this report.

3.2 West Preferred Corridor

SFWMD recommends certification of the West Preferred Corridor subject to the recommended certification conditions in Section 4 of this report.

3.3 West Secondary Corridor

SFWMD recommends certification of the West Secondary Corridor subject to the recommended certification conditions in Section 4 of this report. However, SFWMD prefers the West Preferred Corridor over the West Secondary Corridor. This preference is reflected in SFWMD recommended certification conditions associated with each western corridor and is articulated below.

The West Secondary Corridor contains significantly more wetlands and wildlife habitat in Water Conservation Area (WCA) 3B and Shark River Slough within Everglades National Park (ENP). WCA 3B and Shark River Slough are part of the Everglades Protection Area, as defined in the Everglades Forever Act, and are targets for restoration as part of CERP. Impacts to wildlife and habitat from construction, operation, and maintenance of the proposed transmission lines through these areas could be significant and unavoidable.

Currently, there are no existing access roads in WCA-3B and ENP where the West Secondary Corridor is proposed, except for those associated with a few facilities immediately adjacent to the Tamiami Trail (U.S. 41). Construction of new access (fill) roads in this area, as proposed by FPL, could result in long-term impacts to wetlands and wildlife habitat; disrupt hydrologic flows, and impact water quality. New road construction could potentially conflict with future CERP restoration goals, objectives, and projects. Vehicles moving over the wetlands (without roads) could also result in major disturbance to existing wetlands by compacting soils,

disrupting hydrologic flows, and impacting habitat for species identified in the CERP Restoration Coordination and Verification (RECOVER) goals and objectives. Furthermore, any access/maintenance roads constructed within the West Secondary Corridor could provide the opportunity for unauthorized access. This could lead to an increase in illegal activities, such as garbage disposal, use of off-road vehicles, and other activities that could result in environmental degradation.

Tree islands are a salient feature of the Everglades wildlife habitat landscape and are abundant within that portion of the West Secondary Corridor that is located in WCA 3B and ENP. In addition, tree islands often host important wading bird colonies, as evidenced by the four nesting colonies within or near the proposed West Secondary Corridor. Given that restoration of the Wood Stork population, along with other Everglades wading bird populations, is a primary CERP objective, the construction and presence of electrical transmission lines that could impact these tree islands and their fauna should be avoided.

SFWMD also has concerns related to the potential impacts that the construction, operation, and maintenance of the proposed transmission lines would have on SFWMD legally mandated responsibilities for managing its lands within WCA-3B. These lands were specifically acquired for water management related purposes (i.e., flood control, water supply, conservation, reclamation, and allied purposes) and are managed by SFWMD and the Florida Fish and Wildlife Conservation Commission (FWC) through a Cooperative License Agreement (see Appendix A). Not only must SFWMD consider its responsibilities for operation and maintenance of the existing project system and lands, but also any future needs or uses which may be precluded or limited by a proposed use. Under this Cooperative License Agreement, the FWC is authorized to manage the lands within WCA 3B for the preservation, protection and propagation of wildlife and fish and the promotion of recreational features in connection therewith, to the extent that it is not inconsistent with the primary purposes of the WCA lands, and to the extent not inconsistent with valid easements or rights-of-way.

Appendix A also includes a copy of a 1971 Permit Agreement executed by SFWMD and FPL in which SFWMD granted FPL permission to construct, operate and maintain one or more transmission lines within a 330-foot wide strip of land in WCA 3B. The Agreement states:

> [SFWMD] will endeavor to plan, construct or alter its water control facilities in such a manner as to require minimum alterations by [FPL], but both parties understand that the determination of location, method, time, type and other factors relevant to construction of water control facilities is solely a [SFWMD] determination.

Due in part to the concerns outlined above, the SFWMD Governing Board approved Resolution No. 2008-640 (June 2008) that authorized a Cooperation Agreement with FPL for a replacement corridor for the Licensee's existing unimproved transmission line corridor (West Secondary Corridor) that bisects a portion of the Everglades National Park expansion area and Water Conservation Area 3B. The Cooperation Agreement authorizes SFWMD to issue easements to the Licensee for certain specific uses of SFWMD rights-of-way, in addition to easements to be issued to FPL on certain lands to be conveyed by the National Park Service or USACE to SFWMD in exchange for FPL's release of land proposed as the West Secondary Corridor. Additional details concerning the Cooperation Agreement are provided elsewhere in this report.

4 RECOMMENDED CONDITIONS OF CERTIFICATION

4.1 Overview

It is the recommendation of SFWMD that DEP incorporate the following conditions into the Recommended Conditions of Certification for the FPL Turkey Point Units 6 & 7 project. SFWMD staff will work with DEP, the Licensee and the other parties to reach agreement on a final set of recommended certification conditions. In addition, if the Licensee submits any of the supplemental information required by certain of the recommended

certification conditions prior to the Certification hearing on this project (or issuance of a Final Certification Order by the Secretary of DEP or the Siting Board), and SFWMD staff is able to review the submittal for compliance with the appropriate SFWMD rules, SFWMD staff will provide DEP with a revised set of Recommended Certification Conditions that reflect the results of SFWMD review of the additional information.

4.2 General Conditions

4.2.1 Legal / Administrative

1) General

For purposes of these conditions of certification, “SFWMD real property interests” is defined as SFWMD rights-of-way, Works of the District and any property interest evidenced by being recorded in the public records.

a) “Licensee” as used herein includes Licensee’s employees, contractors, subcontractors, invitees, authorized representatives, affiliates, parent, subsidiaries, and/or anyone acting on Licensee’s behalf.

b) If this Certification is transferred 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. Reference: Sections 373.044, 373.085**,** 373.223, 373.342, and 373.4l3, F.S.; Rules 40E-2.091, 40E-2.301, 40E-2.38l, 40E-3.101(1), and 40E-6.351, F.A.C.

c) This project must be constructed, operated and maintained in compliance with and meet all non-procedural requirements and criteria set forth in Chapter 373, F.S., and Chapters 40E-2 (Consumptive Use), 40E-6 (Works or Lands of the District), and 40E-20 (General Water Use Permits), F.A.C.

d) It is the responsibility of the Licensee to avoid or minimize and mitigate any impacts to the water resources during the construction, operation, and maintenance of the project in accordance with these conditions of certification. Reference: Chapter 373, F.S.; Rules 40E-2.09l, 40E-2.38l, and 40E-6, F.A.C.

e) The Licensee shall be responsible for the construction, operation, and maintenance of all facilities installed for the proposed project. Reference: Sections 373.309, 373.413, and 373.416, F.S.; Rule40E-6.381, F.A.C.

f) Information submitted to SFWMD subsequent to Certification, in compliance with these Conditions of Certification, shall be for the purpose of SFWMD determining the Licensee's compliance with the non-procedural criteria contained in Ch. 373, F.S., Chapters 40E-2, 40E-6, and 40E-20, F.A.C., as applicable prior to the commencement of the subject construction, operation and/or maintenance activity covered by these Conditions of Certification. Reference: Rule 62-17.191, F.A.C.

g) SFWMD may confer with DEP to request that DEP take any and all lawful actions that are necessary to enforce any condition of this Certification based on the authorizing statutes and rules of SFWMD. Reference: Sections 373.223, 373.319, and 373.603, F.S.; Rules 40E-2.091, 40E-2.301, 40E-2.381, 40E-6.501, F.A.C.; Section 403.514, F.S.

h) It is understood that the Licensee and SFWMD shall strive to resolve disputes by mutual agreement. However, SFWMD retains its right to seek any and all available relief under Florida law for the protection of the health, safety and welfare of persons and property within its jurisdictional boundaries. Reference: Sections 373.044, 373.085, 373.113, 373.129, 373.413 and 373.429, F.S.;

Rules 40E-1.601, 40E-4.331, 40E-6.331, and 40E-6.341, F.A.C.

i) With concurrence from DEP, SFWMD and the Licensee may jointly agree to vary the informational requirements. Reference: Sections 373.085 and 373.229, F.S.; Rules 40E-2.101(1) and 40E-6.101(1), F.A.C.

j) Licensee shall maintain the status (exempt from public disclosure) of in a confidential manner any documents received from SFWMD, including communications systems and building plans, blueprints, schematic drawings, and diagrams, in preliminary draft and final formats, which depict the internal layout and structural elements of a building or water structure, or other SFWMD facility, owned and operated by SFWMD, which are exempt from the Public Records law, unless required to disclose such documents pursuant to Section 119.071(3)(b)3., F.S., as also agreed to in an executed Confidentiality Agreement, the form of which shall be the same as Appendix D. All such documents exempt from public disclosure shall be listed as an exhibit to the Confidentiality Agreement and clearly marked as "EXEMPT" by SFWMD before delivery to Licensee.

k) Indemnification / Insurance
Sections 373.016, 373.085 and 373.1391, F.S.

Licensee shall also be responsible for the following:

(1) For good and valuable consideration received, and to the fullest extent permitted by law, Licensee agrees to defend, indemnify and hold harmless SFWMD, its Board members, Directors, employees, and agents (collectively, the "Indemnified Parties") from and against any and all claims, suits, loss, including, but not limited to, bodily injury, death, and property damage and all other damage, including reasonable attorneys' fees and costs, sustained by the SFMWD Entities to the extent caused by or arising from Licensee's and its agents (which includes Licensee's officers, employees, contractors, subcontractors, agents, representatives, and invitees) planning, engineering, design, construction, alteration, operation, maintenance, removal, abandonment of facilities on, activities upon and access over SFWMD real property interests or activities undertaken under this Certification (including post certification reviews, amendments or modifications, collectively the "Certification") unless Licensee can establish that the damages were attributable solely to the negligent or willful actions of one or more Indemnified Parties or third parties other than Licensee and its agents. SFWMD shall have the right to approve, in SFWMD's reasonable discretion, Licensee's legal counsel in connection with this indemnity.

(2)Licensee shall obtain and maintain in full force through self-insurance and independent insurance as further set forth herein during the period that Licensee or its agents access SFWMD real property interests, undertake activities under this Certification, and six months thereafter. Such coverage shall include but not be less than:

(i) Licensee shall certify to SFWMD initially, and in subsequent years, in the form of an affidavit or letter (Exhibit 7) that Licensee is self-insured up to $3,000,000 for commercial general liability insurance coverage as set forth in subsection (ii) below, and shall provide an additional $7,000,000 in commercial general liability insurance coverage as set forth in subsection (ii) below by independent insurance for a total of $10,000,000 coverage per occurrence and in the aggregate, and worker's compensation insurance coverage as set forth in subsection (iii) below. Licensee shall submit to SFWMD an audited financial statement to support its affidavit or letter of self-insurance and certificate as evidence of Licensee's financial ability to comply with the conditions stated herein. In the event that audited financial statement discloses Licensee's financial inability to comply with such conditions, SFWMD may require independent insurance coverage in lieu of the coverage described herein.

(ii) Commercial General Liability Insurance against claims for bodily injury, death, or property damage arising out of or in any way related to or resulting from Licensee or its agents (including, but not limited to, its contractors, subcontractors, agents, representatives, and invitees) access over or adjacent to SFWMD right-of-way, Works of the District or real property interests recorded in the public records, interference with SFWMD communication systems, or activities undertaken under this Certification, including planning, engineering, design, construction, operation, and maintenance of facilities, endorsed to include premises-operations, completed operations-products, independent contractors, pollution, explosion, collapse and underground property damage hazards, liability imposed under the terms and conditions of this Certification (including covering Licensee's indemnity obligations), broad form property damage, and fire liability coverage with a combined single limit of $10,000,000 per occurrence and $10,000,000 in the aggregate. Licensee may self-insure the first $3,000,000 of coverage, provided that Licensee assumes the defense obligations of the insurer providing insurance pursuant to this paragraph for all lawsuits or claims against SFWMD. This obligation to defend SFWMD and its agents shall begin immediately upon the filing of any lawsuit or claim that would be defended by the insurance required hereunder and continue until such time as the self-insured retention has been met or the insurance required hereunder provides a defense to SFWMD and its agents.

(iii) Workers compensation insurance covering all persons employed by Licensee or its contractors in accordance with statutory benefits. Licensee may self-insure the coverage as it is a qualified self-insurer in the state of Florida in accordance with applicable law.

(3) Independent Insurance shall be written by companies reasonably acceptable to SFWMD. The Commercial General Liability Policy shall name SFWMD and its agents as additional insureds and shall include a waiver of subrogation in favor of SFWMD and its agents. All insurance, including self-insurance, shall be primary to any liability or property insurance or self-insurance carried by the SFWMD or its agents and shall also provide that any loss otherwise payable shall be payable not withstanding any act or omission of SFWMD or its agents which might, absent such provision, result in a forfeiture of all or a part of such insurance payment. Licensee shall furnish to SFWMD Certificates of Insurance (or certified copies of all insurance coverage, if requested) prior to Licensee entry upon SFWMD real property interests.

(4) All insurance coverage required by or provided to Licensee by its agents engaged by Licensee under this Certification shall be extended to the SFWMD and its agents with the same protection and insurance coverages required by and afforded to Licensee. Licensee shall require that its agents include SFWMD and its agents as additional insureds on all such insurance. Licensee shall furnish to SFWMD Certificates of Insurance (or certified copies of all insurance coverage, if requested) of its agents prior to Licensee's agents entry upon SFWMD real property interests.

(5) Any insurance provided by Licensee and its agents naming SFWMD and its agents as an additional insured, including self-insurance, shall respond first and defend and indemnify SFWMD and its agents with respect to any and all claims or suits arising out of Licensee's or its agents access over or adjacent to SFWMD right-of-way, Works of the District or real property interests recorded in the public records, interference with SFWMD communication systems, or activities undertaken under this Certification, including design, construction, operation, and maintenance of facilities. If and only if such insurance does not apply or is otherwise not available with respect to a particular matter, the indemnity provisions in the first paragraph of this section will apply.

(6) It is expressly agreed that this Section shall survive the termination or expiration of this Certification.

l) Consistency with SFWMD Existing and Planned Projects

1) During the planning and design of the certified transmission lines and prior to the final design of the transmission lines right-of-way to be located on SFWMD real property interests, Licensee shall coordinate with SFWMD to obtain SFWMD's plans including detailed design plans and specifications for any existing SFWMD project and the latest detailed information available for planned projects, including but not limited to ecosystem restoration projects, and shall coordinate all Licensee's project activities with SFWMD in such a manner as to avoid inconsistencies with SFWMD existing or planned projects. "Planned project" shall mean any project or facility of SFWMD for which SFWMD is authorized to be a non-federal sponsor that is either: a) in the construction phase or b) in the final construction design phase with approved funding for design or c) is a CERP project component as defined in Sec. 373.1501 (1) (g), F.S and as listed in Exhibit 8. Exhibit 8 can be amended by SFWMD to the extent that any new planned projects meet the definition of sub-paragraphs (a) or (b) above, upon consultation with Licensee.

No later than thirty (30) days after receipt of Licensee's post-certification submittal of the proposed transmission line right-of-way location as required by DEP Condition XIX SFWMD will submit to Licensee any SFWMD plans for existing or planned projects.

2) To the extent practicable, Licensee will undertake its preliminary design of the certified transmission facilities to accommodate and avoid inconsistencies with SFWMD existing and planned projects.

3) At the time of design of the certified transmission facilities, Licensee shall submit to SFWMD a preliminary design demonstrating compliance with paragraph 2) above, so that SFWMD can review this information. SFWMD must review Licensee's preliminary design within ninety (90) days following SFWMD receipt of Licensee's preliminary design. If SFWMD does not respond within ninety (90) days, Licensee can proceed with final design consistent with the submitted preliminary design. If SFWMD's review indicates an inconsistency exists, the parties will strive to achieve an agreeable solution in accordance with section 4.2.1 (1) (h) of these conditions of certification. Agreeable solutions may include Licensee's modification of Licensee facilities or if no practicable design alternatives can be identified, SFWMD may agree that its facilities can be modified. If SFWMD modifies its facilities as the agreeable solution, Licensee shall reimburse SFWMD for any and all costs, including direct and indirect (including overhead costs), incurred by SFWMD

4) At least ninety (90) days prior to construction, Licensee shall submit to SFWMD a final design demonstrating compliance with its preliminary design and any agreeable solutions for design modificaitions identified pursuant to paragraph 3), so that SFWMD can review this information for consistency with SFWMD identified existing and planned projects. SFWMD must review Licensee's final design within ninety (90) days following SFWMD receipt of Licensee's final design. If SFWMD does not respond within ninety (90) days, Licensee can proceed with construction consistent with the submitted final design. If SFWMD's review indicates an inconsistency exists, the parties will strive to achieve an agreeable solution in accordance with section 4.2.1 (1) (h) of these conditions of certification. Agreeable solutions may include Licensee's modification of Licensee facilities or if no practicable design alternatives can be identified, SFWMD may agree that its facilities can be modified. If SFWMD modifies its facilities as the agreeable solution, Licensee shall reimburse SFWMD for any and all costs, including direct and indirect (including overhead costs), incurred by SFWMD.

5) If two (2) years elapse after Licensee submittal of its final design demonstrating compliance with paragraph 2) above without commencement of construction of Licensee's project, Licensee shall request a list of new or updated planned project information. If SFWMD provides a list of new or updated planned project information with thirty (30) days of Licensee's request, Licensee shall

incorporate this new or updated information to achieve compliance with paragraph 2) above. In the event that new or updated information is provided by SFWMD to Licensee, the coordination process as described in paragraph 3) above shall be followed.

6) For the purpose of this condition, "inconsistency" shall mean any significant incompatibility, encroachment or obstruction that hinders, compromises or detrimentally affects SFWMD projects, scheduling, costs, goals, benefits, functions, operation, maintenance, repair, replacement, rehabilitation, performance or life expectancy.

m) Reimbursements and Costs

In addition to any requirements specified elsewhere in these conditions, the Licensee shall also be responsible for the following:

(1) Modifications to Licensee Project Facilities

Where the certified transmission line(s) will cross or use lands where SFWMD holds a real property interest, Licensee shall design any future modifications to its transmission line(s), including its structures and access roads, to avoid inconsistency with any SFWMD existing or planned project utilizing the process described in condition 4.2.1 (1)(l) above. Licensee shall undertake at its own expense any necessary alterations to Licensee's project as a result of such inconsistencies as defined in condition 4.2.1 (1)(l)(6).

(2) Payment Timeliness and Other Remedies

Licensee shall make reimbursements within sixty (60) days following receipt of invoices submitted by SFWMD. Each invoice must be accompanied by an itemization of the time and expenses incurred in accordance with state auditing procedures. In the event a dispute arises as to the appropriateness of the request for reimbursement of one or more cost items, the dispute may be resolved pursuant to the dispute resolution process specified in General Condition X. However, this provision is not intended to be an exclusive remedy and does not preclude the exercise of any other rights and remedies available under law or equity. Reimbursement of a disputed cost shall be held in abeyance until the dispute is resolved.

n) Licensee Access to SFWMD Areas of Real Property Interest

1) For informational purposes and to the extent practicable, and subject to any easements or other agreements between Licensee and SFWMD, Licensee shall meet with SFWMD representatives no less than six (6) months prior to construction to identify all of Licensee's major construction activities on SFWMD real property interests. For the purpose of this condition, "major construction activities" shall mean mobilization, earthwork, construction, erection, installation or maintenance involving construction related to Licensee's project. Licensee shall also meet with SFWMD representatives no less than one (1) month prior to commencement of construction to coordinate with SFWMD Licensee's construction schedule and non-major activities on SFWMD real property interests.. Licensee is encouraged to discuss coordination with SFWMD any minor activities that arise unexpectedly.

2) Licensee shall be responsible for any mitigation or permitting arising from impacts to any state or federally listed threatened or endangered species where SFWMD holds a real property interest occurring from the construction, operation, or maintenance of the proposed transmission line facilities, in accordance with the terms and conditions of any local, State or federal approvals, and

all applicable regulatory laws, including, but not limited to the conditions in this Certification. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

3) Licensee, its agents, employees, contractors and subcontractors shall be prohibited from removing any items of historical, architectural, archaeological, or cultural significance on lands where SFWMD holds a real property interest. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

4) For purposes of this Certification, "Pollutant" shall mean any hazardous or toxic substance, material, or waste of any kind or any contaminant, pollutant as defined by Rule 62-150 F.A.C. and 42 USC 9601 paragraph 4, in addition to petroleum, petroleum product, or petroleum by-product. "Release" shall mean the release, storage, use, handling, discharge or disposal of such Pollutants. Any release of Pollutants, whether caused by the Licensee or any other third party, shall be reported to the SFWMD within twenty-four (24) hours upon the knowledge thereof by the Licensee. The Licensee shall be solely responsible for the entire cost of cleanup of any release of Pollutants resulting from the activities of the Licensee, its contractors, subcontractors, agents, and/or assigns discovered in or on canals or lands where SFWMD holds a real property interest. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

5) SFWMD does not waive sovereign immunity in any respect.

6) No vehicular maintenance or repair activities or substances or parts associated with the repair or maintenance of vehicles or equipment will take place, be used, stored or discarded within lands where SFWMD holds a real property interest nor shall these lands be used for storage or parking of equipment, associated machinery or construction trailers unless specifically authorized by these Conditions of Certification.

7) Licensee shall not stockpile excavated material in the canal or within lands where SFWMD has a real property interest, except as specifically authorized by SFWMD. Licensee shall be responsible for the removal of all construction materials and debris from SFWMD canal and right-of-way; and, for the repair, replacement and restoration of any sections of SFWMD right-of-way damaged or disturbed resulting from the authorized activity. Repair, replacement and restoration shall be to pre-existing conditions or better using current SFWMD engineering standards provided by SFWMD as guidance (i.e., for backfill material, density/compaction, stabilization and maintainability). Site-specific engineering considerations and decisions shall be undertaken by the Professional Engineer in charge. Furthermore, such restoration, when required, shall include grading/re-shaping, seeding, re-sodding with bahia, argentine, or other species recognized by SFWMD as a drought tolerant species. Licensee is also responsible for removal of all excess project-related material from SFWMD rights-of-way, unless otherwise authorized in these conditions of certification.

8) Licensee shall comply with the following concerning removal of exotic vegetation as listed in Table 4 below.

   a. Licensee shall remove all exotic vegetation throughout the limits of the transmission line right-of-way from lands where SFWMD holds a real property interest and keep these lands free of said exotic vegetation throughout the life of the project.

   b. Licensee is put on notice that successful removal of the exotic vegetation may require the application of a suitable herbicide on cut stumps, etc. by following manufacturer's label instructions.

c. Licensee shall take all precautions to not damage or destroy existing native (indigenous) vegetation located within the SFWMD rights-of-way throughout the project limits.

d. Licensee shall not remove, or treat with herbicide applications any mangrove or other native shoreline vegetation.

e. Licensee shall maintain the project area on a regular cycle basis and keep Licensee's rights-of-way free of excessive weeds and exotic vegetation.

Table 4. Exotic Vegetation to be Removed by Licensee.

Scientific Name	Common Name
Schinus terebinthifolius	Brazilian Pepper
Melaleuca quinquenervia	Melaleuca
Casuarina cunninghamiana	Australian Pine
Lygodium microphyllum	Old World Climbing Fern
Ardesia crenata	Ardesia
Psidium guajava	Guava

o) SFWMD Approval Limitations

No right of review, inspection, or approval by SFWMD under this Certification: (1) shall be deemed a waiver of any of SFWMD rights under the Certification or at law or in equity; (2) shall be deemed to be an assumption of such responsibility by SFWMD for any defect, error, omission; or (3) shall relieve Licensee of its responsibility for the performance of its obligations under the Certification and the accuracy, competency, adequacy, fitness, suitability, or coordination of its post-certification responsibilities and deliverables under this Certification. Approval by any governmental or other regulatory agency or other governing body, including DEP, shall not relieve Licensee of responsibility for the strict performance of its obligations under this Certification. Licensee expressly accepts the risk that defects in its performance, if any, may not be discovered until after completion of the transmission line project for Turkey Point Units 6 and 7. Licensee's post-certification submittal may be submitted in segments and / or on a line-by-line basis. SFWMD's failure to timely object to a particular post-certification submittal for any particular segment or line does not waive SFWMD's right to object to the same information for another post-certification submittal.

4.2.2 Central and Southern Florida Project

4.2.2.1 Communication Systems

1. Licensee's project, as described in the Site Certification Application and in post certification submittals, shall not result in harmful interference or other adverse impacts to the South Florida Water Management District Communication System and Facilities (WMDCSF). WMDCSF refers to the SFWMD Information Technology (IT) Systems and Supervisory Control and Data Acquisition (SCADA) systems necessary for the operations and maintenance of the SFWMD and C&SF Flood Control Project. The IT Systems are the collection of microwave sites, communications towers, antenna sub-systems, microwave radios, SCADA base stations, mobile radio base stations, multiplex electronics, data internet protocol (IP) electronics, direct current (DC) power systems, standby power systems, and shelters. The SCADA systems are the

collection of base radios, remote terminal unit (RTU) radios, antenna sub-systems, antenna support pole, RTUs, data loggers, wireline communications, enclosures, sensors and instrumentation. The SCADA systems include the central software applications that monitor, control, collect, and store data.

2. Prior to initiation of detailed design, Licensee shall request an updated list of WMDCSF identifying existing and planned communication facilities within 2,000 feet of the certified transmission line corridor. "Planned communication facilities" are those facilities that are either in the construction phase or in the final construction design phase with approved funding for design.

3. Licensee shall take the WMDCSF into consideration during its design to avoid harmful interference, as defined by the FCC, or adverse impacts to WMDCSF. Adverse impacts to WMDCSF shall be defined as any manifestation of performance degradation, misinterpretation or loss of information beyond the range of normal variation in signal strength which would not otherwise happen in the absence of unwanted energy or physical obstructions.

4. The Consulting Engineer shall take the following WMDCSF technical specifications into consideration in the proposed transmission line design. Any proposed alternatives to these specifications shall be documented in the Preliminary Evaluation Report.

   a. For maintenance of microwave communications performance and reliability purposes, the design for the electrical transmission lines shall be such that:

      i. Electrical transmission line towers are not located within the 0.3F1 at K=2/3 and 1.0F1 at K=4/3 of a SFWMD microwave path (GTE Lenkurt Inc., "Engineering Considerations for Microwave Systems", Section 7, "Clearance Criteria").

      ii. Electrical transmission line conductors are not located within the first Fresnel zone of a SFWMD microwave path when the conductors are located within 2 kilometers of a microwave site (Seizawa, Y., Takeshita, K. Takeshita, S., "Influence of Microwave Scattering by Power Transmission Lines on Digital Radio Communications", IEEE Transactions on Electromagnetic Compatibility, Volume 31, No.4, pp 346-352, November 1989).

   b. For maintenance of land mobile radio voice communications base station and area coverage performance and reliability purposes, the design for the electrical transmission lines shall be such that the RF noise floor, in either clear or rainy conditions, attributable to the electrical transmission lines, is not sufficient to cause harmful interference or other harmful impacts to WMDCSF.

   c. For maintenance of SCADA telemetry communications performance and reliability purposes, the design for the electrical transmission lines shall be such that the RF noise floor, in either clear or rainy conditions, is increased to an amount that reduces the fade margin for SCADA base station and RTU fade margin to less than 30 dB for the primary communications path and 20 dB for the secondary communications path (SFWMD Design Standard). For SCADA systems that have fade margins less than the SFWMD Design Standard any reduction in fade margin shall be eliminated or mitigated.

5. Licensee, in consultation with SFWMD, shall identify and retain an independent Consulting Engineer(s) with demonstrated knowledge of and/or experience with RF and SCADA communications systems such as the WMDCSF for the purpose of conducting the evaluations, including modeling and measurements, required by these SFWMD Communications Conditions (collectively referred to as the "Evaluation Program"). Licensee shall be responsible for payment of fees charged by the Consulting Engineer(s).

6. The Consulting Engineer, in consultation with Licensee and SFWMD, shall develop a scope of work and schedule to accomplish the Evaluation Program. Licensee shall submit the proposed scope of work and

schedule for the Evaluation Program, together with any revisions proposed by Licensee, to SFWMD as a post-certification submittal for review pursuant to DEP General Condition XIX. At a minimum, the scope shall include:

a. Identification of the location and characteristics of all existing and planned WMDCSF within 2,000 feet of the certified transmission line corridors that have the potential to experience harmful interference or other adverse impacts from the certified transmission facilities.

b. Identification of the appropriate evaluation methodology to assess whether harmful interference or any other adverse impact to WMDCSF will occur due to Licensee's facilities.

c. The Preliminary Evaluation, shall include:

   i. Based on Licensee's preliminary design of its transmission line facilities, a modeling and analysis effort to determine the potential for transmission line harmful interference or adverse impacts to operation of the WMDCSF.

   ii. Field measurements, and review of SFWMD maintenance and performance records for the WMDCSF, to establish environmental baseline operability of the WMDCSF where the modeling and analysis in paragraph (i) above show a potential for harmful interference or adverse impacts to operation of the WMDCSF, and ambient or pre-existing electromagnetic and radio-interference conditions in the vicinity of the WMDCSF. The Baseline Testing shall be conducted during the wet season or during other times as agreed upon by SFWMD and Licensee for a time period sufficient to capture significant weather events and establish signal strength profiles.

d. A report that will communicate the findings of the Preliminary Evaluation, and identify specific potential interference issues that should be addressed in Licensee's final design of the transmission line facilities to avoid harmful interference or adverse impacts to WMDCSF.

e. Review of Final Transmission Line Design. The Consulting Engineer shall advise FPL and SFWMD of any potential harmful interference or adverse impact issues identified in the Preliminary Evaluation report that do not appear to have been addressed in the final transmission line design.

f. Construction Acceptance Test Program shall include:

   i. If construction is commenced more than 2 (two) years following field measurements under paragraph 7. c. ii. above, verification of baseline conditions and WMDCSF operability during the wet season immediately prior to initiation of construction.
   ii. Measurement of post-construction conditions and WMDCSF operability immediately following transmission line energization and load condition during the next wet season or during other times as agreed upon by SFWMD and Licensee.

g. Provision of methodology for collection of all test data.

h. Provision of a report from the Consulting Engineer to Licensee analyzing the pre- and post- transmission line construction testing data and communicate the findings of the Construction Acceptance Test Program, and identify any specific harmful interference or adverse impacts to the WMDCSF that Licensee must address through avoidance (i.e., redesign) or mitigation or determine that no harmful interference or adverse impacts are created by Licensee's project.

7. Sixty (60) days prior to any planned testing or invasive measurements of WMDCSF, Licensee shall submit a calendar schedule to allow for District coordination of access, water management operation change control, District observation of testing and staff support.

8. Licensee shall submit its preliminary design of transmission facilities necessary for the evaluation in paragraph 7 c. above to the Consulting Engineer, with an informational copy to SFWMD.

9. Licensee shall submit the Preliminary Evaluation Report as a post-certification submittal for review pursuant to DEP General Condition XIX.

10. If the results of the Evaluation Program indicate that harmful interference or adverse impacts are likely to occur or are occurring, Licensee shall avoid or mitigate for such harmful interference or adverse impacts. Licensee shall either revise the design of the transmission facilities, or work with SFWMD to develop a mitigation plan for enhancement of the WMDCSF or other remedial redesign of affected WMDCSF. Should the mitigation plan involve service-affecting operations, Licensee shall develop a Cutover Plan that details the timeframes WMDCSF service will be affected and coordinate with SFWMD on scheduling activities. The Cutover Plan shall be included in the mitigation plan submitted as a post-certification submittal for review pursuant to General Condition XIX. All mitigation costs attributable to Licensee-created harmful interference or adverse impacts shall be the responsibility of Licensee. Such mitigation will be implemented on a mutually agreeable schedule upon determination that the transmission facilities will produce or are producing harmful interference or adverse impacts to WMDCSF. Design and mitigation solutions to offset adverse impacts to existing and planned WMDCSF shall be submitted to SFWMD as a post-certification submittal pursuant to DEP General Condition XIX and may include, but are not limited to:

    a. Redesign of Licensee's transmission facilities, such as upgrades to the phase-conductor design to lower the corona-produced radio frequency interference generated by the transmission lines, relocation of poles, and changing height of phase conductors.

    b. Enhancements to SFWMD's system, such as larger antennas; raising, lowering, adjusting or relocating SFWMD's antennas, antenna-mounting structures, poles, or transmitters; a dedicated fiber optic circuit or communications link to be deployed during and/or after Licensee's construction activities; temporary facilities and systems to maintain operations during construction; relocating or hardening of SCADA monitoring stations; working with SFWMD to enhance the communication system signal strength or coverage areas near the transmission facilities.

    c. An implementation schedule.

11. Licensee shall submit its final transmission line design to SFWMD as a post-certification submittal pursuant to DEP General Condition XIX and to the Consulting Engineer at least ninety (90) days prior to commencement of construction, identifying design features that have been incorporated to address all potential harmful interference issues or adverse impacts identified in the Consulting Engineer's report under paragraph 6d above.

12. Licensee shall submit the report of the Construction Acceptance Test Program, together with any Licensee comments, to SFWMD as a post-certification submittal for review pursuant to DEP General Condition XIX.

13. Licensee shall immediately investigate all complaints of harmful interference or other adverse impacts disrupting communications through any portion of WMDCSF in proximity to Licensee's certified transmission facilities. If such investigation indicates the harmful interference or other adverse impacts are caused by Licensee's transmission lines, Licensee shall implement appropriate mitigation.

4.2.2.2 Operations & Maintenance / Right-of-Way

The term "SFWMD right(s) of way" when used in this report is intended to mean those lands acquired by SFWMD in fee, easement, or other type of grant, for the purpose of operations and maintenance of SFWMD's canal and levee system, spoil areas, and access and other easements. Reference: Chapter 40E-6, F.A.C.

1) General Conditions

a) At least ninety (90) days prior to the commencement of construction of any portion of the transmission lines on SFWMD right-of-way; Licensee shall provide SFWMD with the final right-of-way location within the certified corridor. Reference: Sections 373.085(1) and 373.413(2), F.S.

b) At least ninety (90) days prior to the commencement of construction of any portion of the transmission lines over, across, or using any SFWMD canal or levee right-of-way to facilitate the construction or maintenance of the transmission line, Licensee shall submit complete scaled or fully-dimensioned 8½" X 11" drawings to SFWMD showing the proposed facilities for SFWMD review for compliance with the non-procedural requirements of Chapter 40E-6, F.A.C. The drawings shall depict the proposed electrical transmission line crossings along with the adjacent towers or support structures, in both plan and profile views, and shall show, at a minimum, information consistent with Appendix E-1A and E-2 of the Criteria Manual for Use and Occupancy of Works of the District. Reference Sections 373.085, 373.086, and 373.413(2), F.S.

c) Prior to use of SFWMD right-of-way for construction access, the Licensee shall provide a time schedule for use of the right-of-way, including a plan identifying the proposed route, type and number of vehicles and the frequency of such use. Reference: Section 373.085 and 373.086, F.S.; Rules 40E-6.091(1) and 40E-6.201(1)(j), F.A.C.

d) The Licensee shall maintain the area of SFWMD right-of-way utilized for access or occupied by Licensee's facilities at all times in a condition as good or better than the condition existing prior to Licensee's use. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

e) If deemed necessary to accommodate unimpeded continuous access by SFWMD vehicles and equipment, the Licensee shall construct vehicle turn-around/passing areas to meet SFWMD requirements or coordinate with SFWMD when construction activities that may impede access are scheduled to occur. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

f) Vertical clearances for any aerial crossings over SFWMD canals and rights-of-way shall meet SFWMD non-procedural criteria and requirements in effect at the time of Licensee's submittal of drawings in sub-paragraph (b) above, as set forth in Chapter 40E-6, F.A.C. Reference: Sections 373.085(1) and 373.086(1), F.S.; 40E-6.091, F.A.C.; and Criteria Manual for Use and Occupancy of Works of the District.

g) Subsequent to Certification, any requests for use of SFWMD right-of-way that would otherwise require a waiver to SFWMD Right Of Way Occupancy Permit Criteria, as set forth in Rule 40E-6, F.A.C., if deemed acceptable by SFWMD in writing shall not require an amendment or modification to this Certification. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

h) The Licensee is responsible for identification of potential conflicts with existing facilities owned by third parties permitted by SFWMD and for coordinating relocation of previously permitted facilities, as required, including obtaining the necessary right-of-way occupancy permit modifications for those previously permitted facilities. Similarly, if during the course of future permit application reviews, SFWMD notices a proposed facility that potentially interferes with the transmission lines

SFWMD will require the applicant to coordinate with Licensee to resolve potential conflicts. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

i) The Licensee shall only have the right to utilize SFWMD right-of-way for those activities, uses and purposes specifically authorized in this Certification for the purpose of construction, operation and maintenance of the certified transmission facilities unless otherwise agreed to by SFWMD and Licensee in writing.. All other activities, uses and purposes on SFWMD right-of-way by Licensee not specifically authorized in this Certification are prohibited. Furthermore, the Licensee shall not have the right to authorize any other person or entity to utilize SFWMD right-of-way for any activity, use, or purpose without the prior written consent of SFWMD. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

j) SFWMD reserves the right of priority access in order to perform its regional water management missions and the Licensee shall not interfere with that access, particularly during emergencies. Uninterrupted SFWMD access shall be maintained at all times. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, and Rule 40E-6.381, F.A.C.

k) The Licensee does not have any authority to incur liens for labor or materials on SFWMD rights-of-way. All persons contracting with the Licensee, all material, men, contractors, mechanics, and laborers are hereby charged with notice they must look to the Licensee, and to the Licensee only, to secure the payment of any bill for work done or any materials furnished during the term of this Certification. Pursuant to Sections 713.01(26), F. S., SFWMD right-of-way shall not be subject to liens for improvements and such liability is expressly prohibited. This paragraph shall be included in all contracts with the Licensee for materials or services involving SFWMD right-of-way. In the event that the Licensee does not, within thirty (30) days following Licensee's notice the imposition of any such lien, cause the same to be released of record by payment or posting of a bond or other means acceptable to SFWMD, SFWMD shall have, in addition to all other remedies provided herein and by law, the right, but not the obligation, to cause the same to be released by such means as it shall deem proper, including payment of the claim giving rise to such lien. All such sums paid by SFWMD, including, but not limited to reasonable attorney's fees and expenses incurred by it in connection therewith, together with interest at the maximum rate allowed by law, shall be payable to SFWMD by the Licensee on demand. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

l) SFWMD, its Governing Board members, employees, contractors, and subcontractors, are not responsible or liable for any claims by the Licensee, or any partner, parent, affiliate, or subsidiary, for damages (including special and consequential), loss, expense, or costs with respect to the Licensee's project or other property or improvements arising directly, indirectly, or proximately from water level fluctuations, water flows, or operations of water control structures, if operated in compliance with the USACE Master Water Control Manual for the C&SF Project and the Operations and Maintenance (O&M) Manual for the C&SF Project. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

m) Licensee shall be responsible for the increased cost that SFWMD incurs in the event of canal improvements including, but not limited to, widening, installation, repair, or replacement of culverts (or other SFWMD facilities) within the SFWMD right-of-way due to Licensee's facilities or uses being located within the SFWMD right-of-way. The increased cost shall be determined by SFWMD requiring its contractor (selected as the lowest responsive and responsible bidder) to provide the following information: an estimate based on work being performed assuming no facilities in place, and the accepted bid based on the work being performed with the facilities in place. The difference between the estimate and the bid constitutes SFWMD's increased cost. The Licensee shall pay SFWMD's increased cost no later than thirty (30) days after receipt of written

notice from SFWMD of the amount of the increased cost, the amount of the estimate, the bid submitted by the Contractor, and the name of the contractor submitting the bid. SFWMD shall provide the Licensee notice if its intent to solicit the aforementioned bids at least 60 days prior to requesting proposals from contractors. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

n) The Licensee shall only use the access points and gates authorized by SFWMD. Upon payment of applicable key deposit fees and submission of complete key permit applications, SFWMD agrees to issue, as a ministerial act, Licensee the necessary key permits allowing access to SFWMD roads to support the construction, operation and maintenance needs of the Licensee. The Licensee shall take all necessary measures practicable to preclude the general public from accessing those portions of the right-of-way under construction such as posting of designated construction zones. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

o) Licensee shall not utilize SFWMD right-of-way for the general servicing or maintenance of its vehicles or construction equipment or for the storage of any contaminant, hazardous substance, fuel or other petroleum products unless agreed to by SFWMD in writing. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

p) To the extent practicable, Licensee shall expedite the preparation and implementation of any repair, remediation, mitigation and/or related plans required to address damages and/or any other adverse impacts to SFWMD facilities, systems caused by the Licensee, during the design, construction, operation and/or maintenance of the certified facilities. The time-frames specified in these conditions shall be considered maximum allowable time frames, unless adjusted by mutual agreement between SFWMD and Licensee. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

2) Standard Limiting Conditions

Reference: Sections 373.044, 373.113, 373.085(1), 373.086, 373.103, 373.129, and 373.603, F.S.; Rule 40E-6.381, F.A.C.

a) All structures on SFWMD works or lands constructed by Licensee shall remain the property of Licensee, who shall be solely responsible for ensuring that such structures and other uses remain in good and safe condition. The Licensee is advised that other federal, state and local safety standards may govern the occupancy and use of SFWMD lands or works. SFWMD assumes no duty with regard to ensuring that such uses are so maintained and assumes no liability with regard to injuries caused to others by any such failure. Reference: 40E-6.381 (1), F.A.C.

b) Licensee solely acknowledges and accepts the duty and all associated responsibilities to incorporate safety features, which meet applicable engineering practice and accepted industry standards, into the design, construction, operation and continued maintenance of the authorized facilities/use. This duty shall include, but not be limited to, the Licensee's consideration of SFWMD regulation and potential fluctuation, without notice, of water levels in canals and works, if operated in compliance with the USACE Master Water Control Manual for the C&SF Project and the Operations and Maintenance (O&M) Manual for the C&SF Project as well as the Licensee's consideration of upgrades and modifications to the authorized facilities/use which may be necessary to meet any future changes to applicable engineering practice and accepted industry standards. The Licensee acknowledges that SFWMD review of this project including, but not limited to, any post-certification reviews and field inspections performed by SFWMD, does not in any way consider or ensure that the authorized use/facilities are planned, designed, engineered, constructed, or will be operated, maintained or modified so as to meet applicable engineering

practice and accepted industry standards, or otherwise provide any safety protections. The Licensee further acknowledges that any inquiries, discussions, or representations, whether verbal or written, by or with any SFWMD staff or representative during the post-certification review process, including, but not limited to, any field inspections, shall not in any way be relied upon by Licensee as SFWMD assumption of any duty to incorporate safety features, as set forth above, and shall also not be relied upon by the Licensee in order to meet Licensee's duty to incorporate safety features, as set forth above. Reference: 40E-6.381-(2), F.A.C.

c) The Licensee shall not engage in any activity regarding the authorized use which interferes with the construction, alteration, maintenance or operation of the works of the SFWMD, including:

(1) discharge of debris or aquatic weeds into the works of the SFWMD;
(2) causing erosion or shoaling within the works of the SFWMD;

(3) planting trees or shrubs or erecting structures which limit or prohibit access by SFWMD equipment and vehicles, except as may be authorized by this Certification.

(4) leaving construction or other debris on SFWMD right-of-way or waterway;

(5) damaging SFWMD berms and levees; removal of SFWMD-owned spoil material; removal of or damage to SFWMD locks, gates, and fencing; opening of SFWMD rights-of-way to unauthorized vehicular access or running or allowing livestock on SFWMD rights-of-way.

6) Licensee shall be responsible for any costs incurred by the SFWMD resulting from any such interference, as set forth in (1) through (5) above;

Reference: 40E-6.381(8), F.A.C.

Should the authorized activities or placement of the authorized facilities within SFWMD right-of-way or maintenance of same contribute to sloughing, erosion or wash-outs of SFWMD right-of-way, berm or side slope of the canal, it is the Licensee's sole responsibility and expense to, upon notification from SFWMD, immediately take appropriate steps to restore the right-of-way to pre-existing conditions or better using current SFWMD engineering standards provided by SFWMD as guidance. Site-specific engineering considerations and decisions shall be undertaken by the Professional Engineer in charge in (i.e., for backfill material, density/compaction, stabilization and maintainability).

d) SFWMD is not responsible for any personal injury or property damage which may directly or indirectly result from the use of water from SFWMD's canal or any activities which may include use or contact with water from the SFWMD canal, since SFWMD periodically sprays its canals for aquatic weed control purposes and uses substances which may be harmful to human health or plant life. Reference: 40E-6.381(9). F.A.C.

e) SFWMD has the right to change, regulate, limit, schedule, or suspend discharges into, or withdrawals from, works of the SFWMD in accordance with criteria established by SFWMD or USACE for the works of the SFWMD. Reference: 40E-6.381(13), F.A.C.

f) Licensee shall be responsible for the repair or replacement of any existing facilities located within SFWMD right-of-way which are damaged as a result of Licensee's installation or maintenance of the authorized facilities. Reference: 40E-6.381(19). F.A.C.

g) It is the responsibility of the Licensee to make prospective bidders on construction contracts for

the certified facilities aware of the pertinent terms and conditions of this Certification. Reference: 40E-6.381(21). F.A.C.

3) Special Conditions

Reference: Sections 373.044, 373.113, 373.085(1), 373.086, 373.103, 373.129, and 373.603, F.S.; Rule 40E-6, F.A.C.

a) A copy of the Certification application, Certification order, SFWMD post-certification submittals, will be available for review by SFWMD upon request.

b) At no time shall Licensee place permanent or semi-permanent above-ground encroachments or facilities within the 40 foot wide strip of land lying parallel to any SFWMD canal as measured from the top of the existing canal bank landward, unless otherwise authorized in this Certification or agreed to by SFWMD in writing.

c) At no time shall Licensee place facilities crossing over SFWMD structures or project culverts, unless otherwise authorized in this Certification or agreed to by SFWMD in writing.

d) At no time shall Licensee place permanent or semi-permanent above-ground structures within SFWMD one-hundred (100) foot long equipment staging areas defined as being immediately upstream and downstream of all bridges and pile-supported utility crossings of SFWMD canals, unless otherwise authorized in this Certification, or agreed to by SFWMD in writing. Temporary placement of equipment or materials is allowable as long as the equipment or materials can be removed by Licensee within forty-eight (48) hours' notice given by SFWMD if a tropical storm watch has been declared for Miami-Dade County or at times when post-storm debris removal activities must be undertaken by SFWMD.

e) Within (30) days of completion of the authorized work, the Licensee shall contact the SFWMD field representative at the Miami or Homestead Field Station office to schedule a final inspection for compliance with right-of-way conditions of certification.

f) For culvert connections to SFWMD works, the Licensee shall comply with the following:

(1) The crown of the authorized connection shall be set at a minimum of one-half foot below the design water surface elevation or lower.
(2) The top of the rip-rap headwall must match the elevation of the existing ground.
(3) The Licensee shall construct the endwall / headwall to include adequate returns to prevent erosion.
(4) The Licensee shall take all feasible measures acceptable to SFWMD to prevent the discharge of debris or aquatic weeds into SFWMD works by the authorized use.
(5) All culverts 36 inches in diameter or larger that serve to connect to works of the SFWMD must be equipped with a skimmer or baffle which effectively precludes the discharge of aquatic weeds into SFWMD works by the authorized use.
(6) The Licensee is solely responsible for maintenance of the skimmer or baffle.
(7) The Licensee shall adequately identify all culvert connections with a permanent type, above ground marker placed within SFWMD right-of-way at location(s) specified by the SFWMD field representative.
(8) Culverts to be installed in association with structure pads and pad access ramps connecting to SFWMD levee access roads shall be of adequate design to prevent adverse impacts to wetlands or weakening of the levee due to impoundment of water.

g) The Licensee shall comply with the following requirements during use of SFWMD right-of-way for construction maintenance, and operation activities:

(1) Prior to commencement of construction or utilization of SFWMD right-of-way, the Licensee is required to contact the SFWMD field representative at the Miami or Homestead Field Station office to schedule a pre-construction meeting. The Licensee shall prepare and present at the pre-construction meeting:

(a) A list of 24-hour contact personnel. The list shall include the contractor and alternate contact, their titles and telephone numbers for 24-hour contact.

(b) A written inventory of the type of vehicles, construction equipment, other machinery and materials which will be located within SFWMD right-of-way.

(c) Written procedures for the clearing of all construction materials, machinery, equipment and vehicles from the canal and the area immediately adjacent to the canal within 24 hours' notice from SFWMD.

(d) A list containing the names and contact numbers of the designee and alternate contact responsible for the various operations involved in the clearing procedures.

(2) This authorization is for the use of the Licensee and the Licensee's contractor(s)/sub-contractor(s) only.

(3) The Licensee shall be responsible for locking SFWMD access gates upon entering and leaving SFWMD right-of-way. The Licensee shall take all necessary measures to preclude the general public from accessing the right-of-way with motorized vehicles.

(4) The Licensee is responsible for posting a watchman at any SFWMD vehicular access gates unlocked by Licensee during any working hours that the gate remains unlocked. At no time shall a SFWMD gate unlocked by Licensee be left unlocked and unattended by Licensee.

(5) The Licensee is responsible for providing and utilizing acceptable dust control measures during the duration of the proposed work.

h) The Licensee shall comply with the following concerning storm event notifications/requirements during construction activities:

(1) If storm, hurricane, or emergency circumstances are developing, SFWMD will attempt to provide a 48-hour notice. The Licensee will be contacted by telephone or a visit to the construction site wherein the Licensee will be informed of the emergency situation. The Licensee is put on notice that the 48-hour notice is a warning that SFWMD may or may not be able to provide the Licensee.

(2) If storm, hurricane or emergency circumstances have developed, SFWMD will contact the Licensee by telephone or visit the site to place the Licensee on 24-hour alert. At this time, the Licensee and the Licensee's contractor(s) and sub-contractor(s) must begin securing the project site in accordance with Special Condition h) 1) c) of this subsection.

(3) The Licensee is advised that SFWMD's hurricane, storm event and/or emergency alert may differ from the National Hurricane Center or the local news and weather. SFWMD takes into consideration the numerous factors concerning construction within the canal rights-of-way. As such, upon SFWMD notification to the Licensee of a pending emergency, storm event, or hurricane, the Licensee has 24 hours or less to comply with SFWMD orders.

i) In the event of floods or other natural or civil disaster or emergencies affecting SFWMD or SFWMD right-of-way, the Licensee shall cooperate with SFWMD to facilitate mitigation of the impact of such emergencies. The Licensee shall immediately notify SFWMD of any emergency situation observed on SFWMD right-of way.

j) Licensee shall be responsible for obtaining any and all other necessary federal, state, local, special district, private and underlying owner authorizations in connection with its activities conducted under this Certification. In the event the Licensee does not obtain such authorizations from the underlying owner, the Licensee shall acquire or otherwise satisfy any interest or claims made by such underlying owners with respect to this Certification.

k) If required by the Florida Department of Transportation (FDOT) to prepare a Maintenance of Traffic (MOT) Plan that involves SFWMD property, the Licensee shall provide SFWMD with a copy of the MOT Plan upon submittal to FDOT, The Licensee shall provide SFWMD with a copy of the Final MOT Plan reviewed by the FDOT.

l) Licensee shall be required to install facilities in accordance with minimum clearance requirements specified in SFWMD Criteria Manual for Use or Occupancy of Works of the District, Including Section XIV, Appendix E-1, in effect at the time of design of the certified transmission lines for crossing Works of the District, unless otherwise agreed in writing.

n. Licensee acknowledges that Licensee's proposed activities contemplated under this Certification may be subject to USACE 33 U.S.C. Section 408 approval requirements. Licensee further acknowledges and agrees, that in the event of future USACE projects or modification of existing USACE projects, it shall be the responsibility of the Licensee to implement any and all necessary modifications to Licensee's facilities including, but not limited to, relocations thereof required by the USACE at Licensee's sole cost and expense.

4.2.3 Land Management / Ecosystem Restoration

1) The Licensee shall avoid impacting wetlands to the extent practicable. When necessary and feasible, the location of the span between power poles shall be maximized or varied to eliminate or reduce wetland impacts. Reference: Section 373.1391, F.S.; Rules 40E-4.301 and 40E-4.302, F.A.C; Basis of Review for Environmental Resource Permits, Section 4.0.

2) On SFWMD lands, the Licensee shall employ at-grade roads, geoswales that would not extend above existing wetland grades, elevated roadways to bridge slough features, or other appropriate construction methods or techniques to maintain historical drainage patterns and sheetflow, to the extent practicable. For those areas where wetland impacts will occur, wetland control elevations shall be established to maintain or improve pre-construction hydroperiods within all affected areas. Reference: Section 373.1391, F.S.; Rules 40E-4.301 and 40E-4.302, F.A.C.; Basis of Review for Environmental Resource Permits, Section 4.2.3.3.

3) The Licensee shall, to the extent practicable, use adjacent existing public roads for access to the right-of-way for construction, operation, and/or maintenance purposes before using non-public roads and/or building new roads. Reference: Section 373.1391, F.S.

4) At new access points created by Licensee's transmission facilities, transmission line access roads shall be designed to include locked gates, or other appropriate methods or techniques to prevent illegal access to SFWMD-owned lands including but not limited to lands within Model Lands, Southern Glades, and Pennsuco Wetlands. Licensee shall maintain these access points by repairing

illegal breaches within thirty (30) days upon being notified of or discovering such breaches. Reference: Section 373.1391, F.S.

5) Upon request by Licensee prior to final design of the certified transmission facilities, SFWMD shall provide Licensee with a list of SFWMD lands that are subject to planned burns. SFWMD shall provide advance notice to Licensee of any planned burns in the vicinity of the certified transmission rights-of-way. Reference: Section 373.1391, F.S.; Rule 40E-6.311, F.A.C.

6) Licensee shall provide SFWMD with final construction drawings, , of all Licensee's facilities that encroach or cross SFWMD lands, works, or projects. Reference: Sections 373.085(1)(b) and 373.1391, F.S

4.2.4 Water Use

1) Prior to the commencement of construction of those portions of the project which involve dewatering activities, unless the proposed dewatering activity meets the "no notice" criteria of Rule 40E-20.302 (3), F.A.C. and Section 2.5.1 of the Basis of Review for Water Use Permits, the Licensee shall submit a detailed plan for the proposed dewatering activities to SFWMD for an assessment of consistency with the non-procedural requirements of Chapters 40E-2, 40E-3 and 40E-20, F.A.C., in effect at the time of submittal and impact monitoring if necessary (Rule 62-17.133, F.A.C.). The following information, referenced to NAVD88 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

All plans must be signed and sealed by a Professional Engineer or a Professional Geologist registered in the State of Florida

4.3 Corridor-Specific Conditions

4.3.1 East Preferred Corridor

4.3.1.1 Central and Southern Florida Project

1) Electrical transmission line support structures and overhead wires shall not be placed parallel to and within the. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

2) Due to existing SFWMD access and maintenance constraints at the intersection of U.S. Highway 1 and the C-2 (Snapper Creek) Canal, Licensee shall provide a subaqueous crossing at this location. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

4.3.2 West Preferred Corridor

4.3.2.1 Protection of Everglades Habitat associated with CERP Restoration

1. Aerial Surveys. SFWMD adopts and incorporates by reference Florida Fish and Wildlife Conservation Commission (FWC) condition G, “Wood Stork and Wading Bird Colonies”, in its entirety.

2. Ground Surveys. In conjunction with FWC Condition G, Licensee shall conduct ground surveys of wood storks during nesting for currently-known colonies along Tamiami Trail (East1, East2 and West) and the 3B Mud East colony. The ground surveys shall be conducted prior to and during fledging of juvenile wood storks.

3. Licensee shall consult with SFWMD prior to finalizing design of aerial and ground surveys.

4. Licensee shall provide SFWMD copies of all post-certification submittals, including the ground and aerial surveys referenced in Conditions 2 and 3 herein, in accordance with time frames set forth in DEP General Condition XIX.

5. Licensee shall provide SFWMD a calculation of Wood Stork foraging habitat loss based on application of the United States Fish and Wildlife Service (USFWS) Habitat Assessment Foraging Model developed specifically for south Florida and a mitigation plan. Licensee shall consult with SFWMD prior to the plan being finalized.

4.3.2.2 Central and Southern Florida Project

1) L-29 / L-30 / L-31N Levee Procedures / Requirements

a) Pre-Construction Surveys / Inspections

1) Within 30 days of written request from the Licensee, SFWMD shall provide the Licensee with a copy of the most recent levee inspection reports for the levees within SFWMD right-of-way that the Licensee is proposing to access for construction and/or maintenance activities.

2) In areas where the transmission line access will be located on SFWMD levee(s), the Licensee shall conduct surveys, including a level survey at the toe and crest of the levee and cross-section surveys every 500 feet (including both toes of the levee) and at locations agreed between SFWMD and Licensee as potential problem areas. Potential problem areas will be identified by visual inspection or where there are significant changes proposed to the levee. Upon completion of the surveys, Licensee shall submit certified, signed and sealed copies of the surveys to SFWMD. The surveys will be used to establish a baseline of the pre-construction topographic features of the levee(s) including, but not limited to, top-of-levee width and elevation and side slopes in NAVD 88. If any post-certification submittals are provided prior to 2014, the Licensee shall consult with SFWMD concerning the need to include NGVD 29 (National Geodetic Vertical Datum of 1929) measurements in addition to NAVD 88 measurements. The surveys shall document the condition of the levee(s) with respect to the most recent East Coast Protection Levee Evaluation Report at the time of the surveys. As an alternative, the Licensee can use surveys conducted by SFWMD, if the studies were completed less than three (3) years prior to the Licensee’s anticipated construction commencement date.

3) In addition to surveys, the Licensee shall also perform a visual inspection of the levee(s),

documented by videotape or photographs, to assess the structural integrity of the levee(s). Where video or photographic documentation is used, station markers and GPS coordinates should be installed or used so that exact locations can be determined for reference.

4) If Licensee surveys, visual inspection, or other assessment methods indicate, that further investigation is needed to accurately assess the integrity of the levee(s), Licensee shall conduct additional investigations in consultation with SFWMD. Further investigations may include, but shall not be limited to, soil borings, piezometer installations/monitoring, laboratory tests, modeling, etc. The Licensee shall provide its written findings, conclusions, and recommendations, certified by a Florida-registered professional engineer, to SFWMD. Licensee shall conduct additional investigations or assessments, as necessary, to satisfy SFWMD non-procedural requirements, prior any construction activities on SFWMD levees.

b) Pre-Construction Safety, Maintenance, and Construction Plans

1) Prior to construction of the certified electrical transmission line facilities, the Licensee shall provide SFWMD with a Levee Safety and Maintenance Plan that addresses steps the Licensee will take to maintain the integrity of the levee(s), including any improvements proposed by the Licensee. The Plan shall be reviewed by SFWMD for compliance with the applicable SFWMD non-procedural requirements.

2) Prior to construction of the certified electrical transmission line facilities, the Licensee shall provide SFWMD with a Levee Construction Plan that addresses the steps the Licensee will take in constructing the certified transmission line facilities. The Plan shall be reviewed by SFWMD for compliance with the applicable SFWMD non-procedural requirements.

c) Pre-Construction Levee Improvement Standards/Requirements

1) Any improvements made by the Licensee within SFWMD L-29, L-30, and L-31N Canal rights-of-way shall be performed such that the structural integrity of the levee(s) shall be maintained to a level as good as or better than the conditions in existence immediately prior the Licensee's commencement of work activities, as documented pursuant to Condition (1) of this subsection. For construction of any proposed improvements, Licensee may be required to first obtain approval from USACE, as set forth in 33 U.S. Code, Section 408 and pursuant to Operations & Maintenance / Right-of-Way (Section 4.2.2.2) Special Condition 3) n).

2) The Licensee shall not commence construction activities on SFWMD rights-of-way without prior post-certification review by SFWMD of Licensee Levee Safety and Maintenance Plan and Levee Construction Plan. In the event that SFWMD identifies any non-compliance with SFWMD applicable non-procedural requirements in these plans, SFWMD shall within 90 (ninety) days shall identify any applicable requirements that SFWMD believes the Licensee's improvements do not satisfy.

d) Monitoring and Structural Integrity During Construction

1) Pre-existing or latent defects related to the structural integrity of the levee(s), identified by Licensee's investigations, shall be remedied by SFWMD through its routine maintenance schedules, if deemed necessary by SFWMD. If not deemed necessary by SFWMD, any pre-existing or latent defects shall be remedied by the Licensee, if deemed necessary by the Licensee. If not deemed necessary by the Licensee, any pre-existing or latent defects shall be monitored by the Licensee throughout construction of the certified electrical transmission line facilities in the vicinity of the levee(s). Any further deterioration or changes to the

levee(s) found as a result of Licensee's monitoring of the levee(s) conditions that could be detrimental to the integrity of the levee(s) shall be immediately communicated in writing to SFWMD. If the further deterioration or changes are caused by the Licensee's construction activities, the further deterioration or changes shall be remedied by the Licensee to pre-construction conditions or better as documented in condition (1) of this subsection.

2) SFWMD reserves the right to halt any and all construction activities due to concerns related to the structural integrity of the levee(s). If SFWMD requires a halt to construction activities, SFWMD shall provide the Licensee with a description of its concerns regarding the structural integrity of the levee(s) within forty-eight (48) hours of the halt, including the alleged causes of concern and potential remedies for the Licensee to consider. Following the halt of construction activities, the Licensee shall provide SFWMD with a proposed Remedial Construction Plan that addresses SFWMD concerns within three (3) working days or such longer time as agreeable to both SFWMD and Licensee. SFWMD failure to respond to Licensee within five (5) working days after Licensee's submittal of the Remedial Construction Plan shall constitute SFWMD confirmation that Licensee's Remedial Construction Plan complies with SFWMD applicable non-procedural requirements.

e) Damages During Construction

1) The Licensee shall be responsible for the repair or replacement of SFWMD L-29, L-30, or L-31N levees damaged as a result of Licensee's construction, operation or maintenance of the certified electrical transmission line facilities, including SFWMD access to the levees. Repair of damages to the levee(s) that occurs during the Licensee's construction activities in location(s) not identified by the Licensee's pre-construction investigation as having pre-existing or latent defects shall be the responsibility of the Licensee and the Licensee shall commence repair work promptly.

f) Inspections During and After Construction

1) SFWMD personnel shall have access and the opportunity to inspect improvements to the L-29, L-30, and L-31N Canal levees during construction or operation at all times. Licensee shall engage a third-party inspector to conduct SFWMD post-construction inspection, jointly selected by SFWMD and Licensee. The purpose of the post-construction inspection will be to confirm that Licensee has maintained or returned the L-29, L-30 and L-31N levees to as good as or better than pre-construction conditions as documented in condition (1) of this subsection. If any SFWMD inspections will interfere with Licensee construction activities, advance notification of such inspections should be given.

g) Post-Construction

1) Licensee shall provide as-built drawings showing all levee improvements within the L-29, L-30, and L-31N canal rights-of-way within ninety (90) days of completion of each phase of construction. The as-built drawings shall be signed and sealed by a Florida-registered Professional Engineer and shall be referenced to NAVD 88 (North American Vertical Datum of 1988). Licensee and SFWMD may use the drawings as a reference for maintenance or improvements of ingress and egress areas to the levees that are utilized by the Licensee for ongoing operation of the adjacent electrical transmission line facilities, or until modified/utilized by other parties.

2) If Licensee's improvements within SFWMD canal rights-of-way are modified / utilized by parties other than the Licensee, the Licensee shall not be responsible for any impacts to the

levee(s) caused by such third party use. The third party user and/or SFWMD shall be responsible for approval of any changes to the as-built drawings to reflect said third party use of the Licensee's improvements.

2) 2008 Agreement

a) Licensee use of SFWMD real property interests within the portion of the corridor as identified in Exhibit 9 made a part hereof ("L-31N and L-30 Corridor Area"), shall be limited to the areas and controlled by the instruments to be conveyed to Licensee as set forth in the "Cooperation Agreement By and Between Florida Power and Light Company and the South Florida Water Management District Regarding Licensee's Utility Corridor Within the Everglades National Park Expansion Area", dated August 21, 2008 ("the 2008 Agreement") or as may be amended in writing. .. Licensee use of staging areas within SFWMD rights-of-way, such as staging areas in the vicinity of S-334 north of the L-29 canal right-of-way, are also subject to the written agreement of SFWMD and Licensee.

b) In the event that execution of the necessary instruments does not occur with respect to the conveyances as set forth in the 2008 Agreement (which includes conveyances by the National Park Service, United States Army Corps of Engineers, Trustees of the Internal Improvement Trust Fund, and Licensee), any use of SFWMD real property interests within the L-31n and L-30 Corridor Area beyond that set forth in the 2008 Agreement shall be subject to the written agreement of SFWMD and Licensee.

3) Unless authorized in this certification or mutually agreed in writing between Licensee and SFWMD authorized representative, electrical transmission line support structures and overhead wires shall not be placed on the east sides of the L-30 and L-31N canal rights-of-way between S.W. 120th Street and the southern boundary of the Krome Avenue access corridor, with the exception of aerial wire crossings for the Clear Sky-Levee #1 and #2 500 kV transmission lines and the Clear-Sky Pennsuco 230 kV transmission line over the east side of the L-30 Canal, immediately south of and adjacent to the southern boundary of the Krome Avenue Access Corridor.

4) Unless authorized in this certification or mutually agreed in writing between Licensee and SFWMD authorized representative, within the West Preferred Corridor, access shall be restricted to the west sides of the L-30 and L-31N canals. Longitudinal access on the east sides of the L-30 and L-31N Canals is prohibited, except for Krome Avenue.

5) The Licensee shall comply with the following conditions concerning use of the Ratner bridge, S-334 service bridge and S-335 service bridge:

a) The Licensee's proposed use is secondary to SFWMD and the USACE proposed use and shall not interfere with SFWMD proposed use.
b) The Licensee shall inspect the bridges prior to and after construction activities in accordance with FDOT standards.
c) Prior to construction, the Licensee shall provide load rating calculations for specific high frequency and special vehicles that will need to use the bridges.
d) Maximum load criteria shall not be exceeded.
e) Prior to construction, the Licensee shall provide SFWMD with videos and/or photographs documenting the condition of the bridges.
f) The Licensee shall be responsible for paying the cost of any necessary bridge improvements required to accommodate Licensee's activities.
g) The Licensee shall be responsible for repairing or paying the cost of repairing any damage to the bridge as a result of Licensee's activities. Within 30 days of completion of construction activities, the bridge and its immediate surroundings shall be restored to its original condition prior to construction, including, but not limited to, concrete/asphalt repairs, canal bank repairs, gravel, and

sod.

h) The Licensee shall provide SFWMD with uninterrupted access acceptable to SFWMD for the duration of any necessary repair work.

i) The Licensee shall obtain consent from the underlying fee owners for use of lands adjacent to the Ratner bridge and related access road and shall submit a copy of said documentation to SFWMD prior to use.

j) Prior to Licensee's use of the S-334 and S-335 service bridges, Licensee shall submit to SFWMD a Bypass Pumping Plan. The Plan shall address, to SFWMD's satisfaction, bypass pumping, in the event water control structures S-334 or S-335 are damaged as a result of Licensee's use thereof, such that the conveyance capability of water control structures S-334 or S-335 is impacted. The Bypass Pumping Plan must contemplate on-site facilities in order to effectuate immediate implementation in the event of damage to the S-334 or S-335 water control structures.

6) Transmission line support structures (poles) shall be placed a minimum of forty (40) feet from the toe of the water conservation area side of the levee.

4.3.2.3 Land Management / Ecosystem Restoration

1) At least thirty (30) days prior to construction of the transmission line segments that are along SFWMD L-29, L-30 orL-31N levees, Licensee shall submit a construction schedule and a coordination plan to SFWMD for review and post-certification compliance. The coordination plan will be for the purpose of coordinating Licensee and SFWMD construction activities in areas where both entities will have ongoing simultaneous construction activities. Reference: Sections 373.1391, 373.1501(4)(d), 373.1502(2)(a), and 373.4592, F.S.

2) Prior to final design of the certified transmission facilities, Licensee shall consult with SFWMD regarding design and placement of transmission line support structures and access roads between the Krome Avenue Detention Center and the southern limits of the existing rock mines owned by Kendall Properties and Investment within Licensee's West Preferred Corridor. Reference: Sections 373.1501(4)(d), 373.1502(2)(a) and 373.4592, F.S.

4.3.3 West Secondary Corridor

4.3.3.1 Land Management / Ecosystem Restoration

1) Within Water Conservation Area 3B, in order to maintain historical drainage patterns and sheetflow,to the extent practicable, Licensee shall employ appropriate construction methods or techniques such as at-grade roads, geoswales that would not extend above existing wetland grades and / or elevated roadways to bridge slough features.. Reference: Sections 373.1501(4)(d), 373.1502(2)(a), and 373.4592, F.S.

2) Design and construction of transmission line facilities in that portion of the West Secondary Corridor in WCA 3B is subject to the following restrictions and limitations:

a) In order to maintain historical drainage patterns and sheetflow, transmission line support structures shall be placed on topographical ridges within the marsh and excluded from sloughs, to the extent practicable.

b) Support structure pads shall be constructed to sustain water levels no greater than 10.5 feet NGVD for significant periods of time, unless additional hydrologic modeling and/or information is

available at the time of post-certification review that demonstrates that a different elevation is required or acceptable. Reference: Sections 373.1501(4)(d), 373.1502(2)(a), and 373.4592, F.S.

EXHIBIT 1. Location of Turkey Point Plant.

EXHIBIT 2. Turkey Point Plant Site and Associated Non-Transmission Facilities.

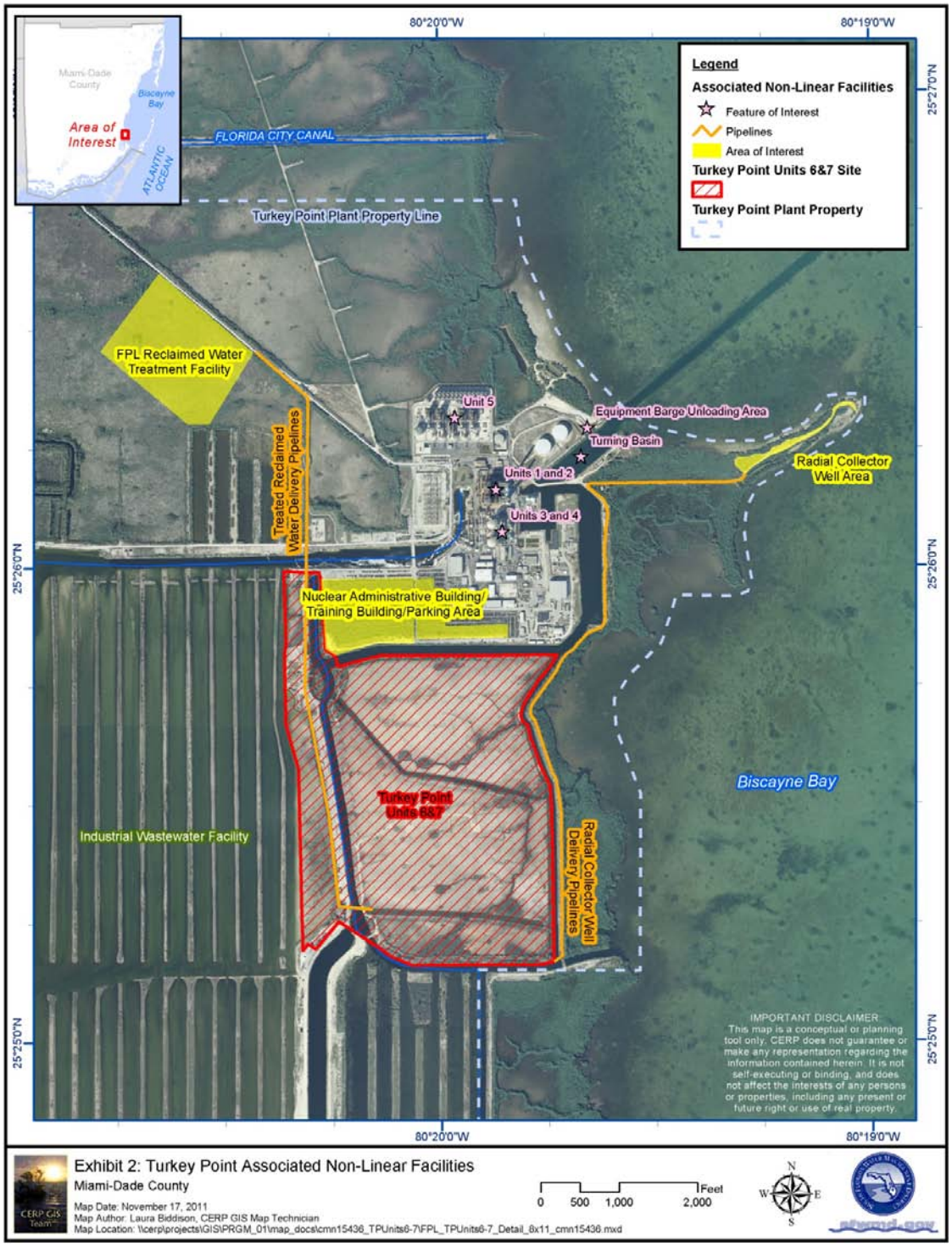


EXHIBIT 3. FPL Proposed Transmission Line Corridors.

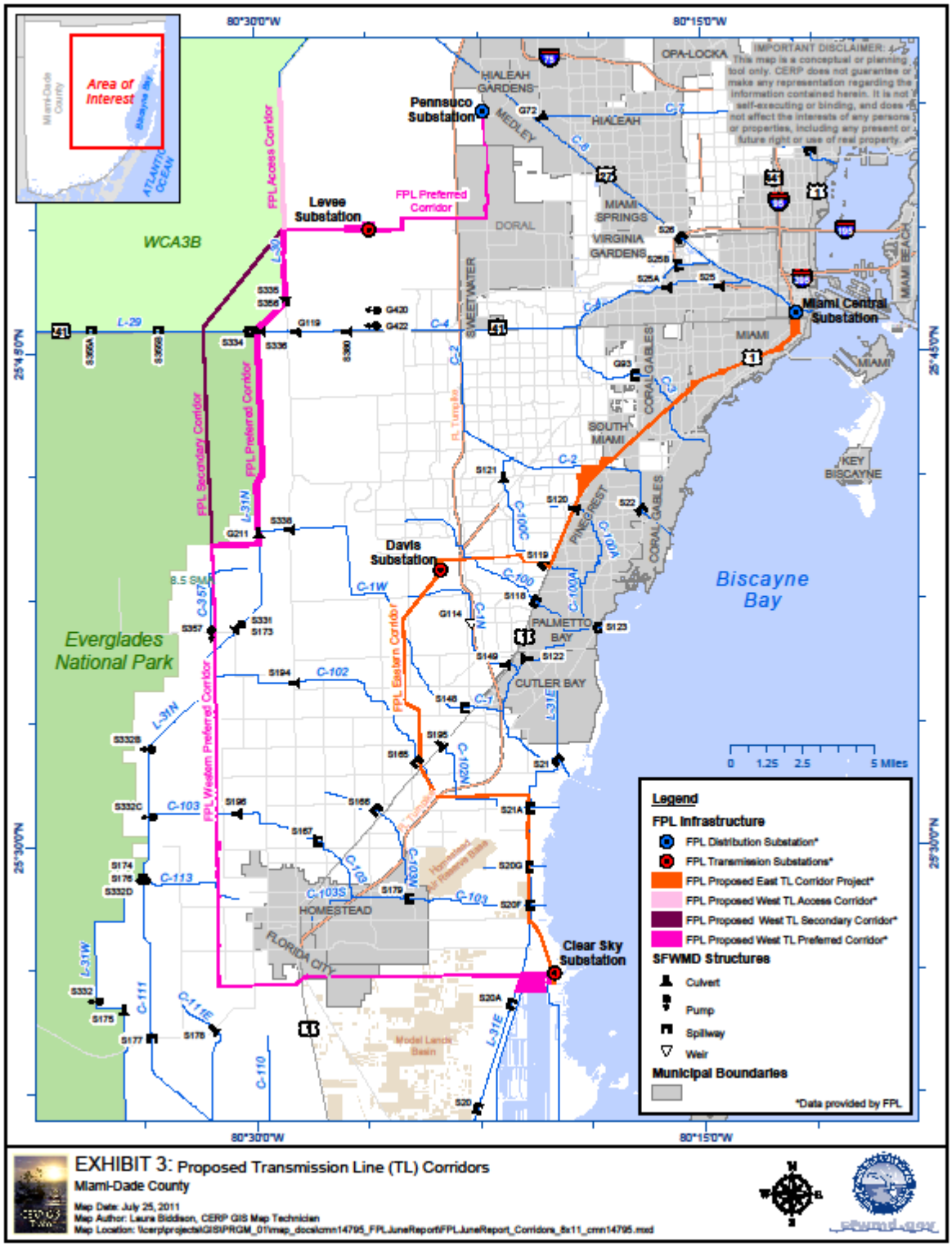


EXHIBIT 4. FPL Proposed Eastern Transmission Line Corridor.

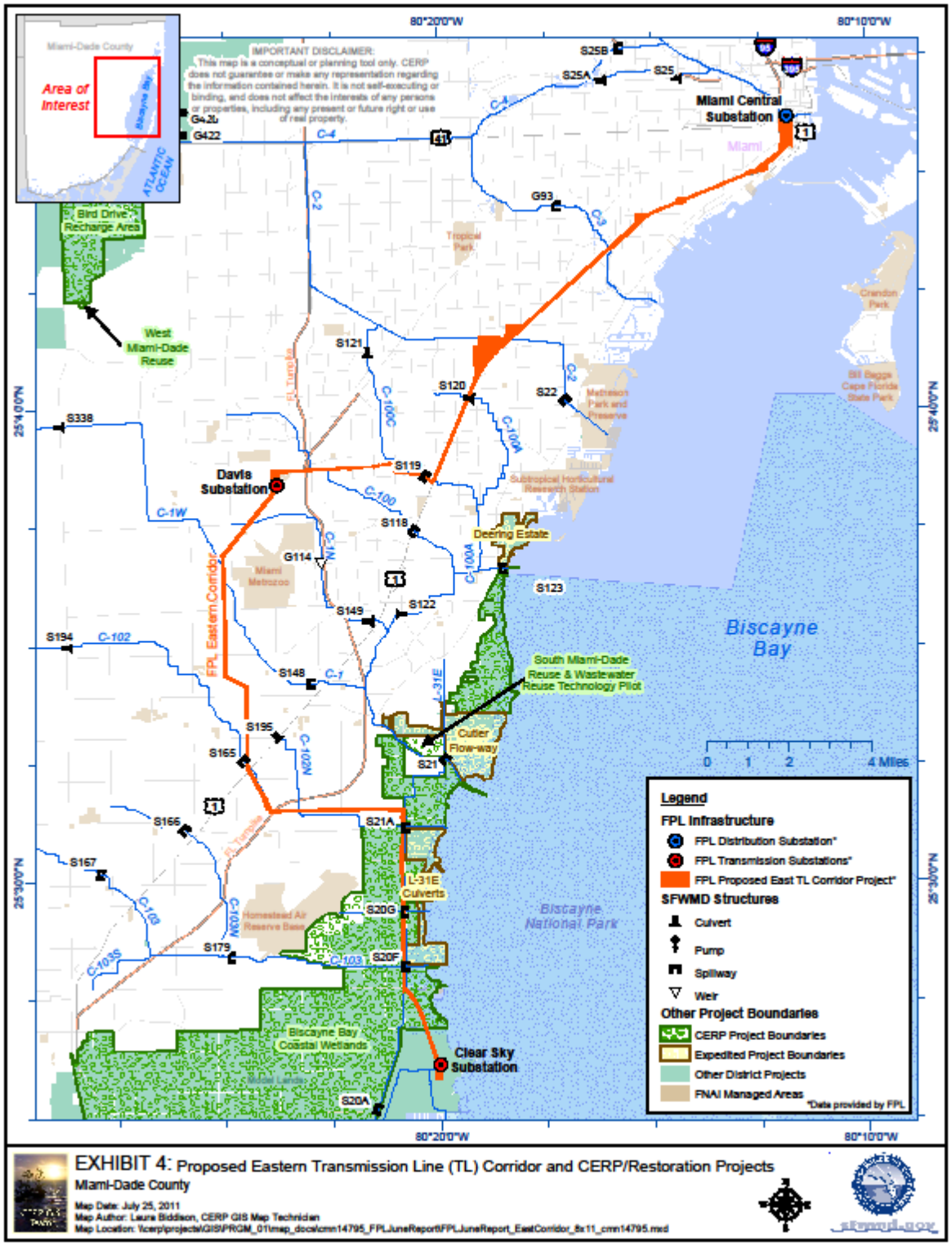


EXHIBIT 4: Proposed Eastern Transmission Line (TL) Corridor and CERP/Restoration Projects
Miami-Dade County
Map Date: July 25, 2011
Map Author: Laura Biddison, CERP GIS Map Technician
Map Location: \\cerp\projects\GIS\PRGM_01\map_docs\cmn14795_FPLJuneReport\FPLJuneReport_EastCorridor_8x11_cmn14795.mxd

EXHIBIT 5. FPL Proposed Western Transmission Line Corridors.

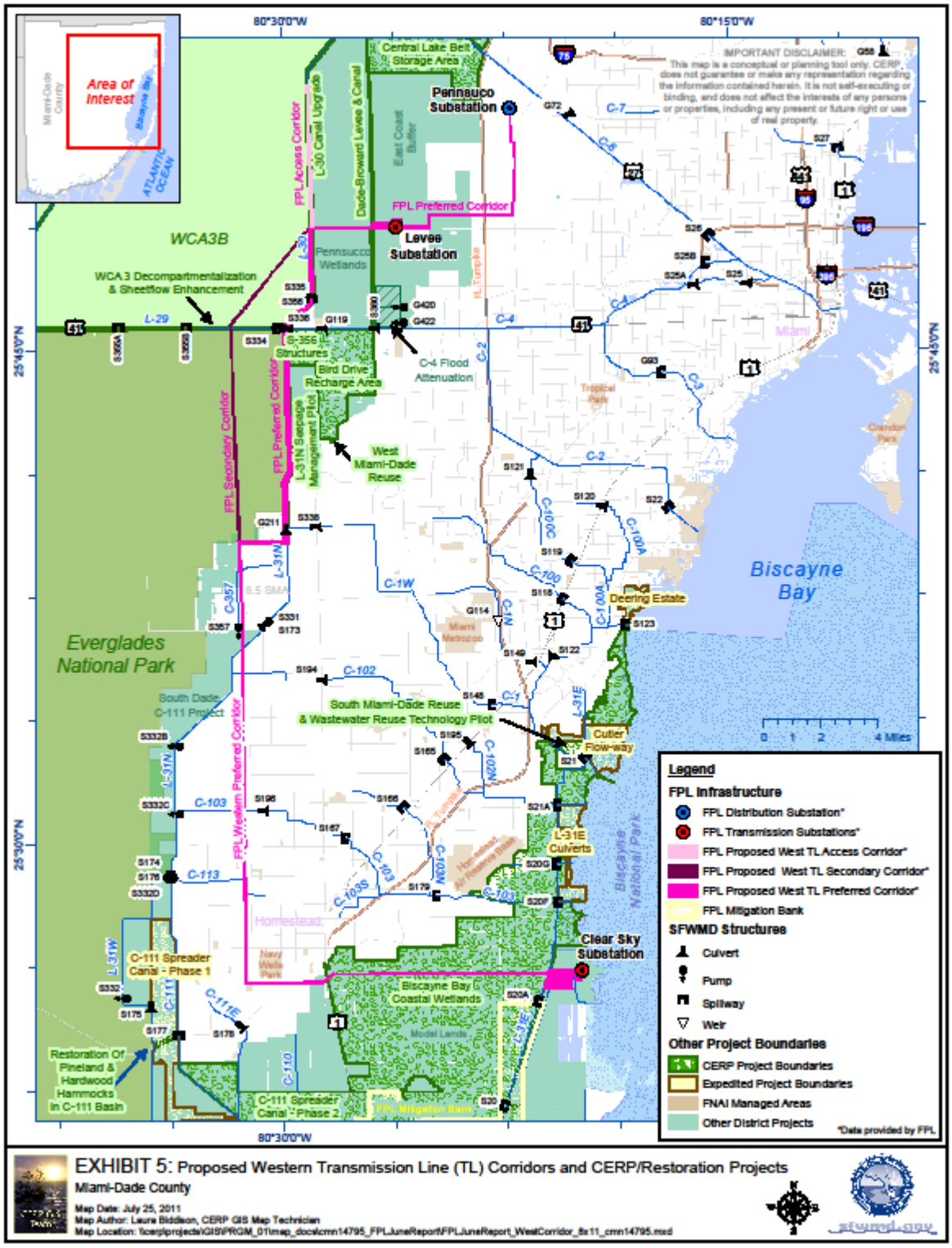


EXHIBIT 5: Proposed Western Transmission Line (TL) Corridors and CERP/Restoration Projects

Miami-Dade County

Map Date: July 25, 2011
Map Author: Laura Biddison, CERP GIS Map Technician
Map Location: fcerpprojects\GIS\PROJM_01\map_docs\cmn14795_FPLJuneReport\FPLJuneReport_WestCorridor_8x11_cmn14795.mxd

EXHIBIT 6. USFWS Wood Stork Colonies with CERP and Other Restoration Projects.

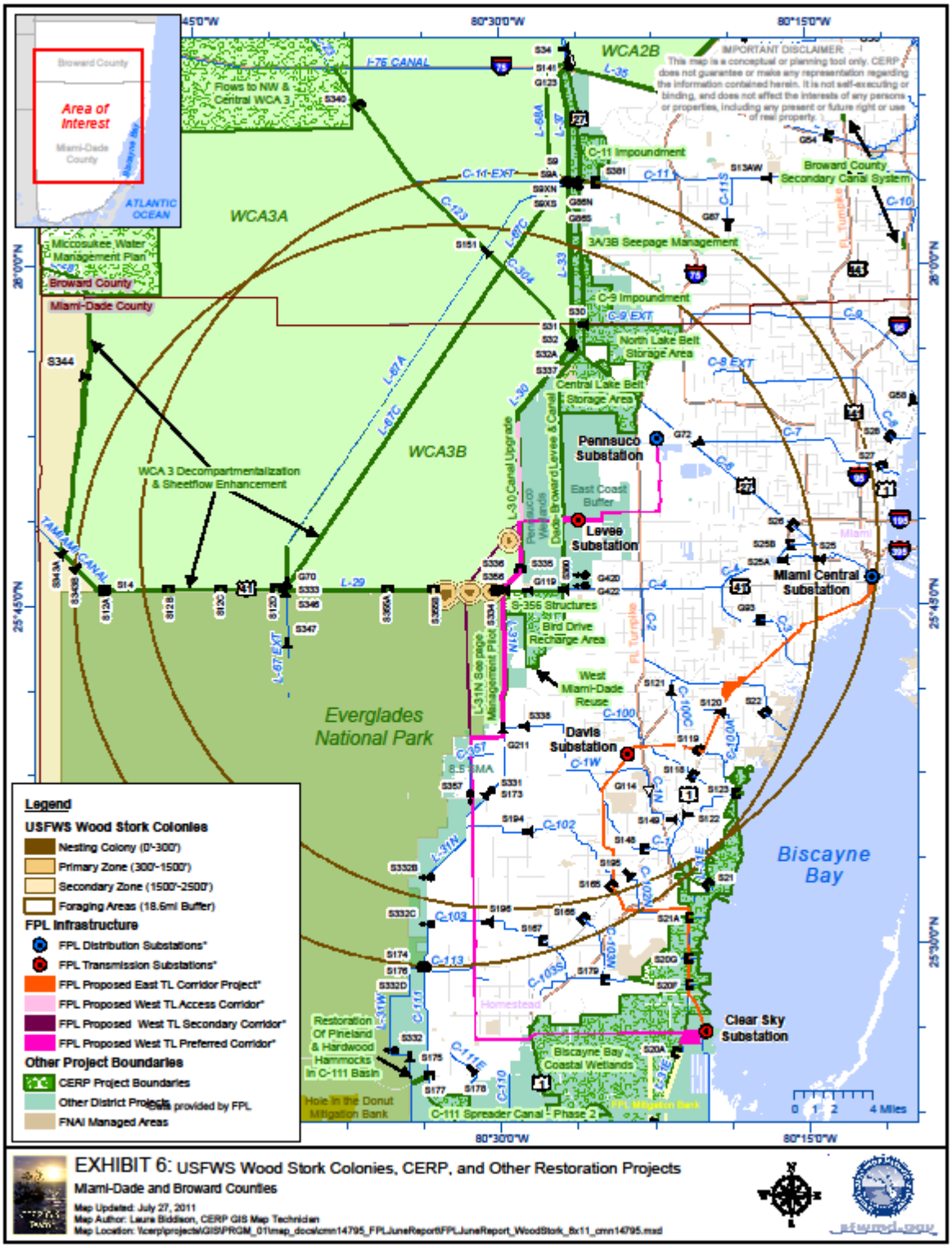


EXHIBIT 6: USFWS Wood Stork Colonies, CERP, and Other Restoration Projects

Miami-Dade and Broward Counties

Map Updated: July 27, 2011

Map Author: Laura Biddison, CERP GIS Map Technician

Map Location: \\cerp\projects\GIS\PRGM_01\map_docs\cmn14795_FPLJuneReport\FPLJuneReport_WoodStork_8x11_cmn14795.mxd

Exhibit 7. Example Certificate of FPL Self-Insurance.

Certificate of FPL Self-Insurance

November 3, 2011

South Florida Water Management District
3301 Gun Club Road,
West Palm Beach, FL, 33416-4680

RE: Florida Power & Light ("FPL") Self-Insured Retention / Self-Insurance
Turkey Point 6&7 Project and associated transmission line Power Plant Siting Act application

To Whom it May Concern:

This letter confirms FPL's self-insured retention / self-insurance (together, the "self-insurance") as required in the Right of Way Consent Agreement between FPL and the South Florida Water Management District ("District"), in regards to the transmission portion of the Turkey Point 6&7 Project (the "Project"). Specific to, and for the duration of, the Project, FPL will maintain self-insurance for the following insurance coverages:

Workers' Compensation: Workers' compensation statutory limits as required by law.

General Liability: Commercial General Liability Insurance on an "Occurrence Basis," with limits of liability not less than $ 3,000,000 per occurrence and/or aggregate combined single limit, bodily injury, death, or property damage with coverages as set forth in the Right of Way Consent Agreement.

For the duration of the FPL's use of the District's right-of-way, Works of the District or real property interests recorded in the public records, FPL will be self-insured to the limits above for injury and/or damage to persons and property caused by any act or omission of FPL, its agents, employees, and/or its contractor's relating to the FPL's use of the District's right-of-way, Works of the District or real property interests recorded in the public records.

For a copy of NextEra Energy, Inc.'s latest audited annual report as evidence of FPL financial ability to self-insure, please copy and paste the following link into your web browser: http://www.nexteraenergy.com/investors/index.shtml.

If you would like to contact me to discuss this letter or other matters, my direct phone number is (561) 691-3032. Thank you.

Sincerely,

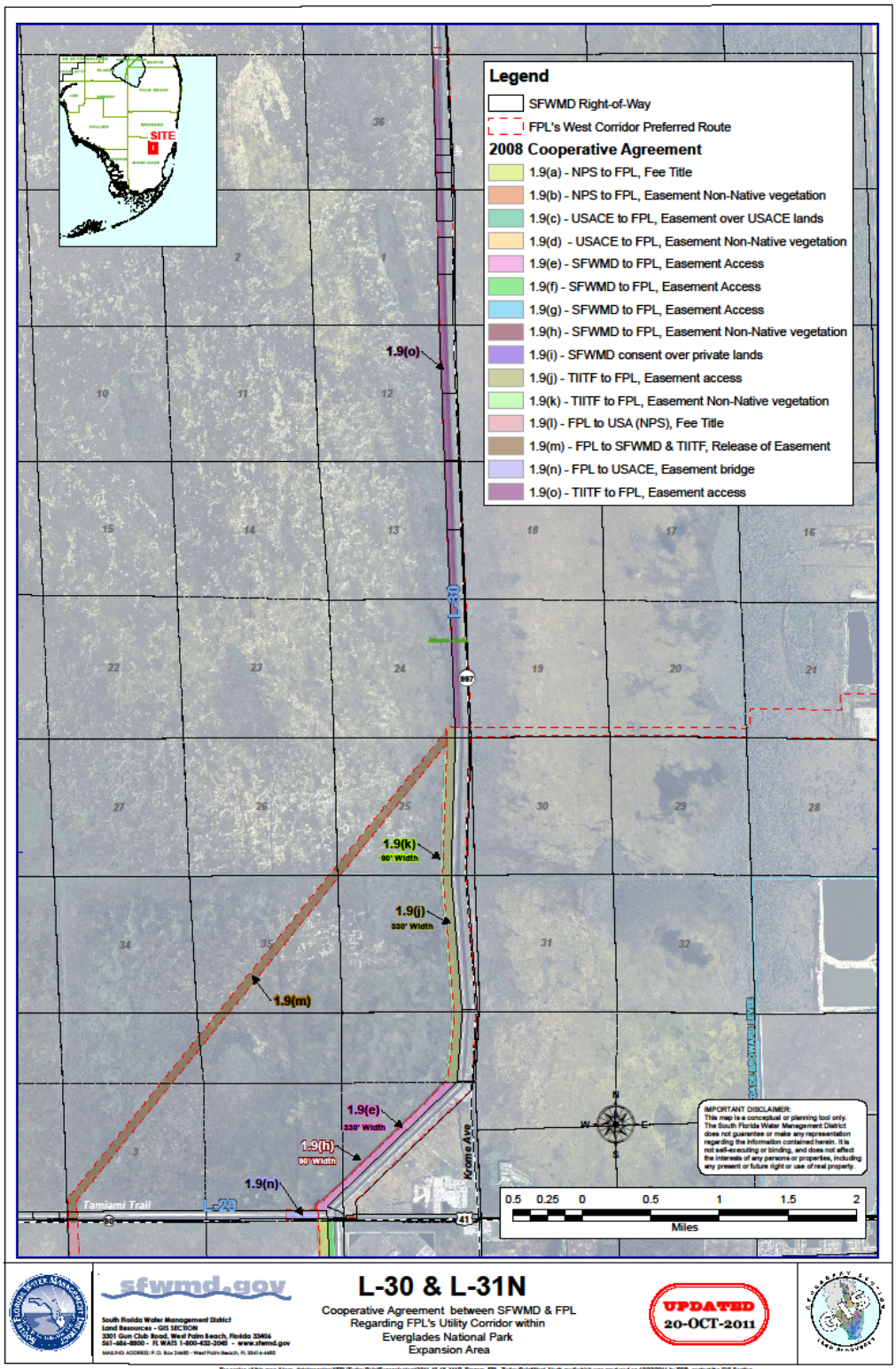
Grace Costantino
Risk Management Analyst

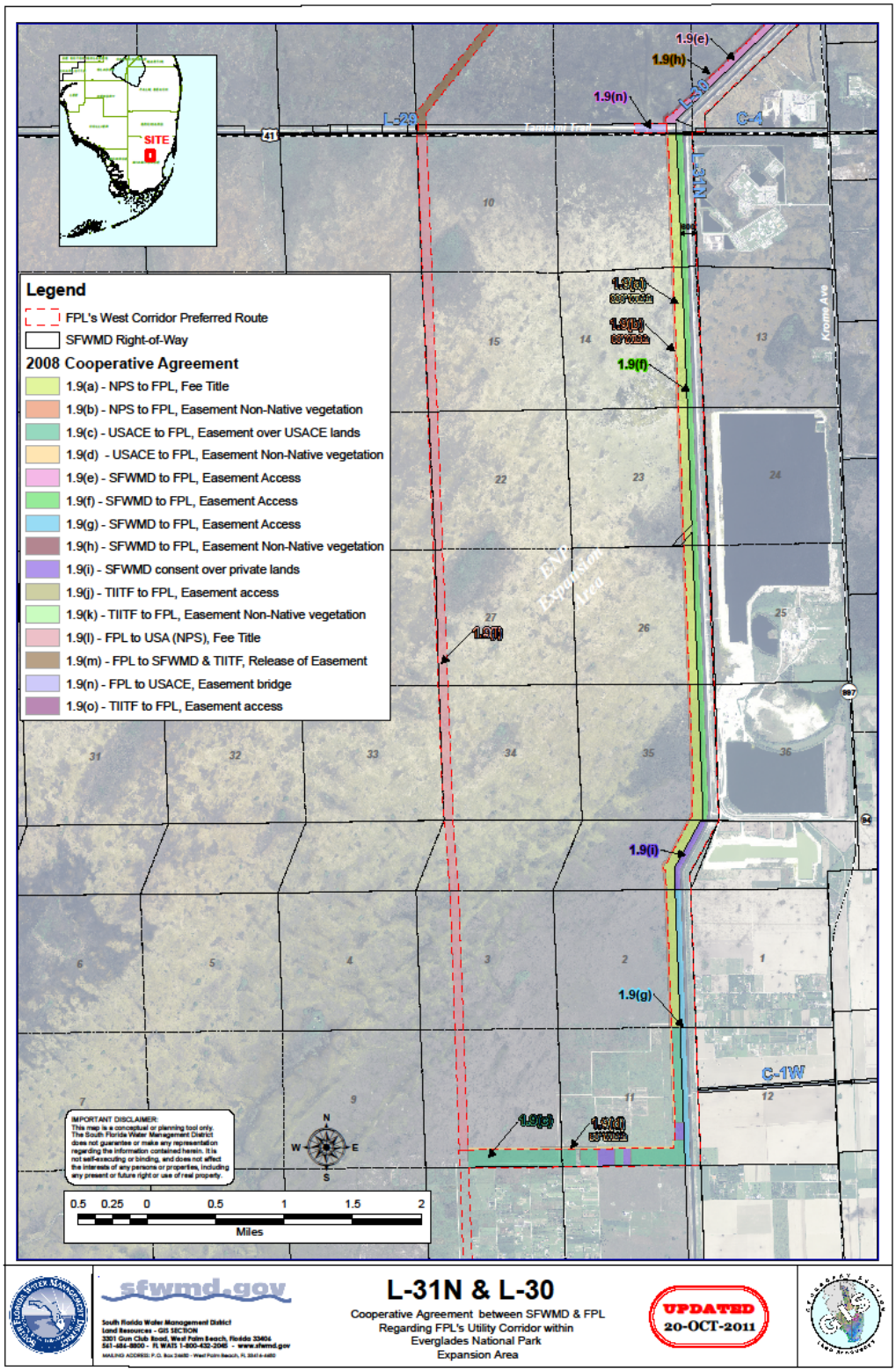
Exhibit 8. SFWMD Planned Projects.

Project	Type
Biscayne Bay Coastal Wetlands	CERP
Phase I	CERP
Phase II	CERP
Western C-111 Spreader Canal Phase II	CERP
South Dade C-111	Non-CERP
Modified Water Deliveries	Non-CERP
Water Preserve Area Conveyance	CERP
L-31N (L-30) Seepage Management Pilot	CERP
Everglades National Park Seepage Management	CERP
Bird Drive Recharge Area	CERP
S-356 Pump Station Relocation	CERP
Water Conservation Area 2 Flows to Central Lake Belt Storage Area	CERP
Water Conservation Area 3 Flows to Central Lake Belt Storage Area	CERP
North Lake Belt Storage Area	CERP
WCA 3A/3B Decompartmentalization	CERP
Central Lake Belt Storage Area	CERP

The list of projects in this Exhibit will be updated by SFWMD and relevant information about each project will be provided to FPL in accordance with the conditions of certification.

Exhibit 9. L-31N and L-30 Corridor Area.


Legend
SFWMD Right-of-Way
FPL's West Corridor Preferred Route
2008 Cooperative Agreement
1.9(a) - NPS to FPL, Fee Title
1.9(b) - NPS to FPL, Easement Non-Native vegetation
1.9(c) - USACE to FPL, Easement over USACE lands
1.9(d) - USACE to FPL, Easement Non-Native vegetation
1.9(e) - SFWMD to FPL, Easement Access
1.9(f) - SFWMD to FPL, Easement Access
1.9(g) - SFWMD to FPL, Easement Access
1.9(h) - SFWMD to FPL, Easement Non-Native vegetation
1.9(i) - SFWMD consent over private lands
1.9(j) - TIITF to FPL, Easement access
1.9(k) - TIITF to FPL, Easement Non-Native vegetation
1.9(l) - FPL to USA (NPS), Fee Title
1.9(m) - FPL to SFWMD & TIITF, Release of Easement
1.9(n) - FPL to USACE, Easement bridge
1.9(o) - TIITF to FPL, Easement access
SITE
1.9(o)
1.9(k)
90' Width
1.9(j)
330' Width
1.9(m)
1.9(e)
330' Width
1.9(h)
90' Width
1.9(n)
L-30
L-29
Tamiami Trail
Krome Ave
IMPORTANT DISCLAIMER:
This map is a conceptual or planning tool only. The South Florida Water Management District does not guarantee or make any representation regarding the information contained herein. It is not self-executing or binding, and does not affect the interests of any persons or properties, including any present or future right or use of real property.
0.5 0.25 0 0.5 1 1.5 2
Miles
sfwmd.gov
South Florida Water Management District
Land Resources - GIS SECTION
3301 Gun Club Road, West Palm Beach, Florida 33406
561-686-8800 - FL WATS 1-800-432-2045 - www.sfwmd.gov
L-30 & L-31N
Cooperative Agreement between SFWMD & FPL
Regarding FPL's Utility Corridor within
Everglades National Park
Expansion Area
UPDATED
20-OCT-2011


Legend
FPL's West Corridor Preferred Route
SFWMD Right-of-Way
2008 Cooperative Agreement
1.9(a) - NPS to FPL, Fee Title
1.9(b) - NPS to FPL, Easement Non-Native vegetation
1.9(c) - USACE to FPL, Easement over USACE lands
1.9(d) - USACE to FPL, Easement Non-Native vegetation
1.9(e) - SFWMD to FPL, Easement Access
1.9(f) - SFWMD to FPL, Easement Access
1.9(g) - SFWMD to FPL, Easement Access
1.9(h) - SFWMD to FPL, Easement Non-Native vegetation
1.9(i) - SFWMD consent over private lands
1.9(j) - TIITF to FPL, Easement access
1.9(k) - TIITF to FPL, Easement Non-Native vegetation
1.9(l) - FPL to USA (NPS), Fee Title
1.9(m) - FPL to SFWMD & TIITF, Release of Easement
1.9(n) - FPL to USACE, Easement bridge
1.9(o) - TIITF to FPL, Easement access
SITE
L-29
L-30
C-4
C-1W
Krome Ave
Tamiami Trail
ENP Expansion Area
IMPORTANT DISCLAIMER:
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L-31N & L-30
Cooperative Agreement between SFWMD & FPL
Regarding FPL's Utility Corridor within
Everglades National Park
Expansion Area
UPDATED
20-OCT-2011

APPENDIX A. Cooperative and License Agreement between the Central and Southern Florida Flood Control District and the Game and Fresh Water Fish Commission for Water Conservation Areas 2 and 3 (1953) and Permit Agreement by and between Central and Southern Florida Flood Control District and Florida Power & Light Company (1971).

APPENDIX B. Cooperation Agreement By and Between Florida Power and Light Company and the South Florida Water Management District Regarding Licensee's Utility Corridor Within the Everglades National Park Expansion Area, dated August 21, 2008 (Resolution No. 2008-640)

APPENDIX C Wading Bird Supporting Documentation

SFWMD Responsibilities Relating to Wading Birds

Wildlife populations are highly visible components of the Everglades and as such, have played a major role in the management and restoration of this ecosystem. Much of the controversy and litigation surrounding the effects of water management on wildlife populations stemmed from a poor understanding of the hydrologic needs of key species. This oversight was first addressed in the Everglades Forever Act (EFA), which mandated that the District shall conduct research to understand the hydrologic and ecological needs of the Everglades. As a consequence of this, and because wading birds can be used as a hydrologic yardstick of environmental health, the research and monitoring pertaining to wading bird populations is directly linked to SFWMD operations.

The District's responsibilities with regard to understanding the needs of key wildlife species were expanded as part of CERP. As a major stakeholder in CERP, the District is obligated to investigate the past, current, and future of the ridge/slough landscape for its formation and maintenance mechanisms to establish appropriate goals for restoration and criteria of restoration success. Provisions within The Water Resources Development Act of 2000 (WRDA) provide for specific authorization for an adaptive assessment and monitoring program. A system-wide program that is known as "Restoration Coordination and Verification" (RECOVER) was devised to ensure that a system-wide focus is maintained throughout the ongoing planning and implementation of CERP. It is designed to organize and provide the highest quality scientific and technical support during the implementation of the plan. The restoration plan is science-based, and it is the role of RECOVER to ensure that science continues to guide implementation of the plan. RECOVER provides an ongoing process of assessment and refinement of the Comprehensive Plan.

RECOVER developed the Monitoring and Assessment Plan (MAP) as the primary tool to assess the system-wide performance of the CERP. It uses wildlife populations as a basis for setting hydrologic targets and as performance measures for restoration success. In addition, CERP requires updated ecological information to fine-tune those targets and to identify hydrologic needs of aquatic fauna. Restoration planners and scientists associated with the implementation of the RECOVER have established the restoration of healthy wading bird populations in the greater Everglades ecosystem as a primary goal of CERP. Moreover, wading birds function as one of the best indicators of restoration success (Frederick et al. 2009). The RECOVER metrics are the official metrics that have been adopted by agencies. The metrics described in Frederick et al 2009 were developed as suggestions as part of the adaptive management process but as yet remain as suggestions.

The importance of documenting and tracking the status and trends in wading bird nesting patterns has recently become elevated in the context of restoration programs because of a new requirement from the U.S. Congress that Interim Goals be set for the natural system goals of CERP. The logic of this requirement is that the funding sources (the federal and State governments) do not wish to wait until the implementation of the Plan is completed in approximately 2035 to determine if it is meeting its goals. Congress now requires "interim" goals, which are "predictions" or expectations of the level of performance by key CERP indicators for 5-year increments of time throughout the implementation of the Plan. Reports on how well the Plan is meeting its Interim Goals will go to Congress at five-year intervals (and annually to the National Academy of Sciences, which also will be reporting to Congress on how well CERP is meeting its natural system goals). Wading bird indicators are a fundamental and

highly visible component of the periodic Interim Goals reports produced by the multiagency RECOVER team.

CERP Targets and Interim Goals for Wading Birds

The goal is to have a common set of wading bird indicators and performance measures applicable at system-wide scales, which can support all restoration planning, assessment and reporting needs and requirements. These comprehensive wading bird performance measures, while not regulatory requirements, are used to support, (1) RECOVER's program of CERP assessments, including the System Status Reports and Interim Goals Reports to Congress, (2) the reports by the Science Coordination Group to the South Florida Ecosystem Restoration Task Force on overall progress in restoration, and (3) reports to the public in the form of restoration report cards, and the annual South Florida Wading Bird Report. The annual South Florida Wading Bird Report (SFWBR) edited by SFWMD was the very first effort to evaluate Everglades restoration activities and the compiled nesting data from this report is currently used by CERP MAP as an index of wading bird nesting effort.

Performance Measure Targets

Specific restoration targets for mainland nesting patterns by the general population of wading birds were first proposed by Ogden, Bancroft and Frederick (1997) and for Wood Storks by Ogden et al. (1997). These include the following:

1. Increase and maintain the total number of pairs of nesting birds in mainland colonies to minima of 4,000 pairs of Great Egrets, 10,000 to 20,000 combined pairs of Snowy Egrets and Tricolored Herons, 10,000 to 25,000 pairs of White Ibis, and 1,500 to 2,500/3,000 pairs of Wood Storks. Shift the timing of nesting in mainland colonies to more closely match pre-project conditions.

2. Specific recovery objectives would be for storks to initiate nesting no later than January in most years (as early as December in some years), and for ibis, egrets and herons to initiate nesting in February - March in most years (especially in ecotone colony locations).

3. The return of major Wood Stork, Great Egret and ibis/small egrets and herons nesting colonies from the Everglades to the coastal areas and the headwaters ecotone of the mangrove estuary of Florida Bay and the Gulf of Mexico.

4. The reestablishment of historical distribution patterns of Wood Stork nesting colonies in the Big Cypress basin (including Corkscrew Swamp) and in the region of mainland mangrove forests downstream from the Shark Slough and Taylor Slough basins. Increase the proportion of birds that nest in the southern ridge and slough marsh-mangrove ecotone (headwaters) to greater than 50% of the total for the entire Everglades basin.

5. For storks, an annual reproductive productivity for all colonies combined of greater than 1.5 chicks per active nest

In addition, Ogden (1994) and Frederick and Ogden (2001) have shown the pattern of periodic super colonies that once occurred in the Everglades. A restoration expectation is the recovery of these large nesting events as follows:

6. An increase in the return, frequency and size of wading bird super colonies consisting primarily of White Ibis in response to inter-annual variation in rainfall in the tributary headwaters of Shark River Slough and other Gulf of Mexico mangrove estuaries at a frequency of 1 to 2 events per decade (the specific locations of the above tributary and coastal nesting colonies will be controlled by sea level and estuarine geomorphology in addition to the functionality of food webs).

A Summary of Federal Guidelines Pertaining To Wood Stork Nesting And Foraging Locations

The U.S. Fish and Wildlife Service (USFWS) developed a series of permitting criteria guidelines for the federally endangered wood stork. These criteria are found in *Habitat Management Guidelines for the Wood Stork in the South East Region* (Ogden 1990, USFWS 2006), and are summarized below.

Colony (Nesting) Sites

a. Do not place power lines and other towers (< 200 feet in height) within 1 mile of the colony.
b. Maintain natural hydroperiods (water levels) in nesting sites throughout the breeding season to provide 2-5 feet of water under the nest trees during breeding activity.
c. Colony site longevity – Many stork colonies experience periods of inactivity, primarily due to natural and anthropogenic changes in hydrology that result in conditions unfavorable for nesting (e.g. extended drought, wetland drainage etc.). Stork colonies have become active again after as long as 10 years of inactivity, although shorter periods (1 – 2 years) of inactivity is more common. USFWS recommends a 10-year period post-abandonment prior to releasing the colony site from regulatory restrictions.
d. Year-round restrictions include vegetation removal, unauthorized changes in hydroperiod, and construction of buildings, roadways, towers, power lines or canals within 700 – 1300 feet of a wading bird colony.
e. No human intrusion within 100 m during the active nesting period.

Foraging Sites

f. Foraging sites during the breeding season are of particular concern due to their impacts on breeding success/nestling production. Efforts should be made not to impact these sites. For southern Florida (south of Lake Okeechobee), this includes wetlands found within a 30-km (18.6 mile) radius of each colony. However, wetland foraging sites outside of these ranges that are known to be foraged in by breeding birds should not be impacted. If foraging sites are negatively impacted, they should be replaced relative to wetland type (replace short hydroperiod wetland with another short hydroperiod wetland, etc.).
g. Do not construct tall towers (with guy wires) and/or power lines within 1 mile of major feeding sites.
h. Foraging sites should not be subject to activities that alter their normal hydrology, including seasonal drying patterns as these can negatively impact densities and occurrences of prey.

i. Human intrusion into the feeding sites should be restricted, with no human activity within 330 feet (100 m) of the site if a vegetative barrier is present, 660 feet if no barrier is present.

Relevant Wood Stork Information

Population Status and Importance of the Tamiami Colony Cluster
The wetlands of the southern Everglades and Big Cypress historically supported the core reproductive habitat for the wood stork, to the extent that over 75% of the U.S. population bred in this area (Coulter et al. 1999). The breeding population in the Everglades has declined by over 80% since the 1930s and by at least 50% since the 1960s (Crozier & Gawlik 2003). Storks also began nesting in more northerly locations in north and central Florida, Georgia, and South Carolina from the 1970s (Ogden et al. 1987). These dramatic changes in the characteristics of storks nesting in south Florida have been related to radically altered distributions and timing of surface water in the Everglades (Ogden 1994). In consideration of these changes, the wood stork was listed as endangered at both the federal and state level in 1984. Coulter et al. (1999) argue that restoration of the Everglades will be crucial for the recovery of this stork.

While the focal cluster of colonies proximate to the proposed transmission line corridors is only one of a number of wood stork breeding areas in south Florida, its management and restoration is critical for wood storks both at the regional and national levels. The cluster typically supports approximately half of all annual stork nests in the Everglades (see annual South Florida Wading Bird reports; e.g., Cook & Kobza 2010), and thus in terms of population size it is one of the most important CERP nesting areas in south Florida.

Biology and Ecology
The Wood Stork is a large wading bird standing 85-115 cm tall and with a wingspan ranging between 150 and165 cm (Coulter et al. 1999). It nests colonially and forages locally in shallow wetlands. It feeds by tactilocation and requires high densities of fish prey in relatively shallow, open water to feed efficiently (Kahl 1964). Wood storks are relatively long lived birds (surviving 30+ years in captivity; Hancock et al. 1992). They exhibit a strong degree of colony-site fidelity, generally returning each year to a specific breeding colony (Frederick & Ogden 1997).

Wood storks have a relatively lengthy nesting period that spans approximately 110-150 days from nest construction to fledgling independence (Kahl 1964). Successful reproduction in south Florida wetlands requires the initiation of nesting early in the dry season to allow young to fledge prior to the onset of the summer rains and the resulting reduction in prey availability. Historically storks in the Everglades initiated nesting in November/December and fledged their young in April, which provided appropriate foraging conditions for the fledglings for a few months prior to the rainy season; currently storks start nesting from January to March (Frederick et al. 2010), and young often attempt to fledge after the rains have started (e.g., Cook and Kobza 2009).

Stork nests are relatively large, flat platforms built from sticks collected from within a few thousand feet of the colony (Coulter et al 1999). (This collection area is approximately equivalent to the USFWS's primary and secondary zones; see section 2.2.3.9. for more details.) Nest construction takes about 2-3 days to complete, but new material is collected and added to the nest throughout the nesting period (Coulter et al 1999).

Storks lay between 1-5 eggs at intervals of 1-2 days with incubation lasting 27-32 days (Kahl 1964). After hatching parents feed the nestlings up to 15 times per day, with the number of foraging trips increasing in proportion to the number and age of the nestlings (Coulter et al 1999).

By age 50-60 days juvenile birds leave the nest, travelling each day between 100 m – 1 km from the colony (Coulter et al 1999) (i.e. within the USFWS secondary zone and beyond). At this time birds are learning to fly and to forage efficiently, but they return frequently to the nest to be fed by the parents. Birds are not fully developed at this age and their flights are relatively uncoordinated (Kahl 1972). These preliminary excursions continue for about four weeks until the nestlings gain independence from their parents at approximately 70 - 80 days old. Large numbers of these inexperienced birds can be found around the colonies. In 2009 approximately 500 juvenile storks were observed dispersed within a one mile radius of Tamiami West colony (Mark Cook personal observations).

At independence juvenile birds remain and feed in the Everglades for many weeks if foraging conditions are suitable (Borkhataria 2009, Kahl 1964, Rodgers 1987) but will leave the Everglades in search of better habitat if conditions are too dry or too wet. This period of post-fledging foraging in the Everglades appears to be critical for the future survival of the fledglings (Borkhataria 2009).

Wood storks use two general forms of aerial travel: flapping flight and soaring/gliding flight. For long distance flights they tend to use thermals to soar to altitudes over 1000 m and then glide several kilometers to next thermal to cover horizontal distance. Thermals generally form from mid-morning until late afternoon and are generally limited to warm, windless days with limited cloud cover. Wood storks often use flapping flight: for example, when leaving the colony to find a thermal, when thermals are not available (e.g. during cool/cloudy conditions and during nocturnal flights), and for short distance flights such as those within and around colonies (Bryan et al. 1995). Flapping flight tends to occur at relatively low elevations and birds appear less maneuverable than during soaring flight. Adult storks exhibit a number of behaviors within the colony that involve flapping flight such as aerial clattering threat flights, mating flying-around behavior (Coulter 1999), and nesting material collection flights.

Avian Interactions with Power Lines: A Literature Review

The following provides a succinct summary of the major published or peer-reviewed literature on avian interactions with power lines, and relates this work to the pertinent biology and ecology of the wood stork. Three areas of avian interactions were considered: collision risk, electrocution risk and avian habitat loss.

A. Collision Risk

Power lines appear to constitute a collision hazard for birds. It is estimated that between 130 and 175 million birds are killed annually in the US by collisions with power lines (Erickson et al. 2005, Manville 2005), and this may be a conservative estimate given minimal monitoring efforts over large spatial scales (Erickson et al. 2005; Manville 2005). Collision risk varies greatly among species, and a number of interrelated factors concerning the biology of the bird, its

environment and characteristics of the power line affect the likelihood of collision (Bevanger 1994, Hunting 2002).

The habitat in which a transmission line corridor is placed can have a strong influence on collision risk for the local bird community. Collisions appear to increase in open habitats, and birds in open wetland habitats appear to incur proportionally high rates of collision related mortality relative to other habitats (Faanes 1987, McNeil et al. 1985, Malcolm 1982). Accordingly, a number of experts recommend that transmission line corridors should not be placed in open wetlands (Faanes 1987, McNeil et al. 1985) such as those in the central Everglades (Shark River Slough region of Everglades National Park and Water Conservation Area 3B).

The particular location of the power line within a habitat also has an influence on collision risk. Reports of avian mortality are often greater when lines cross nesting, feeding and roosting areas, particularly those that support a large abundance and diversity of birds (Crivelli et al. 1988; Malcolm 1982; McNeil et al. 1985). In one example, 4000 dead birds were found along a short 2.8 mile section of a transmission line in a large Montana wetland over a16-month period, with peak collisions occurring during the nesting season. A subsequent botulism epidemic caused by the large number of dead bodies killed an additional 63,000 birds (Malcom 1982). Both proposed transmission line corridors cross important wading bird nesting and foraging areas in the Everglades.

There is general consensus on the typical characteristics that define a collision-prone species (Jenkins et al. 2010). A species' morphology, visual acuity and behavior are the key determinants of collision risk (Bevanger 1998, Jaans 2000, Martin & Shaw 2010). In short, the probability of collision is centered on a bird's likelihood of flying at a power line at the appropriate height and trajectory, and its ability to detect and avoid the line in sufficient time to prevent an imminent collision.

Of particular relevance is how physical characteristics affect the flight ability of a bird. In general, highly maneuverable species (long wings and low body mass) are at lower risk of collision with power lines than less agile species (short wings and high mass). Bevanger (1998) and Jaans (2000) employed multivariate statistical approaches to categorize the probability of collision risk by avian family using body mass, wing structure, body length and tail length. Groups of birds with large broad wings and decreased wing loading such as wading birds were considered relatively poor fliers and classified as "having highest susceptibility" (Jenkins et al.). This has been verified by a number of studies that have reported relatively high levels of collision related mortality among wading birds (e.g., Saverno & Haig 1996, Rusz et al. 1986, Garrido & Fernandez-Cruz 2003).

Collision risk is also a function of a bird's behavior. Clearly, highly aerial species with a tendency to fly within the height range of power lines are at a greater risk than more terrestrial species that rarely encounter power lines (Bevenger 1994). Risk is further increased by regular direct flights between a fixed point and a resource such as between a colony or roost site and a foraging area, and further increased if travel involves flocks of birds which can result in reduced vision for birds at the rear of a flock (Bevanger 1994, Hunting 2002). Wood storks do not generally fly in large flocks but often leave a colony in groups.

Other characteristics such as the form of the flight, the distance traveled, and the frequency and duration of the flight, can also affect the likelihood of a bird encountering and hitting a transmission line. Storks associated with a colony use flight for multiple reasons. Some flights are relatively short in distance (within a few thousand feet of the colony boundary) and include the courtship, antagonistic, and nest material collection flights of adults (Coulter 1999) and the uncoordinated learning flights of juveniles. These are of the low-elevation flapping type (Bryan et al. 1995) flown at a height range similar to that of the proposed transmission lines (between 30 ft and 150 ft). The risk of collision for these flights may be independent of the visibility of the lines if an adult bird is distracted with antagonistic flights or with the pressure to deliver food to hungry nestlings (e.g., Henderson et al. 1996), or if a young bird is naive to a transmission line corridor or unable to negotiate it effectively. Other flights may be much longer in distance and duration and include the foraging trips of adult birds to and from distant wetland feeding areas. These tend to involve energy-efficient high-altitude soaring flights, but are reliant on warm and sunny conditions for producing thermals. Birds not associated with the colony such as those foraging in the vicinity of the transmission line corridors from distant colonies and roosts will also tend to use soaring flight.

The direction of a flight is also an important component of collision risk, particularly for the longer-distance flights. At the colony cluster adult storks fly in all directions from the colonies to forage in local marshes including Everglades National Park to the south and west, Water Conservation Areas 3A and 3B to the north and NW and the Pennsuco wetlands to the east and NE (Herring & Gawlik 2007; R. Borkhateria pers. comm.). Foraging locations and the directions of travel vary through the nesting season as prey availability responds to seasonal changes in hydrologic conditions. Hence, birds will likely need to negotiate a proximate transmission line corridor as they enter and leave their nest site at least at some stage during nesting regardless of the relative position of the colony to the transmission line corridor.

Also important for understanding collision risk is the frequency at which both adult and juvenile birds encounter the transmission line corridor over the course of the breeding period (e.g. Malcolm 1982). For wood storks, this is a function of the number of individuals in a colony, as well as the frequency of a particular type of flight behavior and its duration during the nesting season. For example, a moderate number of juveniles each fly back and forth to the nest many times per day but only for a short three- to four-week period, while a similar number of their parents fly back and forth to the nest at a comparable frequency but for the entire duration of the nesting period (see Coulter et al. 1999). Given the potential for large numbers of birds in a colony (e.g., Cook & Kobza 2009) and the considerable duration of the nesting period, this can amount to literally millions of individual flights over the course of a nesting season. Determining the proportion of these flights that have the potential to interact with transmission lines is important for understanding collision risk.

Life history stage and age of a bird affect collision risk. Younger birds are less experienced and exhibit reduced flight ability relative to older birds. Several authors have stressed that juveniles and recently fledged waterbirds may be particularly prone to collisions (Crivelli et al. 1988, McNeil et al. 1985, Schaub and Pradel 2004, Spalding and Forrester). In this respect, juvenile storks in the weeks prior to their full independence may be most at risk of collision related mortality. Their limited flight capacity and maneuverability, incomplete development, general naivety, and the large number of flights they undertake in and around the colony may make them relatively susceptible to collisions.

Time of day and weather patterns also affect collision risk (Renssen et al. 1975; APLIC, 2006). Avian collisions with transmission lines occur more often at dawn and dusk when visibility is relatively low (McNeil et al. 1985; Crivelli et al. 1988). The wood stork is a crepuscular forager and often flies during low light conditions. The potential for collision is likely greatest when birds are foraging nocturnally and during inclement weather conditions such as foggy and windy conditions (Deng and Frederick 2001). Inclement weather is not uncommon during the nesting season in south Florida.

In addition to considering collision risk, it is also important to understand that the relative impact of any collision related mortality can be related to the size of the population. Avian populations can normally compensate for additional mortality deriving from unusual causes such as collisions with transmission lines but they may be more seriously affected if the population is already reduced below a certain threshold level (Janss & Ferrer 1998; Faanes 1987; Bevanger 1995). Indeed, power lines have had significant demographic effects on threatened European white stork and blue crane populations (Garrido & Fernandez-Cruz 2003; Schaub & Pradel 2004; and Shaw et al. 2010). Given that the CERP population of nesting wood storks is already significantly reduced (Crozier & Gawlik 2003), and that a large proportion of this population nests in close proximity to the proposed corridors (see annual wading bird reports), potential impacts on CERP wood stork goals and targets should be an important consideration of the risk assessment.

The review of the literature revealed that relatively few studies examined the effects of power lines on wading birds, and of those that did none examined the particular issue of a transmission line corridor in close proximity to a colony. Nonetheless, sufficient information is available to suggest that wading birds as a group are sensitive to collision risk (e.g., Saverno et al. 1996, Rusz et al 1986, Garrido & Fernandez-Cruz 2003). Studies pertaining to Florida are likewise very limited. Spalding and Forrester (1991) studied factors affecting mortality of birds from 61 wading bird colonies in Florida. They concluded that collisions with power lines can be an important cause of mortality for adult and juvenile wading birds, including wood storks. Deng (1998) studied wading bird collisions along the Levee Midway line in the Everglades and reported a wading bird collision rate of only 0.005% from 41,000 bird crossings. However, these results are not fully relevant to the current FPL application. First, this study examined collisions at transmission line corridors placed considerable distances (> 5 miles) from the nearest colonies; thus, while it has some relevance for considering collision risk on foraging birds, it is not appropriate for ascertaining the particular risks associated with birds at a nearby colony, the SFWMD's primary concern. Second, the physical characteristics of Levee Midway transmission line corridor are different from the current proposal; for example, the Levee-Midway line is a single 500-kV line H-frame with no guy wires or fill pads. Finally, the Deng study conceded that the detectability of collisions was lowest during poor visibility conditions and at night, that is, when collision risk to birds was greatest (Deng and Frederick 2001). Therefore collision risk may have been underestimated in this study. Indeed, Deng (1998) did report that seven wading birds were found dead/injured under the lines, including two wood storks, despite the lack of systematic searches. Deng (1998) also states that FWC reported finding 170 dead birds (mainly great blue herons and wood storks) under the Miami Canal distribution line. Additional evidence for wading bird mortality on distribution and transmission lines in the Everglades is provided in a letter to SFWMD by wading bird expert Prof. Peter Frederick from the University of Florida (see attached copy).

B. Electrocution Risk

Wading birds including storks have been known to suffer high rates of electrocutions (Bevanger 1998, Jaans 2000). However, modern transmission line designs such as those included in the current proposal have limited these risks, and SFWMD considers the risk of electrocutions to wood storks and other wading bird species to be minimal.

C. Habitat Loss

Habitat loss through construction of the proposed transmission line corridors may occur directly or indirectly. Direct loss of habitat would result from the construction of the large pads every 500 feet for the 230 kV line and every 1000 feet for the 500 kV lines, as well as from the access roads along the entire lengths of the transmission line corridors. While this would amount to a small area of wetland habitat relative to the total habitat within a core foraging area (see Section 2.2.3.9 for details), one should also consider the relative ecological value of the habitat. The region through which the proposed transmission line corridors pass, the headwaters of Shark River Slough, is one of the primary foraging regions for storks and other wading birds in the Everglades, often supporting tens of thousands of foraging birds, and is one of the primary focal regions for CERP hydrologic restoration. This habitat, in terms of the total number of foraging birds, is considerably more important for foraging than other regions within the local core foraging areas such as the ponded areas in WCA 3A that are generally too deep for foraging or the northern regions of WCA 3B that are frequently too dry.

Although FPL proposes adding culverts to maintain hydrologic conditions, the primary objective of the Decomp component of CERP is to remove physical structures and their associated culverts since it is generally agreed that they impede historic hydrologic flow patterns. Although FPL proposes adding culverts to maintain hydrologic conditions, the primary objective of the Decomp component of CERP is to remove physical structures and their associated culverts since it is generally agreed that they impede historic hydrologic flow patterns. While large pads and access roads in Everglades wetlands do not appear to be consistent with CERP restoration goals, as long as FPL is in compliance with the conditions of certification FPL's project is not likely to be inconsistent with CERP.

The transmission line corridors may also impact a number of local tree islands. A primary goal of CERP is to increase nesting populations of the wood stork in the area and these islands are considered important for future expansion of the local wood stork colonies.

FPL Wood Stork Ecological Risk Assessment

In response to the avian concerns identified by SFWMD during the completeness review process, FPL submitted an assessment entitled Ecological Risk Assessment of Potential Impacts of Turkey Point Units 6 & 7 West Corridor Transmission Lines on Wood Storks, dated July 2010, and a subsequent September 23, 2010 Addendum to this document that addressed many of SFWMD concerns after SFWMD review of the initial document. While SFWMD recommended that the responses be deemed complete, SFWMD suggests that the following concerns and additional information be considered when assessing the ecological risk to the wood stork. These issues are grouped into the three categories listed below.

Collision Risk within Colonies

SFWMD's primary concern is the collision risk to adult, fledgling, and post-fledgling wood storks from nearby colonies with transmission lines.

Short Distance Flight Behaviors within a Colony

Additional information is needed on important short-distance flight behaviors within a colony for adults and fledgling birds, as these flights occur within the separation distances between the colonies and the proposed West Preferred and West Secondary Corridors. These short distance flight behaviors may affect the potential number and type of wood stork interactions with the transmission lines. The specific information to be considered is identified by SFWMD below.

- The general form of flight behavior for short-distance flights within and around the colony will affect flight speed and maneuverability and thus affect collision risk. Storks exhibit three general forms of flight: flapping, soaring and gliding, with activities involving flapping flight likely to be most prone to collision risk. Flapping flight is favored when traveling to local sites, is less maneuverable than soaring and gliding, and generally occurs at a height comparable to the proposed transmission line wires (Bryan et al. 1995). This is in contrast to the much higher elevation soaring flight which is favored when traveling long distances to and from foraging sites and the primary flight type examined in the Deng and Frederick 2001 study. From a stationary position, it often takes a stork thousands of horizontal feet of flapping before a thermal is found for long-distance soaring and gliding flights (Coulter et al. 1999).

- The courtship flights (i.e., "flying around" behaviors; Coulter et al. 1999), and nest material collection flights by adult birds, which both occur largely within or around the colony, are an important consideration for assessing collision risk. The courtship flights are of interest because animals are often highly distracted during courtship rituals and the risk of collision during these flights may be independent of the behavioral avoidance and visibility issues. Nest construction requires a considerable number of trips between the nest and the collection sites from the courtship stage through to the young nestling period (Coulter et al. 1999).

- SFWMD is particularly concerned about the collision risk to fledgling birds (birds that are independent of the nest but still reliant on parental feeding). These birds travel each day for short distances up to 1 kilometer from the colony, learning to forage in the local marshes, and frequently return to the nest or a nearby site to be fed by parents (see Coulter et al 1999, Mark Cook personal observation). Given their limited flight capacity and maneuverability, incomplete mental and physical development, general naivety to structures such as transmission line corridors, these 'learning' flights may increase the exposure of these immature birds.

Flights In And Out Of A Colony

Observation of flights by adults in and out of the colony (e.g., when travelling back and forth from foraging sites) would be useful in estimating the exposure, e.g., number, direction and altitude of flights across the West Preferred and West Secondary Corridors. Knowing the approximate number of flights in and out of the colony, when combined with information on the nesting period, the number of birds in the colony, and flight directions, can provide a very useful estimate of the exposure of wood storks from the focal colony to the proposed transmission lines over the course of the breeding season.

Other Information

Understanding the relative importance of the colony cluster with respect to the overall CERP population of nesting wood storks is an important consideration for SFWMD. The four colonies proximate to the West Preferred and West Secondary Corridors currently represent a large proportion of the CERP wood stork population (up to half of all nests in the Everglades). Although given this, the small population size of the wood stork (see issues associated with small populations on page 10 of this Appendix) and that a small increase in mortality may compromise CERP restoration goals pertaining to the wood stork, so long as FPL is in compliance with the conditions of certification, FPL's project is not likely to be inconsistent with CERP..

The three-year average numbers of nests in the FPL Risk Assessment, Table 3-4 (page 26) report average number of nests <u>per colony</u> per year whereas the methods employed by RECOVER (see Ogden et al. (1997) for details of approach, and page 41 – 42 in Cook & Kobza (2010) use average number of nests <u>of multiple colonies</u> (a system-wide approach) per year. This was deemed most appropriate by RECOVER because of the extreme variability among the colonies in a given year. This is the same rationale for using a three-year average due to the extreme variability of nests within a a given colony from year to year. The approach employed by FPL's Risk Assessment results in four times lower three-year averages than that employed by RECOVER because the FPL Risk Assessment Approach reports average number of nests per colony per year whereas the RECOVER method reports average number of nests per colony cluster per year.

Determination of Collision Risk

The specific concerns identified by SFWMD in the Risk Assessment are listed below.

- SFWMD considers the key spatial exposure condition to be the distance between the colony and the transmission lines, rather than tower height, span length, etc (page 45 of the Risk Assessment). Consideration of the area up to approximately 2000 feet beyond the colony boundary (i.e., where the trees end and the marsh begins) where birds engage in a number of key nesting activities is important.

- The frequency of exposure for the different groups of birds is important. Foraging birds and migratory birds that are not associated with the colonies will have a relatively low frequency of encountering the West Preferred and West Secondary Corridors during the breeding season (i.e., they will encounter the corridors only when crossing them to reach

foraging sites). Birds in the colonies will have a much greater encounter rate with the corridors; however, the encounter rate and risk of collision will depend on the stage of nesting, life history stage and current behavior. For example, when parent birds are collecting nesting material they may cross or encounter the corridor at a heightened frequency, typically only for a week or so, but when they are provisioning their nestlings they can enter and leave the colony between three and ten times per adult per day for many weeks USFWS (1996). Fledgling birds may be exposed to a very high frequency of encounters for the two to three weeks after they first leave the nest and learn to fly.

- Regarding behavioral exposure (pages 47-49), the Deng and Frederick (2001) study quoted in the Risk Assessment is useful to understand exposure for foraging birds. However, this study did not examine the risk to nesting birds (the nearest colony was approx. 5 miles away) and is not directly relevant to nesting birds within these colonies.

- A major difficulty with assessing the risk of wood stork collisions with transmission line corridors is the lack of studies on the subject. Little is known about the risk to birds in nesting colonies, or how the design element of various structures (e.g. transmission lines, distribution lines and radio towers) differentially affect the risk of collision.

- While data on the collision risk to wood storks and other wading birds in Florida is limited, evidence is available to suggest power lines can be a risk. For example, although the Deng (1998) study referenced in the FPL Risk Assessment reported a low level of observed avian collisions (only two non-fatal collisions during daytime observations of birds crossing the Levee-Midway transmission line in the spring and early summer of 1996 and 1997), seven dead or injured wading birds, including two wood storks, were found in 1996 during occasional (non-systematic) searches for dead birds beneath the transmission lines. The observers conceded that they possibly failed to detect collisions during poor visibility conditions when collision risk was greatest (Deng & Frederick 2001). Deng (1998) also reported wood stork mortality at a distribution line in WCA 3A, while Spalding and Forrester (1991) reported wading bird mortality under power lines in Florida.

- Behavioral avoidance of collisions, as demonstrated in the quoted Deng & Frederick (2001) study, may not be as relevant to nesting birds as they are to foraging birds. As previously stated, intra-colony flight behaviors are often very different from those of foraging birds. Specifically:

    - Flight behaviors are different (flapping) to those of foraging birds (soaring)
    - Flights include those by inexperienced fledgling birds
    - Adults undertake non-foraging behaviors such as mating flights
    - Flight heights are more comparable to the height of the West Preferred and West Secondary Corridors, while foraging flights across the marsh are generally higher
    - There is a greater opportunity for birds to interact with the thousands of other birds in the colony and therefore, being affected by the poor visibility and increased collision risks associated with flocking behavior
    - The birds may be forced to cross the transmission lines in order to leave/enter the colony if their foraging location is on the other side of the transmission line
    - Bird interactions with a proximate transmission line may occur with greater frequency than when foraging

Thus the risk of collision for birds in a colony may be independent of visibility or avoidance issues, and higher than those for foraging birds. Ultimately, the 'behavioral avoidance' and 'visibility of the proposed transmission lines' quoted in the Risk Assessment may have only limited relevance to collision risk.

- FPL's Risk Assessment suggests that wood storks acclimate to the presence of transmission lines (page 48). However, out of eleven selected wood stork colonies in FPL's Risk Assessment, only two colonies have transmission lines located within the Secondary Management Zone (or closer), one of these colonies has been inactive since 1986 and the transmission lines do not cross open wetlands. While wood storks in these colonies may have 'acclimated' to the proximate transmission line, the associated wading birds may be susceptible to collision risk. No studies have been conducted in these colonies to examine collision risk with transmission lines.

- SFWMD does not consider the number of reported wood stork collisions to be an appropriate method for addressing wood stork collision risk (page 55 of the Risk Assessment). Wood stork colonies and associated foraging areas are generally located in areas that are not frequented by people and in fact mainly in wetlands. Therefore, limited reports of collisions are to be expected. A number of authors note (quoted in Bevenger 1998) that because a majority of power lines are located in remote areas, reported losses must be considered as a superficial measure of [collision] occurrence.

- To understand collision risk for a given group of birds it is often useful to consider the risk in relation to other groups of birds. For example, figure 4.9 (page 54) from the Licensee's Risk Assessment document suggests that the proportion of recorded wading bird collisions is low relative to other species, such as plovers and gulls. However, it is appropriate when making these comparisons to control for important differences among the species groups such as the number of species and individuals in each group, which can artificially inflate differences.

Closely-Related Species

Considering that the available information on the effect of transmission lines on nesting wood storks is minimal, SFWMD maintains that information on closely related species is highly relevant to making an assessment of risk. There is a large body of literature indicating that:

- Closely related species have similar biological and morphological attributes, which have been used by various authors to ascertain collision risk (e.g. Bevenger 1998, Janss 2000).

- Birds exhibit relatively higher levels of collision related mortality in wetland habitat versus other habitats and the collision risk increases during the nesting season (Malcolm 1982, McNeil 1983, Faanes 1987).
- Wading birds as a group are at a relatively high risk of collision due to their morphology and flight ability (Bevanger 1998, Janss 2000, Savereno et al. 1996, Rusz et al. 1986).

- It has been documented that some wading bird species have suffered collision-related mortality in Florida (Spalding & Forrester 1991)
- Other wading bird species including storks are prone to collisions and indeed have even suffered population level declines due to collisions with power lines (Garrido and Fernández-Cruz 2003; Schaub & Pradel; Shaw et al. 2010).

Collisions of closely related and similar species are not directly equivalent to the wood stork but are relevant. For example, although the European white stork is slightly different in morphology and feeding habits, it is relatively similar to the wood stork in flight ability, visual acuity, size, and most other biological attributes. Hence, its risk of collision is likely to be similar to that of a wood stork. Such comparisons between different stork species can be made.

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APPENDIX D. Confidentiality Agreement

CONFIDENTIALITY AGREEMENT

This Confidentiality Agreement is entered into on this 27th day of May, 2011, between the South Florida Water Management District ("DISTRICT"), a political sub-division of the state of Florida and Florida Power and Light ("FPL"), a Florida Corporation

WHEREAS, FPL desires that the DISTRICT provide data and documents for the Turkey Point Power Plant Expansion Project and associated transmission lines, as well as to assess and demonstrate avoidance or minimization of adverse impacts to District projects facilities and operations (WORK); and

WHEREAS, some of the documents requested by FPL are confidential security documents belonging to the DISTRICT which are exempt from public disclosure under Section 119.071(3), F.S.; and

WHEREAS, the documents that are confidential security documents are the subject of this agreement and will be identified in Exhibit "A" which is hereby incorporated as an integral part of this Agreement; and

WHEREAS, the parties are desirous to work together under the parameters of this Agreement,

NOW, THEREFORE, the DISTRICT will provide the confidential, exempt security records listed on Exhibit "A", (hereinafter referred to as the DOCUMENTS) to FPL subject to the following terms:

1. **LIMITATIONS:**

1.1 FPL's right to use the DOCUMENTS in any form other than as delivered or specified herein is not granted unless the DISTRICT expressly allows such use in writing.

2. **TERM:**

2.1 FPL will use the DOCUMENTS for the sole purpose of performing the WORK as described in the Agreement above. The term of the Agreement is for five (5) years from the date of execution or until completion of the WORK, whichever occurs first, unless otherwise extended in writing by both parties. However, the DISTRICT may terminate this Agreement for cause ten (10) days after notifying FPL of its intent to

terminate, if in the DISTRICT'S reasonable discretion FPL has failed to take corrective action to comply in all respects with the Agreement.

3. **SECURITY AND CONFIDENTIALITY:**

3.1 FPL does hereby acknowledge that the DOCUMENTS are confidential, and are exempt from disclosure pursuant to Section 119.071(3), Florida Statutes. FPL shall not disclose, directly or indirectly, or take any other action, or fail to take action, which would result in the unauthorized disclosure or duplication of any confidential DOCUMENTS whatsoever, which are the subject matter of this Agreement.

3.2 FPL may copy the DOCUMENTS, or parts thereof, as may be necessary to facilitate its WORK and for temporary archival and backup purposes. No third-parties other than consultants and attorneys retained by FPL will be permitted by the DISTRICT to have access to, or make copies of, the DOCUMENTS without written permission from the DISTRICT.

3.3 FPL agrees to make all employees, consultants and attorneys who have access to the DOCUMENTS or any portion thereof, aware of this Agreement, the confidential nature of the DOCUMENTS, and the limitations on use contained herein. FPL represents and warrants that all such employees, consultants and attorneys are obligated not to use or disclose confidential information (including the DISTRICT'S) obtained in the course of their employment.

4. **NO WARRANTY:**

4.1 FPL accepts the DOCUMENTS and this Agreement, "as is" with no express or implied warranties including, but not limited to the implied warranties of MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. FPL shall rely solely on its own inspection, sampling, and verification to determine if the DOCUMENTS are sufficiently accurate, fit and suitable for its purposes pursuant to the Agreement, and shall not rely on any alleged DISTRICT warranties or representations. The DISTRICT does not warrant that the DOCUMENTS will satisfy FPL's requirements.

5. **TERMINATION:**

5.1 Upon termination of this Agreement, FPL will immediately return or destroy the DOCUMENTS and all copies thereof which are or have been in its possession to the DISTRICT, and certify that all copies have been returned or destroyed.

For South Florida Water Management District

Carol Ann Wehle

Title: Executive Director

South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406
(561) 682-6109

Dated: 2/14/2011

Office of Counsel
Legal Form Approved

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Dated: 5/27/2011