

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

PA 03-45A3

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## **1.0 OVERVIEW OF SITING ACT AND SUMMARY OF AGENCY REPORT**

### **1.1 Introduction**

This Report is in response to Florida Power & Light's (FPL's) application for two new nuclear units (Units 6 and 7) and associated transmission lines for its Turkey Point power plant facilities. However, this Report addresses only the electrical transmission line corridors, as the corridors are being reviewed sooner than the other proposed power plant facilities. The South Florida Water Management District (SFWMD) will issue its separate report to DEP at a future date on the new nuclear generating units and the other associated linear and non-linear facilities. The process and procedures for review of FPL's application at the state level as well as the SFWMD's role are detailed below.

FPL is also referred to as the "Licensee" in this report, as issuance of the certification constitutes a license under the Siting Act.

### **1.2 The Siting Act**

Chapter 403, Part II, Sections 403.501-403.518, 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".

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 electrical transmission lines, including associated facilities, through a centralized and coordinated planning and licensing process administered by the Florida Department of Environmental Protection (DEP). Authority to issue the Certification Order is assigned to the Governor and Cabinet sitting as the State Siting Board, or the Secretary of the DEP, after issuance of a Recommended Order by an Administrative Law Judge (ALJ). This certification procedure is commonly referred to as one-stop permitting process. A Certification under the Siting Act also specifically pre-empts all other existing state, regional, and local permits normally required of new development, including the SFWMD's Right Of Way Occupancy Permit, Environmental Resource Permit (ERP), and Consumptive Use Permit review processes.<sup>1</sup> More importantly, it is the only opportunity that the SFWMD will have to review the proposed project prior to the issuance of the certification and related conditions that will be in effect for the life of the proposed facilities.

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<sup>1</sup> Under an Operating Agreement concerning the division of responsibilities between the DEP and the SFWMD for management and storage of surface waters regulation and wetland resource regulation under Chapter 373, Part IV, F.S., the DEP is responsible for conducting the 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.

A unique characteristic of the Siting Act provides that an ALJ, through the Division of Administrative Hearings (DOAH), is appointed at the beginning of the application or certification review process. The ALJ oversees the review process and conducts the certification hearing near the end of the process under Chapter 120, F.S., procedures.

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), Department of Transportation, and Public Service Commission) are referred to as “affected agencies.” After the ALJ is appointed and the DOAH proceedings commenced, outside third Parties may also become formal Parties to the ongoing DOAH proceedings. The South Florida Water Management District (SFWMD) is an affected agency 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. The SFWMD’s submission of this Agency Report to DEP is one of the associated statutory requirements.

### **1.3 Proposed Alternate Transmission Line Corridors**

Although this Report evaluates only the FPL corridors as currently proposed, the Siting Act allows for other Parties to also formally propose alternate corridors. Other Parties filed alternate corridor proposals to the East and West Preferred Corridors on May 2, 2011 (four proposals were filed, two for the East Preferred Corridor and two for the West Preferred Corridor). As provided by the Siting Act, DEP and FPL accepted all four proposals on May 9, 2011, for further agency review and consideration. The SFWMD will be issuing a separate report to DEP on the alternate corridor proposals subsequent to issuance of this report in accordance with the ALJ issued review schedule.

### **1.4 SFWMD Agency Report Responsibilities**

Sections 403.507 and 403.526 of the Siting Act direct the 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, the impacts on water resources, regional water supply planning, and SFWMD-owned lands and works. In addition, the SFWMD has broad responsibilities regarding water resources under Chapter 373, F.S.

Through the required agency report review process, the 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 SFWMD

recommended certification conditions included in the agency report are the means by which the SFWMD is assured that all applicable SFWMD criteria, that would otherwise be required for a non-Siting Act project's design, construction, operation and maintenance, are provided to the DEP and/or Siting Board for the final certification.

The impact evaluation and the recommended conditions in this Report address the corridor, which may be as wide as one mile, and the transmission lines and facilities within that corridor as proposed in the application. Substation sites and access corridors may be included as part of the certification. A specific right-of-way within the corridor is usually not selected until after the corridor is certified. The width of the right-of-way is usually significantly less than that of the certified corridor, depending on the following: voltage (230 kV versus 500 kV); the type(s) of support structures (single pole versus H-frame); the type(s) of access/maintenance roads; and the extent to which these roads parallel the transmission line. To the extent that the future construction, operation and maintenance of these lines and facilities potentially impact those matters with the SFWMD's jurisdiction, this Agency Report must provide evaluations of those potential impacts, recommend conditions of FPL's certification to ensure compatibility with SFWMD technical criteria, and recommend approval or denial based on these considerations.

#### **1.4.1 *Overview of Matters in The SFWMD's Jurisdiction***

The SFWMD is a regional governmental agency that oversees the water resources in the southern half of Florida, including all of part of 16 counties from Orlando to the Florida Keys with a population of more than 7.5 million. The SFWMD is the oldest and largest of the state's five water management districts. The SFWMD's 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 the Mission are: environmental protection and enhancement, water supply, flood protection, and water quality protection.

#### **1.4.2 *Central and Southern Florida Project***

The 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 over 700 miles of canals, more than 1,000 miles of levees, and over 200 water control structures. In Miami-Dade County alone, where the proposed project is located, there are approximately 400 miles of canals and 77 water control structures, including many that the SFWMD built that are operated and maintained by the SFWMD.

#### **1.4.3 *Land Ownership/Management***

The SFWMD owns and manages lands, including lands that were acquired for

ecosystem restoration projects. In addition, the SFWMD is responsible for the implementation and administration of mitigation banks and regional off-site mitigation areas as well as the management of recreational areas on SFWMD lands.

#### **1.4.4 Ecosystem Restoration Projects**

The SFWMD is non-Federal sponsor of and full partner with the U.S. Army Corps of Engineers (USACOE) 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 and the 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 the 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. The SFWMD is authorized to act as the local sponsor for CERP projects, pursuant to Section 373.1501(4)(d), F.S.

The goal of CERP is to capture fresh water that now flows unused to the Atlantic Ocean and the Gulf of Mexico and redirect it to areas that need it most. CERP is designed to capture, store and redistribute fresh water previously lost to tide and to regulate the quality, quantity, timing and distribution of water flows. The majority of the water will be devoted to environmental restoration to revive a dying ecosystem. The remaining water will benefit cities and farmers by enhancing water supplies for the south Florida economy.

The major components of CERP are:

- Surface Water Storage Reservoirs
- Water Preserve Areas
- Management of Lake Okeechobee as an Ecological Resource
- Improved Water Deliveries to the Estuaries
- Underground Water Storage

- Treatment Wetlands
- 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, the SFWMD is also the leader and/or a participant in other ecosystem restoration projects, some of which are designed to complement CERP projects.

## **1.5 Project Description**

### **1.5.1 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 on 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.

### **1.5.2 Proposed Project**

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.

FPL is further proposing to construct new 500 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 Preferred 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 (8.4 miles long) will connect the proposed Clear Sky substation with the existing Pennsuco substation, bypassing the Levee substation. The proposed 500 kV transmission line (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 that crosses these three areas. 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 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.

## **1.6 Conclusions and Recommendations**

This section of the report contains the SFWMD's conclusions and recommendations to the DEP concerning Certification of the proposed transmission line corridors, pursuant to Sections 526(2)(a)2 and 526(2)(b)2, F.S., and Rule 62-17.590(3)(c), F.A.C.

### **1.6.1 *East Preferred Corridor***

Based on the information contained in the Site Certification Application and the additional completeness submittals, and assuming compliance with the SFWMD's recommended certification conditions in Section 4 of this report, including the limitations and restrictions contained therein, the SFWMD is of the opinion that the proposed transmission line within East Preferred Corridor could be constructed consistent with the applicable statutes and rules.

### **1.6.2 *West Preferred Corridor***

Based on the information contained in the Site Certification Application and the additional completeness submittals, and assuming compliance with the SFWMD's recommended certification conditions in Section 4 of this report, including the limitations and restrictions contained therein, the SFWMD is of the opinion that the proposed transmission lines within the West Preferred Corridor could be constructed consistent with the applicable statutes and rules.

### **1.6.3 *West Secondary Corridor***

Based on the information contained in the Site Certification Application and the additional completeness submittals, and assuming compliance with the SFWMD's recommended certification conditions in Section 4 of this report, including the limitations and restrictions contained therein, the SFWMD is of the opinion that the proposed transmission lines within the West Secondary Corridor could be constructed consistent with the applicable statutes and rules. However, the SFWMD prefers the West Preferred Corridor over the West Secondary Corridor. This preference is reflected in the SFWMD's 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 the Comprehensive Everglades Restoration Plan (CERP). Impacts to wildlife and habitat from construction, operation, and maintenance of the proposed transmission lines through these areas are likely to 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, would result in long-term impacts to wetlands and wildlife habitat, disrupt existing hydrologic flows, and impact water quality. New road construction would potentially conflict with future CERP restoration goals,

objectives, and projects. Vehicles moving over the wetlands (without roads) would also result in major disturbance to existing wetlands by compacting soils, disrupting existing hydrologic flows, and impact habitat for species identified in the CERP Restoration Coordination and Verification (RECOVER) goals and objectives. Furthermore, any access/maintenance roads constructed within this corridor would provide the opportunity for unauthorized access. This would likely 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 that are abundant within that portion of the Western 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 Western 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.

The SFWMD also has concerns related to the potential impacts that the construction, operation, and maintenance of the proposed transmission lines would have on the SFWMD's 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 the SFWMD and the Florida Fish and Wildlife and Conservation Commission (formerly known as the Florida Game and Fresh Water Fish Commission) through a Cooperative License Agreement (see Appendix A). Not only must the 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, the Florida Fish and Wildlife and Conservation Commission 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.

Also provided in Appendix A is a copy of a 1971 Permit Agreement executed by the SFWMD and FPL in which the SFWMD granted FPL permission to construct, operate, and maintain one or more transmission lines within a 330' wide strip of land in WCA 3B. It should be noted that the 1971 Permit Agreement included certain conditions and restrictions which protected the SFWMD's ability to operate and maintain the Central and South Florida Project, including any future needs or uses.

Due in part to the concerns stated 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 that bisects a portion of the Everglades National Park expansion area and Water Conservation Area 3B. The Cooperation Agreement authorizes the SFWMD to issue easements to the Licensee for certain specific uses of SFWMD right-of-way, in addition to easements to be issued to FPL on certain lands to be conveyed by the National Park Service or the U.S. Army Corps of Engineers to the SFWMD. Additional details concerning the Cooperation Agreement are provided elsewhere in this report.

## **2. TRANSMISSION LINE CORRIDOR ASSESSMENTS**

### **2.1 East Preferred Corridor**

#### ***2.1.1 Central and Southern Florida Project***

##### **2.1.1.1 SFWMD Communications Systems**

The 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 over 700 miles of canals, more than 1,000 miles of levees, and over 200 water control structures. In Miami-Dade County alone, where the proposed project is located, there are approximately 400 miles of canals and 77 water control structures, including many that the SFWMD built that are operated and maintained by the SFWMD.

A critical component needed to operate water control structures and monitor hydrometeorologic conditions remotely is the SFWMD's communications infrastructure, which consists of microwave towers, sensors, transmitters, receivers, two-way radios and many other types of equipment (see Exhibit 6). The SFWMD's communications systems are essential for on-command and reliable remote operation of water control structures for flood control and other purposes, security and surveillance, voice radio, and telephone and computer networking between SFWMD sites and structures. The SFWMD's telemetry system is designed to provide an extremely high level of performance and reliability, most importantly to execute flood control operations that protect life and property.

The SFWMD has concerns related to the proximity of the proposed transmission lines to SFWMD-owned communications facilities and the potential for interference with those facilities. The Licensee has stated in its completeness responses and in meetings with SFWMD staff that they will work with the SFWMD to resolve any interference with SFWMD communications facilities. A large portion of the SFWMD's recommended conditions of certification regarding communications systems consist of a protocol that would be followed by the SFWMD and the Licensee to eliminate and reduce adverse impacts to the SFWMD's communications 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.

The 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 Right-Of-Way

Based on the SFWMD's review of the Site Certification Application, it appears that the Licensee is proposing aerial electrical transmission line crossings over the following SFWMD Canals: C-100, C-100A, C-100C, C-102N, C-103, C-1W, C-1N, C-2, C-3, C-6, L-31E, Military Canal. The Licensee must meet the SFWMD's minimum clearance requirements for aerial transmission line facilities. The Licensee 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 construction.

There are certain areas within the proposed corridor where the SFWMD has existing operational and maintenance constraints that would be exacerbated by new transmission line facilities and other areas where placement of new transmission line facilities would likely impose operational and maintenance constraints or interfere with future planned improvements to the Central and Southern Florida Project. There are also certain areas where the proposed corridor overlaps SFWMD right-of-way and there is a potential for transmission line facilities to be placed parallel to and within the SFWMD's right-of-way. Such placement would require a waiver of the SFWMD's right-of-way permitting criteria. The Licensee's proposed use and occupancy of SFWMD right-of-way must not interfere with the SFWMD's current and future use of its right-of-way.

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

#### 2.1.1.3 SFWMD Water Control Structures/Staging Areas

Under the SFWMD's right-of-way occupancy permitting criteria, any proposed crossings over SFWMD water control structures are prohibited. In addition, the placement of above-ground permanent and/or semi-permanent facilities within 40 feet of the top of the canal bank and/or within the SFWMD's designated 100 foot-long equipment staging areas located at all bridges and pile-supported utility crossings is prohibited. Aerial transmission lines and support structures are prohibited in these areas because they

interfere with SFWMD operation and maintenance activities as well as emergency operations during major storm events.

The 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 purpose of this Comprehensive Everglades Restoration Plan (CERP) project includes the following:

- 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 of 2010. Deering estate construction activities are projected to be completed in August of 2011. The award for construction of the Cutler flow-way project is anticipated to be issued in October of 2011. The construction duration is approximately 18 months. The SFWMD is taking the lead in the construction of the above Phase I project activities. It is anticipated that the U.S. Army Corps of Engineers will be awarding contracts for completion of the CERP features in April of 2014.

The East Preferred Corridor coincides with the Licensee's existing transmission line right-of-way along the western boundary of the SFWMD's L-31E Canal, from just south of S.W. 328<sup>th</sup> Street to just north of S.W. 261<sup>st</sup> 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, the 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.

The 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 Project Implementation Report (PIR)/Environmental Impact Statement (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 Comprehensive Everglades Restoration Plan (CERP) project include the following:

- 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 359<sup>th</sup> 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 project. It appears that temporary improvements to the existing access road would likely further compartmentalize the Biscayne Bay Coastal Wetlands study area from both an ecological and hydrologic perspective, if the new access road is not properly designed and constructed.

Water levels in the vicinity of the electrical transmission corridor may be significantly

higher as a result of Phase II project implementation. Consequently, the Licensee should design the transmission line project to accommodate the projected higher water levels.

The 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 Implementation Report (PIR)/Environmental Impact Statement (EIS) has not yet been scheduled, it is anticipated that the objectives will likely be similar to those identified in the recommended Comprehensive Everglades Restoration Plan (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 Integrated Delivery Schedule (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.

Water levels in the vicinity of the electrical transmission corridor may be significantly higher as a result of implementation of the C-111 Spreader Canal Phase II project. Consequently, the Licensee should design the proposed project to accommodate the projected higher water levels.

The 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 Communications 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 the SFWMD's review of the Site Certification Application, it appears that 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 the SFWMD's minimum clearance requirements for aerial transmission line facilities. The Licensee 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 construction.

There are certain areas within the proposed corridor where the SFWMD has existing operational and maintenance constraints that would be exacerbated by new transmission line facilities and other areas where placement of new transmission line facilities would likely impose operational and maintenance constraints or interfere with future planned improvements to the Central and Southern Florida system. There are also certain areas where the proposed corridor overlaps SFWMD right-of-way and there is a potential for transmission line facilities to be placed parallel to and within the SFWMD's right-of-way. Such placement would require a waiver of the SFWMD's right-of-way permitting criteria. The Licensee's proposed use and occupancy of SFWMD right-of-way must not interfere with the SFWMD's current and future use of its right-of-way.

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

#### 2.2.1.3 SFWMD Water Control Structures/Staging Areas

The text for this section of the report is that same as that for the East Preferred Corridor (see Section 2.1.1.3 of this report).

#### 2.2.1.4 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 the Licensee for a replacement corridor for the Licensee's existing unimproved transmission line corridor that bisects a portion of the Everglades National Park (ENP) expansion area and Water Conservation Area (WCA) 3B. The Cooperation Agreement authorizes the SFWMD to issue easements to the Licensee 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 the SFWMD.

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 new replacement transmission line corridor within ENP.

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, utility lines.

However, the Licensee's West Preferred Corridor includes additional SFWMD right-of-way on the east sides of the L-30 and L-31N canals, which is contrary to the terms of the Cooperation Agreement that the Licensee and the SFWMD negotiated and agreed to. In its Third Completeness Responses, the Licensee 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 the SFWMD's L-31N and L-30 canal rights-of-way except for the certified overhead transmission wires that will cross the L-31N Canal right-of-way at the intersection of the Krome Avenue (SR 27) Access Corridor and the West Preferred Corridor".

Any further use of the eastern portion of the SFWMD's right-of-way in this area would interfere with the SFWMD's legally mandated responsibilities for flood protection and other routine access, maintenance and emergency uses. It would also interfere with potential future SFWMD plans for widening these canals for restoration, conveyance, or other purposes.

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

#### 2.2.1.5 L-30/L-31N Levee Roads

The Licensee is proposing to use the SFWMD's 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, the levees will need to be enhanced and widened. The 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. The 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 level 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 relocation.

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

#### 2.2.1.6 Use of SFWMD Bridges

Within the Tamiami Trail Access Corridor and the SFWMD’s L-29 and L-30 canal rights-of-way, the Licensee is proposing to use the existing service bridges for the S-334 and S-335 structures that are currently being used by the SFWMD and the U.S. Army Corps of Engineers (USACE) for operation and maintenance activities. The Licensee is proposing to use these bridges for construction of the proposed transmission line and potentially for the Licensee’s future operation and maintenance activities. The SFWMD has advised the Licensee that the 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.

The 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, the SFWMD does allow its contractors to use SFWMD right-of-way, including installation of temporary bridges in SFWMD canals for access, as long as it does not interfere with the SFWMD’s ability to carry out its operation and maintenance responsibilities, including conveyance of flows, and SFWMD access to its structures and facilities. The Licensee should investigate access alternatives that do not include use of the S-334 and S-335 service bridges.

At the north end of the Krome Avenue Access Corridor, the Licensee is proposing to use an existing bridge over the SFWMD’s L-30 Canal (commonly referred to as the Ratner bridge) that provides access from Krome Avenue to the levee road on the west

side of the SFWMD's L-30 Canal. Although this bridge was constructed by the SFWMD, the SFWMD is not the underlying fee owner of the land on which the bridge and the related access road are situated. Consequently, the Licensee must obtain consent from the underlying fee owners. In addition, any use of this bridge must ensure continuous uninterrupted access to the SFWMD's L-30 Canal right-of-way that is acceptable to the SFWMD.

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

#### 2.2.1.7 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 and approval during the post-certification review process. Prior to the SFWMD authorizing construction of the proposed transmission line facilities, the Licensee must pay for all necessary relocation expenses.

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 prohibits the installation of fencing and/or landscaping within 40 feet of the top of the canal bank and/or within the SFWMD's 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 the SFWMD for review and approval during the post-certification review process.

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.

During the post-certification review process, the Licensee must provide documentation of insurance coverage.

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 approval during the post-certification review process.

For certain portions of SFWMD right-of-way and lands, the 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.

The 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 the SFWMD and Miami-Dade County, pursuant to a Memorandum of Understanding (MOU) that was originally entered into in 2005. The project 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 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, such as off-road vehicle use, which can cause long-term ecological impacts, poaching, and dumping. The primary management focus for the SFWMD and Miami-Dade County is the treatment of exotic species.

The proposed improvements to the existing transmission line access road along S.W. 359<sup>th</sup> 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 illegal activities, such as garbage disposal, use of off-road vehicles, and other activities that could result in environmental degradation.

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

The 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 Wildlife and 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 the SFWMD's Southern Glades Save Our Rivers (SOR) property (Parcel #GR701-025). The proposed transmission line access road, if not designed properly, has the potential to cut-off surface water flows in this area.

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

The 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 (PMRA) is part of the Pennsuco Wetlands or Cell 26 of the East Coast Buffer and covers an area of approximately 13,000 acres. The 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 the SFWMD's L-30 Canal may provide the opportunity for additional access to public lands, including SFWMD-owned lands in the Pennsuco Regional Mitigation Area (PRMA). This could result in an increase in illegal activities, such as garbage disposal, use of off-road vehicles, and other activities that could result in environmental degradation. The proposed transmission line access road should be designed to prevent illegal access.

The 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 Everglades National Park (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 (SMA) and filling the L-31W Canal.

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

- Northern Detention Area
- Southern Detention Area
- Frog Pond Detention Area
- ENP Seepage Management (L-31W backfill)

Due to the large scope of this 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. The Northern Detention Area has not been constructed. The ENP Seepage Management feature has not 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 SMA 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.

The 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 ENP

The Modified Water Delivery Project to Everglades National Park (Modwaters) is considered to be a foundation project for restoration of the Everglades and a precursor to the Comprehensive Everglades Restoration Plan (CERP) approved in 1999. The original intent of Modwaters, authorized in 1989, was to reconnect the watersheds of Water Conservation Area 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 of an agricultural area that could be impacted by higher seepage resulting from the restored hydrology of Shark River Slough (8.5 Square Mile Area), water conveyance structures allowing movement of water from WCA 3A/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:

- 1) Water Conservation Area 3A/3B Decompartmentalization
- 2) Broward County Water Preserve Area

- 3) Central Lake Belt
- 4) Everglades National Park Seepage Management Project
- 5) Flows to Northwest and Central Water Conservation Area 3A
- 6) 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 WCA3B into the Tamiami Trail borrow canal and then under Tamiami Trail through culverts into ENP. The U.S. Army Corps of Engineers (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 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 rock mines operated by Rinker. 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 Water Conservation Area 2B 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. 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 would create local differences in hydrology on the downstream side of the support structure pads and access roads.

The 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) project is to reduce seepage losses to the east from the Pennsuco Wetlands and the southern portion of Water Conservation Area 3B, enhance hydroperiods in the Pennsuco Wetlands, and provide recharge to Miami-Dade County's Northwest Well Field. 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

The WPAC project will be constructed in Band 2, which includes all CERP projects to be initiated between 2010 and 2015. The process will follow the standard CERP process of Federal Authorization and Appropriation through a Project Implementation Report (PIR). A construction schedule for this project has not yet been developed. The Licensee will need to coordinate with the SFWMD concerning the exact location of the conveyance to determine compatibility with the proposed transmission line improvements.

The 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 Everglades National Park (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 Comprehensive Everglades Restoration Plan (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. The 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 miner's seepage management project is anticipated to take place over the next two years. The results of the rock miner's project will be integrated with the groundwater monitoring evaluation to re-formulate the L-31N SMPP.

The 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.

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

The 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 Everglades National Park Seepage Management Project (ENP SMP) is to improve water deliveries to northeast Shark River Slough by controlling seepage via a level cutoff wall from Everglades National Park (ENP) towards the Miami-Dade urban area. The project is located primarily along the L-31N and L-30 levees and to the northwest of the 8.5-Square Mile Area.

Several Comprehensive Everglades Restoration Plan (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 Seepage

Management Pilot Project (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 miner's 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 reformulate the L-31N SMPP.

Upon determination of an appropriate seepage management control feature, the ENP SMPP will be re-started and a Project Implementation Report (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 hydrologic flows or result in the creation of artificial impoundments. Close coordination between the Licensee, the U.S. Army Corps Engineers (USACE), and the SFWMD will be necessary to avoid any potential conflicts. The Licensee's construction activities would have to be subordinate to the USACE project. 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.

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.

The 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 Water Conservation Areas 2 and 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 WCAs 2 and 3 is of adequate quality to return to the Everglades Protection Area and Biscayne Bay. Final configurations and treatment requirements are 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 has begun to assess constructability and cost of the Lake Belt Storage Areas 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 2 phases. Phase 1 will be implemented from 2025 to 2030. Phase 2 will be implemented from 2035 to 2040. The Project Implementation Report (PIR) has not yet been prepared and a construction schedule does not yet exist. A pilot project will be constructed to determine constructability and construction timetable.

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.

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

#### 2.2.3.9 Wading Bird Habitat

##### Background

Associated with the Comprehensive Everglades Restoration Plan (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. Quantitative performance measures supporting these objectives were developed by the CERP Restoration, Coordination, and Verification (RECOVER) and several system-wide targets were established for five wading bird species, including the wood stork (*Mycteria americana*). An assessment was made on the wood stork for the following reasons:

- 1) Avian populations that are already reduced below a certain threshold population level (i.e. endangered species) are less able to compensate for collision related mortality than species with healthy populations; therefore, the potential impact of the proposed transmission lines on the wood stork may be relatively greater than on other, more abundant, wading bird species;
- 2) The biological and ecological attributes of the wood stork (e.g., its relatively long nesting season and the poor flight ability of fledgling birds) increase the probability of collisions with the transmission line corridor relative to other CERP species;
- 3) The critical importance of the high quality local nesting and foraging habitat in the vicinity of the proposed transmission lines; and
- 4) It is the key wading bird indicator species for hydrological restoration of the Everglades.

It should be noted that many of the issues addressed in this assessment are also relevant to the other CERP wading bird species.

Additional background information and supporting documentation pertaining to the SFWMD's responsibilities with respect to restoration of healthy wading bird populations and the wood stork, in particular, is provided in Appendix C.

#### SFWMD Issues/Concerns

The SFWMD has concerns related to the proximity of the West Preferred and West Secondary corridors to important CERP wading bird colonies located within Water Conservation Area (WCA) 3B and Northeast Shark River Slough, within Everglades National Park (ENP). Data from the annual South Florida Wading Bird Report (SFWBR) 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 one of the most important nesting sites in the Everglades for the wood stork, typically supporting approximately half of all annual wood stork nests in the Everglades. The number of wood stork nests at each colony from 2006 to 2009 is provided in the table below.

Number of wood stork nests at the four colonies for nesting seasons 2006 through 2010. Note that annual numbers fluctuate considerably according to hydrologic conditions. Data source: Annual South Florida Wading Bird Reports.

Number of wood stork, great egret, snowy egret, tri-colored heron and white ibis nests at the four colonies for nesting seasons 1998 through 2010. Data source: annual South Florida Wading Bird Report.

	2010						2009						2008					
	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total
Tamiami West	350	20	0	0	0	370	1300	500	0	300	5000	7100	0	0	0	0	0	0
Tamiami East 1	15	7	0	0	0	22	10	35	0	0	0	45	0	0	0	0	0	0
Tamiami East 2	30	15	0	0	0	45	20	15	0	0	0	35	0	0	0	0	0	0
3B Mud East	0	86	0	0	0	86	7	324	0	0	0	331	0	0	0	0	0	0

	2007						2006						2005					
	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total
Tamiami West	75	60	0	0	400	535	600	200	0	0	600	1400	110	75	0	0	500	685
Tamiami East 1	0	0	0	0	0	0	0	35	0	0	0	35	0	8	0	0	0	8
Tamiami East 2	0	8	0	0	0	8	0	15	0	0	0	15	0	3	0	0	0	3
3B Mud East	0	0	0	0	0	0	15	256	200	0	203	674	20	480	0	10	0	510

	2004						2003						2002					
	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total
Tamiami West	50	175	0	0	0	225	400	200	250	3	150	1003	450	200	0	0	400	1050
Tamiami East 1	0	20	0	0	0	20	0	20	0	0	0	20	0	35	0	0	0	35
Tamiami East 2	0	15	0	0	0	15	NR	NR	NR	NR	NR	0	NR	NR	NR	NR	NR	0
3B Mud East	130	350	45	141	1153	1819	0	505	0	84	122	711	0	270	0	0	0	270

	2001						2000						1999					
	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total	Wood stork	Great egret	Snowy egret	Tri-colored heron	White ibis	Total
Tamiami West	1400	200	350	0	100	2050	1347	35	150	15	20	1567	75	400	15	8	150	648
Tamiami East 1	0	0	0	0	0	0	0	40	0	0	0	40	0	41	0	0	0	41
Tamiami East 2	NR	NR	NR	NR	NR	0	NR	NR	NR	NR	NR	0	NR	NR	NR	NR	NR	0
3B Mud East	0	150	0	0	0	150	0	177	0	9	0	186	0	130	0	0	0	130

1998						
Tamiami West	0	250	0	0	0	250
Tamiami East 1	0	57	0	0	0	57

Tamiami East 2	NR	NR	NR	NR	NR	0
3B Mud East	0	100	0	0	0	100

NR = Not Reported

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).

These documents identify two protective management zones used to restrict 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 according to the USFWS guidelines

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) diameter of that colony (see Exhibit 7 for the CFAs of Tamiami West and 3B-Mud East colonies). Both the West Preferred and West Secondary transmission line corridors pass through critical foraging habitat of the colony cluster. Adult birds from the colony cluster are known to forage in all available wetlands within the CFAs of each colony (see annual South Florida Wading Bird Reports), including the Pennsuco wetlands east of Krome Avenue.

In addition to the birds that nest in these colonies, other wading birds, including wood storks, forage in close proximity to the proposed transmission line corridors. These may include birds from other colonies in the Everglades as well as a large population of non-nesting, over-wintering birds from northern states and Canada. 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 Everglades National Park. 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 the northern region of Shark Slough (Cook & Kobza 2010).

The locations of the proposed corridors were examined in relation to Federal guidelines (Ogden 1990, USFWS 2006) pertaining to wood stork nesting and foraging locations.

The proposed locations of the West Preferred and West Secondary corridors do not comply with USFWS Guidelines for supporting stork nesting habitat. The distance of

the colony boundary for each colony from the West Preferred and West Secondary corridors is discussed below and provided in the table below.

West Preferred Corridor

- The West Preferred corridor is within 1 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 Appendix C).
- Pad and road construction (wetland fill) may affect hydrology in the primary and secondary zones of Tamiami East 1 and 3B-Mud East.
- Maintenance activities will likely affect colony vegetation and increase human disturbance at Tamiami East 1 and 3B-Mud East.

West Secondary Corridor

- The West Secondary Corridor is within one mile of the colony boundary of two 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).
- Pad and road construction (wetland fill) will likely affect hydrology in the foraging zones of all four colonies.
- Maintenance activities will likely increase human disturbance of foraging wood storks.

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

Colony	Western Preferred	Western secondary
Tamiami West	13550	<b>3986</b>
Tamiami East 1	<b>1232</b>	5321
Tamiami East 2	7116	<b>80</b>
3B-Mud East	<b>1985</b>	<b>669</b>

Furthermore, the proposed locations of the West Preferred and West Secondary corridors do not comply with USFWS Guidelines for supporting stork foraging habitat.

West Preferred Corridor

- The West Preferred Corridor is within 1 mile of feeding sites for all four colonies.
- Pad and road construction (wetland fill) will likely affect hydrology in the foraging zones of all four colonies.
- Maintenance activities will likely increase human disturbance in all four colonies.

#### West Secondary Corridor

- The west secondary corridor is within 1 mile of feeding sites for all four colonies.
- Pad and road construction (wetland fill) will likely affect hydrology in the foraging zones of all four colonies.
- Maintenance activities will likely increase human disturbance in all four colonies.

#### FPL Wood Stork Ecological Risk Assessment

In response to the avian concerns identified by the 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 attempted to address SFWMD concerns after SFWMD review of the initial document. The SFWMD's concerns are grouped into the three categories listed below.

#### **Concern #1: Insufficient Information On Collision Risk Within Colonies**

The SFWMD's primary concern is the collision risk to adult, fledgling, and post-fledgling wood storks from nearby colonies with transmission lines. Despite assertions in the September 23, 2010 Addendum (Addendum) that such information can be found in FPL's July 2010 *Ecological Risk Assessment of Potential Impacts of Turkey Point Units 6 & 7 West Corridor Transmission Lines on Wood Storks* (Risk Assessment), the SFWMD maintains that the Risk Assessment does not provide adequate information to address the risk of collisions. The SFWMD has identified the following deficiencies:

- While the Risk Assessment and the Addendum do provide biological information, they are lacking key components of the biology of the wood stork relevant to the risk of collisions in and around a colony
- When such information is presented, it is often insufficient in scope to relate it to collision risk
- Certain information is incomplete and therefore misleading
- Certain information is incorrect

Where insufficient information was provided by FPL, the SFWMD has relied upon its avian ecology expert to supplement or contradict what the applicant proffers. The specific details are outlined below.

### *Short Distance Flight Behaviors Within A Colony*

The Risk Assessment is lacking key information on important short-distance flight behaviors within a colony for adults and fledgling birds. Such information is essential, 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 shortcomings and concerns identified by the SFWMD are listed 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, yet the Risk Assessment provides insufficient information on this topic. The Risk Assessment should state that flapping flight is favored when traveling to local sites (Bryan et al. 1995) and that it often takes thousands of horizontal feet of flapping before a thermal is found for a long distance flight. It should be noted that the flight height in the colony will be at a comparable height to the proposed transmission line wires. 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.
- For adult birds, there is no mention of courtship flights (i.e., “flying around” behaviors; Coulter et al. 1999) within and around the colony. There is no information on the collection of nesting materials by adult birds that occurs largely within or around the colony from the courtship stage through to the young nestling period (Coulter et al. 1999). 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 that appear to provide the foundations of the Risk Assessment. Nest construction requires a considerable number of trips between the nest and the collection sites. This considerably increases the number of potential interactions between the birds and the West Preferred and West Secondary Corridors. Both of these flight behaviors are noted very briefly in Section 4.3 of the Risk Assessment (page 47) in reference to “daily exposure”; however, relevant details are not provided on the basic form of the flight behaviors (i.e., the number of flights that occur per day, the stage/s at which they occur during nesting, the distances traveled, and how they affect collision risk). Instead, the reader is directed back to Section 3.2.4 where no information is provided.

- The SFWMD is particularly concerned about the collision risk to fledgling birds. The Risk Assessment does include a brief statement about their flight behavior: ‘Nestlings are capable of flying within 55 days but as fledglings they remain within close proximity to the nest....’(page 24). However, this does not provide the level of detail needed to understand the risk of collision at this stage of their life history. The Risk Assessment should state that these birds travel each day between 100 meters to 1 kilometer from the colony, learning to forage in the local marshes, and that they frequently return to the nest or a nearby site to be fed by parents (see Coulter et al 1999, personal observation). Given their limited flight capacity and maneuverability, incomplete mental and physical development, general naivety to structures such as transmission line corridors, the high frequency of these ‘learning’ flights, and sometimes the very large numbers of fledgling birds, the risk of collision is likely to be particularly high for these immature birds. Furthermore, the risk is likely independent of visibility and avoidance issues.

### *Flights In And Out Of The Colony*

There is no mention of the daily number of flights by adults in and out of the colony (e.g., when travelling back and forth from foraging sites) to provide an approximate estimation of the potential encounter rates of adult birds with the West Preferred and West Secondary Corridors. The Risk Assessment only states ‘Both the male and female feed the nestlings throughout the day’. 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 likely encounter rate for the adults over the course of the breeding season. Such information is needed for the exposure characterization of the Risk Assessment (i.e., how much is exposed, when, and where?).

### *Post-Fledging Dispersal Behavior*

The information in the Risk Assessment on post-fledging dispersal behavior is misleading. The Risk Assessment suggests that fledglings disperse quickly from the Everglades after nesting. However, the Risk Assessment does not consider other literature (Kahl 1964, Rodgers 1987, Borkhataria 2009) that show fledgling birds will remain for many weeks in the ecosystem if foraging conditions are appropriate. Thus fledglings will be exposed to the West Preferred and West Secondary Corridors for a longer period of time than concluded in the Risk Assessment.

### *Other Information*

There appears to be no consideration of the relative importance of the nesting colonies with respect to the overall CERP population of nesting wood storks (i.e., that the four

colonies affected by the West Preferred and West Secondary Corridors represent about half of all nests in the Everglades. In addition, the three-year average numbers of nests in Table 3-4 (page 26) are incorrect.

## **Concern #2: Determination of Collision Risk**

The SFWMD is concerned about how the collision risk was determined in Section 4 of the Risk Assessment. There are errors and omissions in the information provided. In addition, the relevance and scope of the information used to determine collision risk is questionable. The specific shortcomings and concerns identified by the SFWMD are listed below.

### *Omissions And Errors*

- Regarding Section 4.3.3 of the Risk Assessment, Exposure Characterization (pages 44-49), the SFWMD is concerned about the general approach used to assess collision risk in the Risk Assessment. Collision risk is likely to vary according to a multitude of factors, such as the age of the wood stork (adults, fledglings, post-fledglings, young adults), reproductive status (reproducing or not), and the stage of reproduction or life cycle (courtship, incubation, nest building, chick rearing, and migrating). The SFWMD believes that it would be appropriate to assess exposure to collisions according to the Risk Assessment's conceptual model (page 42). That is, examine exposure independently for foraging birds, migrating birds, and nesting birds, then separate nesting birds further into adults and fledgling birds. However, the Risk Assessment does not appear to provide or match the relevant biological information to the appropriate age or life history stage of the wood stork. Instead, the Risk Assessment provides a very broad overview of exposure for all stages (e.g., see Table 4-6).
- Regarding the number of birds exposed (page 44), the Risk Assessment does not provide the correct number of birds that are at risk. It does not include migrating, foraging, and fledgling wood storks that are not associated with these colonies, nor does it consider the numbers of chicks and fledglings at the colonies. Inclusion of these groups would considerably increase the numbers exposed.
- Regarding spatial exposure (pages 45-47), the Risk Assessment provides the distances between the colonies and the West Preferred and West Secondary Corridors; however, it does not mention or consider the important area up to approximately 2000 feet beyond the colony (i.e., where the trees end and the marsh begins) that is used for a number of important activities both by adults and nestlings. Although the Risk Assessment mentions foraging locations, they

are not mentioned with respect to exposure risk (i.e., adult birds in three of the four colonies would need to negotiate the secondary corridor to access preferred foraging habitat to the west, northwest, and southwest.

- Regarding temporal exposure (page 47), the Risk Assessment is lacking details on the frequency of exposure for the different groups of birds. 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). Parents 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 and current behavior. Birds that are foraging for nesting material may cross or encounter the corridor at an extremely high frequency, typically only for a week or so, while parents provisioning nestlings can enter and leave the colony up to nine times per adult per day for many weeks. 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 that are not associated with the colony cluster. However, it has little relevance for birds within these colonies. The Risk Assessment fails to mention the multitude of different behaviors associated with nesting that may affect exposure and may be independent of this visibility related risk.

#### *The Information Used To Assess Collision Risk Is Limited In Scope Or Relevance*

According to the Risk Assessment and the Addendum, collision risk was determined largely from information about the capacity of wood storks to avoid the West Preferred and West Secondary Corridors. That is, the 'behavioral avoidance of collisions', the 'visibility of the proposed transmission lines', the 'documented acclimation of wood storks', and 'few reported local incidents of collisions' (as indicated on page 2 of the Addendum and in Table 4-7 of the Risk Assessment). Elsewhere (page 58 of the Risk Assessment), the 'length of the lines' appears to be an important component of the Risk Assessment for collisions. The SFWMD believes that this information is inappropriate to fully assess collision risk to nesting birds. The specific shortcomings and concerns identified by the SFWMD are listed below.

- The conclusions reached in the Risk Assessment regarding 'Behavioral avoidance of collisions' are based on very limited data. A major difficulty with assessing the risk of wood stork collisions with transmission line corridors is the lack of studies on the subject, particularly for birds in nesting colonies. This

component of the Risk Assessment appears to be limited largely to a single study (Deng & Frederick 2001) and a personal communication stating that birds have been observed avoiding transmission lines (pages 47 and 48). Conclusions drawn from single studies should be considered with caution since they are unlikely to be generally applicable. For example, in the Deng & Frederick 2001 study, the transmission line towers are of a different design than those currently being considered for the West Preferred and West Secondary Corridors. There are also issues with the study, such as the difficulty of assessing mortality during the hours of darkness, which is the period of greatest collision risk for the wood stork. Consequently, the Risk Assessment may not represent the true collision risk to wood storks. In addition, while data on the collision risk to wood storks and other wading birds in Florida is limited, other information is available to suggest that wood storks are at a greater risk than suggested by the Risk Assessment. For example, Deng (1998) reported that 170 great blue herons and wood storks were killed by a power line in WCA 3A, while Spalding and Forrester (1991) reported that power lines in Florida were a significant source of mortality for wading birds. Such information should be considered in the Risk Assessment.

- The 'Behavioral avoidance of collisions' is not relevant to nesting wood storks. As previously stated, intra-colony flight behaviors are often very different from those of foraging birds, which was the focus of the Deng & Frederick (2001) behavioral avoidance study. In a colony, bird interactions with a proximate transmission line may occur with far greater frequency than when foraging. 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 constrained to cross the transmission lines in order to leave/enter the colony

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

- The Risk Assessment references eleven colonies in Florida that are situated at various distances from transmission lines or communication towers to argue that wood storks acclimate to transmission lines. It should be noted that transmission lines are located within the Secondary Management Zone (or closer) to only two of these colonies. Therefore, only these two colonies are clearly relevant to the West Preferred and West Secondary Corridors. In addition, while wood storks in these two colonies may have ‘acclimated’ to the proximate transmission line, ‘acclimation’ is not equivalent to collision risk. No studies have been conducted in these colonies to examine collision risk with transmission lines and thus avian mortality rates may be high in these colonies despite acclimation.
  
- The SFWMD does not consider the number of reported wood stork collisions to be an appropriate method for addressing collision risk. Wood stork colonies and transmission lines are generally located in areas that are not frequented by people. Therefore, it is not surprising that so few collisions have been reported. Indeed, in contrast to the statement in the Risk Assessment that ‘The number of reported incidents is a useful indicator of frequency or (intensity of effects)’ (page 56), Bevenger (1998) notes that ‘As a majority of powerlines are located in remote areas, reported losses must be considered as a superficial measure of its occurrence’. A low incidence of reported collisions may have particularly relevance to an endangered species with a low population size that nests in uninhabited wetland habitats.
  
- The SFWMD maintains that some of the information in the FPL Risk Assessment regarding ‘effects’ is misleading, as it relates to risk of collisions to wading birds. For example, there is a statement that ‘birds that fly in flocks are the most susceptible to collision’ (page 54). This statement is not entirely accurate. Other factors, such as the size of the bird and its flight ability, are also critically important. Likewise, the SFWMD maintains that Figure 4-9 (page 54) is misleading, despite assertions to the contrary in the Addendum, for the following reasons:
  - It is difficult to understand specifically what this graph represents, as the legend is not clear.
  - It suggests that wading birds are not a high risk group because it shows a low proportion of recorded stork and heron collisions relative to other species, such as song birds and gulls.
  - Unlike the Bevenger (1998) paper from which it originates, it fails to place these proportions in the proper context (i.e., it does not state that factors such as population sizes, number of species in each bird group, and biases in where the surveys were conducted all affect the proportion of one group relative to another). For instance, there are approximately 87 species of

songbirds in the U.S. Therefore, it is not surprising that these species are reported more often than the wood stork and heron group which comprises only 18 species. Furthermore, most songbirds inhabit upland areas that are more likely to be studied for such collisions than wetland habitats, which again would increase the number of reported collisions in this group.

Due to these biases, it is difficult to determine which species are more at risk than others.

### **Concern #3: Lack Of Information On Closely Related Species**

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

- Birds exhibit relatively extreme 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, Ruzs et al. 1986).
- Wading birds suffer high mortality rates in Florida (Spalding & Forrester 1991).
- Other stork species are prone to collisions and indeed have even suffered population level declines due to collisions with power lines Garrido and Fernández-Cruz 2003).

While the SFWMD agrees that collisions of closely related and similar species are not directly equivalent to the wood stork, the SFWMD strongly disagrees with the statement in the Addendum that such information is not useful to the Risk Assessment. For instance, although the European white stork is slightly different in morphology and feeding habits, it is extremely 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. The statement that the white stork feeds in more upland habitat is irrelevant if it has to interact with transmission lines to access those foraging sites. It is the bird's ability to avoid those lines that is important. Such comparisons between different stork species should not be negated.

#### *Literature Review*

To ascertain the potential effects of the West Preferred and West Secondary Corridors on the colony cluster, the SFWMD conducted a comprehensive review of the relevant published and grey literature regarding the effects of power lines on birds. This review revealed three potential concerns for wood storks and other CERP wading birds:

- Collisions with the transmission lines
- Electrocutions
- Habitat loss

Based on the SFWMD’s literature review, it is apparent that power lines have the potential to constitute a significant hazard for wood storks and other wading birds. Transmission line corridors likely pose the greatest risk when placed close to the nesting colonies, yet the 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. Nonetheless, it is possible to allocate a relative level of concern for each proposed corridor.

Collision risk was determined according to the principle factors affecting likelihood of collision (i.e., the age of the bird and the purpose of the flight, which ultimately determine flight altitude and where the bird will be flying). This is detailed for both corridors in the tables below. In summary, there is a potential risk of collision for both proposed corridors. However, there is a considerably higher risk associated with the West Secondary Corridor.

#### West Preferred Corridor

Age of bird & flight activity	Location of flight relative to TLC	Flight height	Colony affected	Relative # birds	duration	Daily Freq of flights	Relative Concern
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

#### West Secondary Corridor

Age of bird & flight activity	Location of flight relative to TLC	Flight height	Colony affected	Relative # birds	duration	Daily Freq of flights	Relative Concern
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;	1 zone -1 mile	variable	All	moderate	nesting	Low-	moderate

Foraging flight					period	high	
Adult from elsewhere; Foraging flight	Entire length	variable	N/A	very high	dry season	Unknown	low

While available information suggest that nesting wading birds are more prone to colliding with a proximate transmission lines than foraging birds, the SFWMD is unaware of any studies that specifically examine collision risk of birds nesting in close proximity (<1 mile) to a transmission line corridor. Due to this paucity of information, the SFWMD recommends that the Applicant conduct a series of studies to gain better understanding of the risk of collision of wood storks and other wading bird species in the Tamiami colony cluster. This should include a quantification of the movements and flight behaviors of the birds prior to construction of the right-of-way, and should comprise two components:

- 1) An examination of wading bird flight patterns across or within the proposed corridor. This component should record the flight and foraging behaviors of wood storks and other wading bird species (both locally nesting and non-nesting foraging birds) as they fly within or across the footprint of the proposed transmission line corridors. The purpose is threefold: 1) to determine how many birds encounter the proposed transmission line corridors during the course of the breeding season, 2) to understand critical aspects of the behavior of the birds as they cross the transmission line corridors that may affect the potential for collisions (e.g. the flight height, flight type and life-history stage of the bird), and 3) to understand how environmental factors (such as time of day, weather conditions and foraging conditions) affect the potential for collisions. This will provide an index of collision risk for the transmission line corridors.
  
- 2) Flight behaviors of individual wood storks at each colony. This component should examine the flight behaviors of individual adult and juvenile storks at each colony over the course of the breeding season; for example, the direction and destination of individual flights, the altitude of the flight, the type of flight (flapping/soaring), and the daily frequency of flights. This will provide a mechanistic understanding of stork collision risk and thus an improved capacity to mitigate for potential collisions. It will allow for an independent estimate of wood stork collision risk for each colony.

Data from this pre-construction study shall be instrumental in influencing the location of the right-of-way and its construction design.

After completing construction of the right-of-way, the Licensee should conduct a follow-up study to quantify wood stork collisions and any associated levels of mortality. In short, this second study shall include behavioral observations of birds interacting with

the right of way and include regular surveys for dead or injured birds along the transmission line corridors.

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

It is anticipated that pre and post-avian studies may also be recommended by the Florida Fish and Wildlife Conservation Commission (FWC) as part of the conditions in its agency report for the site certification review process and/or the U.S. Fish and Wildlife Service (USFWS) through the U.S. Army Corps of Engineers Section 404 permitting process and the Federal National Environmental Policy Act Environmental Impact Statement review process. It is the SFWMD's intent to collaborate with the FWC and the USFWS to produce a single avian study scope of work and report.

## **2.3 West Secondary Corridor**

### **2.3.1 Land Ownership/Management**

#### **2.3.1.1 Water Conservation Area 3B**

The SFWMD also has concerns related to the potential impacts that the construction, operation, and maintenance of the proposed transmission lines would have on the SFWMD's 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 the SFWMD and the Florida Fish and Wildlife and Conservation Commission (formerly known as the Florida Game and Fresh Water Fish Commission) through a Cooperative License Agreement (see Appendix A). Not only must the 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, the Florida Fish and Wildlife and Conservation Commission 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.

Also provided in Appendix A is a copy of a 1971 Permit Agreement executed by the SFWMD and FPL in which the SFWMD granted FPL permission to construct, operate, and maintain one or more transmission lines within a 330' wide strip of land in WCA 3B. It should be noted that the 1971 Permit Agreement included certain conditions and restrictions which protected the SFWMD's ability to operate and maintain the Central and South Florida Project, including any future needs or uses.

The 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.

It is highly critical that the unimpeded and uniform flow of water from the Tamiami Trail borrow canal overland to the marsh located in the area between the West Secondary and West Preferred Corridors be maintained. Any obstruction of the natural flow patterns and depths that could result from construction of the West Secondary corridor would be unacceptable and counter to the restoration goals of the Modwaters project, as well as related CERP projects. Any facilities placed in the marsh would reduce the effective area of marsh connectivity and the potential movement of wildlife. Due to expected high seasonal flow events, transmission line facilities could impede the normal distribution of water velocity through the marsh and render portions of the marsh isolated from these flow gradients at reduced frequency or magnitude. Over time, these marsh areas would develop a different ecological response and hydrology different from other restored areas, leading to a diminished Everglades landscape. Maintenance activities related to transmission line facilities will present added pathways for establishment of exotic plants and animals within the heart of Shark River Slough. They could also contribute to erosion that could alter adjacent slough hydrology and impact normal fire patterns. In addition, hazardous materials or petroleum products could be released due to accidents and transported and dispersed over significant distances within the marsh. This could alter habitat quality for both aquatic and terrestrial wildlife.

The 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 Project Implementation Reports (PIR's) will be conducted to investigate the anticipated impacts from constructing various components comprising the overall project.

Concurrently, the U.S. Army Corps of Engineers (USACE), in cooperation with the SFWMD (its non-Federal sponsor) and the CERP Decentralization 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 decentralization 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 Project Implementation Report (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 cannot impede access to SFWMD facilities, compromise levee function, or compromise minimum levee elevation and structural integrity. Transmission line access roads cannot impede surface water flows north of Tamiami Trail.

The 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 Wading Bird Habitat

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

### 2.4 Water Use

#### 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, the Licensee has indicated that such dewatering activities are normally not necessary.

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

### 3. Wetland Mitigation Proposals

#### 3.1 Overview

Some of the Licensee's mitigation proposals involve SFWMD lands/projects. Under the current Operating Agreement between the DEP and the 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., the DEP is responsible for conducting the project's Environmental Resource Permit (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 the Licensee's wetland mitigation proposals. The SFWMD will work with the DEP and the other jurisdictional reviewing agencies in the review and approval of the Licensee's wetland mitigation proposals during the post-certification review process.

### 4. Recommended Conditions of Certification

#### 4.1 Overview

It is the recommendation of SFWMD staff that the DEP incorporate the following general and corridor-specific conditions into the Recommended Conditions of Certification for the FPL Turkey Point Units 6 & 7 project. SFWMD staff will work with the 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 Certification Order by the Secretary of DEP), and SFWMD staff is able to make a determination of consistency with the appropriate SFWMD rules, SFWMD staff will provide the DEP with a revised set of Recommended Certification Conditions that reflect the results of the SFWMD's review of the additional information.

## **4.2 General Conditions**

### **4.2.1 *Legal/Administrative***

- 1) General
  - a) 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, 373.113, 373.223, 373.342, and 373.413, F.S.; Rules 40E-2.091, 40E-2.301, 40E-2.381, 40E-3.101(1), and 40E-6.351, F.A.C.
  - b) This Certification is based in part on the Licensee's submitted information to the SFWMD which reasonably demonstrates that harm to the site water resources will not be caused by the authorized activities. The plans, drawings and design specifications submitted by the Licensee shall be considered the minimum standards for compliance. Reference: Sections 373.219, 373.223, 373.229, 373.308, 373.316, 373.413, and 373.416, F.S.; Rules 40E-2.091, 40E-2.301, 40E-2.381, 40E-3.500-531, and 40E-6.381, F.A.C.
  - c) This project must be constructed, operated and maintained in compliance with and meet all non-procedural requirements set forth in Chapter 373, F.S., and Chapters 40E-2 (Consumptive Use), 40E-3 (Water Wells), 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 ensure that harm to the water resources does not occur during the construction, operation, and maintenance of the project. Reference: Sections 373.223, 373.309, and 373.413, F.S.; Rules 40E-2.091, 40E-2.381, 40E-3.301(3), 40E-3.301(4), and 40E-6.381, F.A.C.

- e) The Licensee shall hold and save the SFWMD harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment and/or use of any system authorized by this Certification, to the extent allowed under Florida law. Reference: Sections 373.223 and 373.443, F.S.; Rules 40E-2.091, and 40E-2.381, F.A.C.
- f) 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.; Rules 40E-3.301 and 40E-6.381, F.A.C.
- g) SFWMD representatives shall be allowed reasonable escorted access to the transmission line corridors and any associated facilities to inspect and observe any activities associated with the construction of the proposed project, including any proposed construction dewatering activities, in order to determine compliance with these Conditions of Certification. The Licensee shall not refuse entry or access to any SFWMD representative who, upon reasonable notice, requests entry for the purpose of the above noted inspection and presents appropriate credentials. Reference: Sections 373.223, 373.319, and 373.423, F.S.; Rules 40E-2.091, 40E-2.301, 40E-2.381, 40E-3.461, and 40E-6.381, F.A.C.
- h) Information submitted to the SFWMD subsequent to Certification, in compliance with these Conditions of Certification, shall be for the purpose of the SFWMD determining the Licensee's compliance with the non-procedural criteria contained in Chapters 40E-2, 40E-3, 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 this Certification. Reference: Rule 62-17.191, F.A.C.
- i) The SFWMD may confer with FDEP to request FDEP to take any and all lawful actions that are necessary to enforce any condition of this Certification based on the authorizing statutes and rules of the SFWMD. Reference: Sections 373.223, 373.319, and 373.603, F.S.; Rules 40E-2.091, 40E-2.301, 40E-2.381, 40E-3.461, and 40E-6.501, F.A.C.; Section 403.514, F.S.
- j) Since this Certification is the only form of permit required from any agency, it is understood that the Licensee and the SFWMD shall strive to resolve disputes by mutual agreement. 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.

- k) Objections to modifications of the terms and conditions of this Certification shall be resolved through the process established in Section 403.516, F.S.
- l) The 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), 40E-3.101(2), and 40E-6.101(1), F.A.C.
- m) Upon issuance of this Certification or any modifications thereto, the SFWMD will require modification of any permits issued by the SFWMD to any entities whose activities will be affected by the proposed project to reflect the activities authorized by this Certification.
- n) The Licensee shall maintain in a confidential manner any documents received from the 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 the SFWMD, which are exempt from the Public Records law.
- o) Indemnification/Insurance

In addition to any indemnification and insurance obligations required elsewhere in these conditions, the Licensee shall also be responsible for the following:

(1) Licensee agrees to defend, indemnify and hold harmless the SFWMD and its agents (including, but not limited to, its contractors, subcontractors, agents, representatives, and invitees) from and against any and all claims, suits, or loss, including, but not limited to, bodily injury, death, and property damage and all other damage, including reasonable attorneys' fees and costs incurred by the SFMWD and its agents, direct, indirect or proximate (damages), of whatsoever nature, arising out of or in connection with Licensee or its agents (including, but not limited to, its contractors, subcontractors, agents, representatives, and invitees) access over or adjacent to SFWMD real property interests, interference with SFWMD communication systems, or Licensee activities undertaken under this Certification (including any and all post certification approvals, hereinafter collectively referred to as "Certification"), unless Licensee can establish that the damages were attributable to the sole negligence of SFWMD and its agents. The SFWMD and its agents shall have the absolute right to choose their legal counsel in connection with all matters indemnified herein. This provision is not intended to be an exclusive or exhaustive remedy and does not preclude the exercise of any other rights and remedies available to the indemnified parties which may now or subsequently

exist under law or in equity.

(2) Licensee shall obtain and maintain in full force insurance as required by SFWMD's right of way program during the period that Licensee or its agents access SFWMD real property interests, undertake activities under this Certification, including design, construction, operation, and maintenance of facilities, and six months thereafter. Such coverage shall not be less than:

(i) 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 real property interests, interference with SFWMD communication systems, or activities undertaken under this Certification, including design, construction, operation, and maintenance of facilities, endorsed to include premises-operations, completed operations-products, independent contractors, engineering and design defects, 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 \$1,000,000 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.

(ii) Workers compensation insurance covering all persons employed by Licensee or its contractors in accordance with statutory benefits.

(3) Insurance shall be written by companies reasonably acceptable to SFWMD. All insurance policies, including self-insurance, 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 notwithstanding 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 certificates (or certified copies of all insurance coverage, if requested) prior to Licensee's 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 certificates (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 real property interests, 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.

p) Reimbursements and Costs

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

(1) FPL Project Modifications

Six (6) months prior to construction of each segment of the transmission line project, Licensee shall coordinate with the SFWMD to obtain the SFWMD's current plans for any SFWMD project or facilities or planned project or facilities, including but not limited to ecosystem restoration, that the corridor may either cross, be adjacent to, or otherwise impact. Licensee shall ensure that its transmission lines project, including its structures and access roads, will not be inconsistent with any SFWMD project or planned project, or any projected changes in hydrology in those areas, as determined by the SFWMD in its sole discretion. In the event that the Licensee transmission line project, or any segment thereof, is deemed by the SFWMD to be inconsistent with the SFWMD project, Licensee shall at its expense undertake any required modifications to its project to avoid inconsistency.

(2) SFWMD Inspections

Licensee shall reimburse the SFWMD for any and all costs, including direct and indirect (including overhead costs), incurred by the SFWMD arising or resulting from: (1) SFWMD's review, inspection, and monitoring of Licensee's design, construction, operation, and maintenance of the transmission line project.

### (3) SFWMD Project or Facilities Modifications

Licensee shall reimburse the SFWMD for any and all costs, including direct and indirect (including overhead costs), incurred by the SFWMD in modifying any existing or planned SFWMD project or facilities, including but not limited to ecosystem restoration, arising or resulting from the Licensee's transmission line project or uses. Such project or facilities include, but are not limited to: a) communication systems; and b) Rights-of-Way, Works, and real property interests, including but not limited to canals, levees, roads, bank stabilizations, and culverts (or other SFWMD facilities). Such modification costs include, but are not limited to, the costs of planning, design, construction, repair, replacement, operation, maintenance and rehabilitation.

### (4) Payment Timeliness

Licensee shall make reimbursements within thirty (30) days following receipt of invoices submitted by the SFWMD which shall be accompanied by adequate documentation to support the costs incurred.

### (5) No Right of Review, Inspection, or Approval

No right of review, inspection, or approval by SFWMD under this Certification: (1) shall be deemed a waiver of any of SFWMD's 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 the 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. SFWMD's agreement not to exercise, or its delay or failure to exercise, any right under this Certification or to require strict compliance with any obligation of Licensee under this Certification shall not be a waiver of the right to exercise such right or to insist on such compliance at any other time or

on any other occasion.

- q) The Licensee shall comply with the non-procedural requirements in effect at the time of post-certification review, if the Licensee has not commenced activities listed in Section 403.531, F.S., including construction, condemnation, or acquisition of its right-of-way with five (5) years of the date of issuance of the Certification Order.

## 2) Processing of Informational Requests

- (a) At least ninety (90) days prior to the commencement of construction of any portion of the project, unless additional time is specified elsewhere in these conditions, the Licensee shall submit to SFWMD staff, for a completeness and sufficiency review, any pertinent additional information for that portion of project. If SFWMD staff does not issue a written request for additional information within thirty (30) days, unless additional time is specified elsewhere in these conditions, the information shall be presumed to be complete and sufficient. Reference: Section 373.413(2), F.S.
- (b) Within sixty (60) days of the determination by SFWMD staff that any additional information is complete and sufficient, unless additional time is specified elsewhere in these conditions, the SFWMD shall determine and notify the Licensee in writing whether the proposed activities conform to SFWMD rules, as required by Chapters 40E-2, 40E-3, 40E-6, and 40E-20, F.A.C., and these Conditions of Certification. If the information is not complete or sufficient, the SFWMD shall identify what items remain to be addressed. No construction activities shall begin until the SFWMD has notified the Licensee in writing that the activities are in compliance with the applicable SFWMD criteria, or failed to notify the Licensee in writing within sixty (60) days of finding the information to be complete and sufficient. Reference: Sections 373.413(1) and (2), F.S.
- (c) The Licensee shall submit any proposed revisions to the site specific design authorizations specified in this Certification to the SFWMD for review and approval prior to implementation. The submittal shall include all the information necessary to support the proposed request, including detailed drawings, calculations and/or any other applicable data. Such requests may be included as part of an appropriate additional information submittal required by this Certification, provided they are clearly identified as a requested amendment or modification to the previously authorized design. Reference: Sections 373.085, 373.219, 373.223, 373.313, F.S.; Rules 40E-2.091, 40E-2.301, 40E-3.461, 40E-6.121, and 40E-6.221, F.A.C.

- (d) The Licensee shall provide the SFWMD with five (5) concurrent copies of all Environmental Resource Permit (ERP) related post-certification submittals filed with the DEP for any portion of the project proposed on or adjacent to SFWMD-owned lands, works, and projects, including Comprehensive Everglades Restoration Plan (CERP) projects, to provide the SFWMD with the opportunity to identify completeness issues and the potential for any adverse impacts to SFWMD-owned lands, works, or projects, including CERP projects. If the SFWMD identifies completeness issues and/or potential adverse impacts, the SFWMD shall notify the DEP in writing within 30 days of the date of receipt of the post-certification submittal. Reference: Sections 373.026(8)(b), 373.085, and 373.139, 373.1391, 373.1501(4)(d), 373.1502(2)(a), F.S.; Rule 40E-6, F.A.C.

## **4.2.2 Central and Southern Florida Project**

### **4.2.2.1 Communications Systems**

#### **1) SFWMD Communications Systems**

##### **(a) Definitions, Acronyms and Abbreviations**

##### **(i) SFWMD Communications Systems**

For the purpose of these Conditions of Certification, SFWMD Communications Systems refer to the SFWMD Information Technology (IT) systems and Supervisory Control and Data Acquisition (SCADA) systems. These systems are necessary for the operations and maintenance of the SFWMD and Central and Southern Florida (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. These systems combined transport or relay the various communications throughout the SFWMD's area of responsibility. The SCADA systems are the collection of base radios, remote terminal units (RTU) radios, antenna sub-systems, antenna support pole, remote terminal units (RTU), data loggers, wireline communications, enclosures, sensors and instrumentation used by the SFWMD to operate water control systems and structures within the Area of Concern. The SCADA systems include the central software applications that monitor, control, collect, and store data.

##### **(ii) SFWMD Site Certification Coordinator**

The SFWMD Site Certification Coordinator is the point person for all post-certification submittals for internal SFWMD review.

##### **(iii) Consulting Engineer**

The Consulting Engineer is an independent consulting Florida Registered Professional Engineer (P.E.) contracted by the Licensee and qualified in the inspection, operation, and testing of the SFWMD systems, and the modeling and analysis of EMF and RFI from electrical transmission lines. Qualifications and experience requirements are detailed in the Section (I), Consulting Engineer Qualifications and Selection Procedure.

(iv) Parties

With respect to these Conditions of Certification, there are three parties: SFWMD, the Licensee, and the Consulting Engineer

(v) Licensee Facilities

The Licensee Facilities are the electrical transmission lines and related infrastructure within the Area of Concern.

(vi) Area of Concern

The Area of Concern is the geographic area within 2000 feet of either side of the corridor boundary. This area accounts for:

- Any SFWMD Right-of-Way and SFWMD owned land located within the corridor.
- All current and potential radio line of sight path crossings.
- Radio coverage areas that operate two-way mobile, portable and fixed stations.
- Existing and new facilities.

The Area of Concern shall be amended as needed to take into consideration any SFWMD facilities or systems added, deleted, modified, planned or under construction or as the Licensee's facilities are further developed.

(vii) Elimination

An action or series of actions to eliminate the adverse impacts that would otherwise cause a regulated activity to fail to meet the criteria set forth in these Conditions of Certification. Elimination involves no changes to the impacted system.

(viii) Reduction

An action or series of actions to offset or reduce the impacts that would otherwise cause a regulated activity to fail to meet the criteria set forth in these Conditions of Certification. Reduction involves reducing the impact to a level that does not cause degradation to the performance or reliability of the impacted system.

(ix) Mitigation

An action or series of actions to offset the adverse impacts that would otherwise cause a regulated activity to fail to meet the criteria set forth in these Conditions of Certification. Mitigation involves the modification of the impacted system such that the impact is reduced to a level that does not cause degradation to the performance or reliability of the impacted system.

- (x) **Electric and Magnetic Field (EMF)**

Electric and Magnetic Fields are created by electrical transmission lines that are actively carrying electrical power. These fields can result in disruption to communications and measurement systems and cause electrical shocks. Chapter 62.814, Florida Administrative Code, sets the standards for the maximum EMF levels at the edge or right-of-way and on the right-of-way (these standards are concerned with general health issues and not generally concerned with physical contact life safety issues – see “Clearance” below regarding physical separation). These levels, however, are based upon calculations and measurements at elevations of one meter above ground and does not ensure SFWMD personnel will not experience nuisance shocks while working at elevations greater than 1 meter above ground, such as when working on antennas and associated support structures.
- (xi) **Clearance**

Clearance is defined as the physical separation between the Licensee facilities at full-sag condition and SFWMD facilities and properties. The Florida Public Service Commission requires the Licensee facilities to be compliant with the National Electrical Safety Code (NESC). The clearances for these Conditions of Certification include NESC clearance requirements as well as Occupational Safety and Health Administration (OSHA) clearance requirements for the operations and maintenance of SFWMD and C&SF Flood Control Project and all responsibilities thereunder.
- (xii) **Radio Frequencies of Operation**

The Radio Frequencies of Operation, discussed herein, are the radio frequencies currently in use by SFWMD systems, and available for potential future use by SFWMD systems, and shall be the subject of monitoring and testing as set forth in these Conditions of Certification.
- (xiii) **Radio Bands of Operation**

The Radio Bands of Operation are the general radio frequency bands currently in use by SFWMD, and available for potential future use by SFWMD systems, which shall be the subject of monitoring and testing related to this Certification.
- (xiv) **Radio Frequency Interference (RFI)**

Radio Frequency Interference (RFI) is the electromagnetic emissions produced by the existence and operation of the Licensee Facilities within the Area of Concern that have potential to contribute to the degradation of SFWMD Communications Systems. RFI is subject to monitoring and testing through all phases of this project in order to achieve complete elimination of impacts to SFWMD Communications Systems.
- (xv) **SFWMD Facilities List**

The SFWMD Facilities List defines all existing and potential SFWMD sites

and systems within the Area of Concern.

(xvi) Test Points List

The Test Points List defines specific locations within the Area of Concern that RF and EMF testing shall be performed. The Test Points List shall include all existing and potential SFWMD facilities, areas of concern to the SFWMD, as well as test locations developed in accordance with Section 8 of Telecommunications Industry Association (TIA) Technical Service Bulletin (TSB) 88 to determine the number of test tiles and tile sizes. The intent of dividing the Area of Concern into test tiles is to allow for a statistically meaningful test of the effects of the Licensee's facilities on SFWMD Communications Systems.

(xvii) Project Phases

This Conditions of Certification divides the overall project into a total of seven phases with respect to SFWMD's involvement: Pre-Design, Design, Quality Assurance, Baseline, Construction, In-Service Testing, and Operational Testing.

(1) Pre-Design Phase

The Pre-Design Phase begins upon certification and completed prior to start of the formal design of the Licensee's facilities. In the Pre-Design Phase data and design requirements are collected in relation to SFWMD facilities, operations, and maintenance.

(2) Design Phase

The Design phase is the period in which the Licensee's facilities are designed to eliminate interference and hazardous conditions for SFWMD facilities, operations, and maintenance.

(3) Construction Specifications and Plans Quality Assurance Phase

The Construction Specifications and Plans Quality Assurance Phase is the period in which SFWMD reviews construction specifications, plans, and bid documents to ensure the approved design will be met.

(4) Baseline Testing

The baseline testing and measurement is a critical phase of work where the performance metrics of the SFWMD Communications Systems are collected and documented for comparative impact evaluation for the In-Service and Operational phases.

(5) Construction Phase

The Construction Phase is the period in which SFWMD facilities and operations are monitored while the Licensee's facilities are being constructed.

(6) In-Service Phase

The In-Service Phase is the period in which SFWMD facilities, systems, and operations are monitored after the Licensee's

facilities are constructed and their operation at full-load is being tested.

(7) Operational Phase

The Operational Phase is the period in which SFWMD communications facilities, systems, and operations are monitored while the Licensee's facilities are being operated.

(b) General Conditions for SFWMD Communications Systems/Electrical Safety

(i) The Licensee shall not install any other facilities on or within SFWMD land or right-of-way, or authorize other parties to install any other facilities on or within SFWMD land or right-of-way, other than those authorized in this Certification.

(ii) Licensee shall promptly reimburse the SFWMD for all costs incurred by SFWMD.

(iii) Within 30 days of Issuance of this Certification, the SFWMD and the Licensee shall enter into the Confidentiality Agreement attached hereto as Appendix D.

(iv) Testing Responsibilities

(1) SFWMD

(a) SFWMD will be responsible for performing testing that may be invasive to SFWMD systems, such as RF testing of fixed equipment and performance testing of SCADA systems. These tests will be performed in accordance with the testing conditions.

(b) SFWMD shall witness testing performed by the Licensee and its Consulting Engineer in accordance with the testing conditions.

(c) SFWMD may elect to contract testing and witnessing work to a third party.

(2) Licensee and Consulting Engineer

(a) Licensee and the Consulting Engineer shall be responsible for performing the EMF testing and non-invasive RF testing, such as mobile noise tests, in accordance with the testing conditions.

(b) Licensee and the Consulting Engineer shall witness the testing performed by SFWMD in accordance with the testing conditions.

(v) Roles and Responsibility of the Licensee and Consulting Engineer

(1) Licensee shall be responsible for contracting with an independent Florida registered Professional Engineer to function as the Consulting Engineer. The Consulting Engineer shall be selected in accordance with Section (I), Consulting Engineer Qualifications and Selection Procedure.

(2) Licensee shall meet all required safety, health and environmental requirements.

(3) Licensee and the Consulting Engineer shall follow SFWMD's access procedures and protocols for the SFWMD systems.

- (4) The Licensee and the Consulting Engineer shall identify all applicable industry and licensee codes, standards, and practices governing and related to Licensee Facilities.
  - (vi) At all times during construction or operation of the electrical transmission line facility, SFWMD shall have full authority to inspect the Licensee's Facilities to determine compliance with these Conditions of Certification.
  - (vii) Review and Approval Process
    - (1) The Review and Approval process consists of a submittal from the Licensee, a 30-day review period by SFWMD, unless otherwise specified, followed by an approval or additional completeness review.
    - (2) If SFWMD issues a completeness letter the Licensee shall address the items in the completeness letter and resubmit within 30 days or request approval for extension from SFWMD.
    - (3) Upon receipt of a completeness response, SFWMD shall be allowed to review the response for the same period of time as the previous submittal.
    - (4) If SFWMD fails to issue an approval or completeness letter within the defined time period, the submittal shall be deemed to be complete.
  - (viii) Change Management Process
    - (1) The Licensee shall submit any proposed revisions to the site specific design approvals specified in this Certification to the SFWMD for review and approval prior to implementation. The submittal shall include all the information necessary to support the proposed request, including detailed drawings, calculations and/or any other applicable data. Such requests may be included as part of an appropriate additional information submittal required by this Certification, provided they are clearly identified as a requested amendment or modification to the previously authorized design.
- (c) Pre-Design
  - (i) This phase consists of performing site inspections, the auditing of the SFWMD Facilities List, reviewing and inspecting the Test Points, and the determination of the SFWMD Communications Systems existing conditions.
  - (ii) SFWMD Facilities List and Test Points List
    - (1) SFWMD Facilities List
      - (a) Within 30 days upon written notice of the start of the Pre-Design Phase by Licensee, SFWMD shall provide a SFWMD Facilities List, which will include all SFWMD sites and systems within the Area of Concern. The SFWMD Facilities List shall be reaffirmed by the Parties prior to the commencement of each phase of the project. New facilities, sites, and systems may be added by SFWMD during various phases of the project.
    - (2) Test Points List

- (a) Within 30 days upon written notice of the start of the Pre-Design Phase by the Licensee, SFWMD shall provide a Test Points List that defines specific locations within the Area of Concern that RF and EMF testing shall be performed. The Test Points List shall include areas of concern to SFWMD as well as sample points located within the Area of Concern developed in accordance with Section 8 of TSB-88 for 99% confidence and 2% margin of error. The Test Points List shall be reaffirmed by the Parties prior to the commencement of each phase of the project. New facilities, sites, and systems may be added by SFWMD during various phases of the project and may result in the additions to the Test Point List.
- (3) Should there be additional facilities, systems and/or Test Points added to the SFWMD Facilities List and/or Test Points List after the Site Inspection and SFWMD Facilities List Audit is complete but prior to the Existing Systems Conditions Testing, these facilities and/or Test Points shall be inspected by all the Parties and existing conditions testing shall be performed during the Existing Systems Conditions Testing.
- (4) Should there be additional facilities, systems and/or Test Points added to the SFWMD Facilities List and/or Test Points List after the Existing Systems Conditions Testing but prior to the Baseline Testing, these facilities and/or Test Points shall be inspected by all Parties and existing conditions testing shall be performed at the Parties' earliest convenience so they may be incorporated in the Draft Design, Final Design, and/or Construction Specifications and Plans, as appropriate.
- (5) Should there be additional facilities, systems and/or Test Points added to the SFWMD Facilities List and/or Test Points List after the start of the Baseline Testing, these facilities shall be inspected by all Parties and base-line testing shall be performed prior to commencing operation of the additional facilities and within 30-days of written notification by SFWMD that the additional facilities are ready for inspection and base-line testing.
- (iii) Within 30 days upon start of the Pre-Design Phase, the Licensee shall provide a Safety Guidelines document to the SFWMD of the relevant safety features, equipment, precautions, and/or guidelines used and observed by Licensee and its contractors travelling and operating in the vicinity of Licensee Facilities, in order that SFWMD personnel can use the same safety features, precautions, and/ or guidelines, including safe "clear" distances for trucks and cranes from poles, wires, and guy wires, and ground and air contact and restrictive areas.
- (iv) Inspection and Testing Access Plan
  - (1) After receiving the SFWMD Facilities List and Test Points List and 30 days prior to performing the Site Inspections, SFWMD Facilities List Audit, Test Point Inspection and SFWMD Communications Systems

Existing Conditions Testing, the Licensee shall submit an Inspection and Testing Access Plan.

- (a) The Inspection and Testing Access Plan shall include:
  - (i) Proposals, plans, and schedule for all ground and air access to the Area of Concern; and
  - (ii) Plans and implementation methods for accessing all locations of the Area of Concern described on a per location basis.
- (b) Access to the Area of Concern shall be approved by the SFWMD on a per location basis.
- (c) If any access to any Area of Concern is to be made by aircraft of any type, such access shall be made with prior notification to the SFWMD at least 7 days in advance and shall be subject to the necessary approvals by the SFWMD and any jurisdiction of the air space control by the FAA.
  - (i) If permits are required from any agency other than the SFWMD, these permits shall be submitted to the SFWMD no less than 3 days prior to the implementation of the access by aircraft unless an emergency is declared by the designated representative of the Licensee.
- (d) Any plans to utilize aircraft on a regular basis shall be included in the construction phase planning submittal.
- (e) Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii).
- (v) Site Inspections, SFWMD Facilities List Audit, and Test Point Inspection
  - (a) Upon approval of the Inspection and Testing Access Plan, the Site Inspection, SFWMD Facilities List Audit and Test Point Inspection shall be performed by the Parties to gain first-hand familiarity with SFWMD Communications Systems and facilities and operations and to verify the accuracy of the SFWMD Facilities List.
  - (b) The audit scope shall include site visits for visual verification of the SFWMD Facilities List, inspection of the Test Points and for identification of potential issues needing correction prior to the comprehensive Testing and Inspection process.
  - (c) Within 30 days of completing the site inspection, SFWMD Facilities List audit, and test point inspection, the Consulting Engineer shall provide a report of the audit result for SFWMD review and approval.
  - (d) Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii) except the SFWMD shall have 60 days to complete its review.
  - (e) The SFWMD Communications Systems Existing Conditions Testing shall not commence until all deficiencies in existing facilities identified during the Site Inspections, SFWMD Facilities List Audit

and Test Point Inspection are corrected by the SFWMD to the satisfaction of SFWMD.

- (vi) SFWMD Systems Existing Conditions Testing
  - (1) Testing and inspections shall be performed to determine whether all SFWMD Communications Systems and sites are in good working order and to establish the existing conditions and configurations of the SFWMD's facilities and operations. The tests and inspections shall also identify items or features that require further investigation or repair.
  - (2) Testing and Inspection Plan Submittal
    - (a) Within 90 days after the approval of the site inspections and SFWMD Facilities List audit report, the Consulting Engineer shall provide the SFWMD with a Testing and Inspection Plan for SFWMD review and approval.
    - (b) The Testing and Inspection Plan shall include a detailed work plan, indicating activities to be performed, including, but not limited to the testing defined in Section (j), Testing and Monitoring Requirements
    - (c) The Testing and Inspection Plan shall include a detailed schedule, indicating dates, times, duration of activities outlined in the work plan
    - (d) Specific attention to system interruptions and outages shall be identified as part of the Testing and Inspection Plan. All outages shall be planned and coordinated ahead of time with the SFWMD staff.
    - (e) For approval of intrusive and service affecting activity, two week prior notification for coordination of downtime is required.
    - (f) Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii) except the SFWMD shall have 60 days to complete its review.
  - (3) Testing and Inspection Implementation
    - (a) The Licensee shall conduct the testing defined in the Testing and Inspection plan.
    - (b) The Licensee shall immediately report measurements indicating electric field strength greater than accepted safe levels to the SFWMD. Acceptable safety levels shall be based upon Chapter 62-814.450, Florida Administrative Code.
    - (c) The Licensee shall immediately report measurements indicating magnetic flux density greater than accepted safe levels to the SFWMD. Acceptable safety levels shall be based upon Chapter 62-814.450, Florida Administrative Code.
  - (4) Testing and Inspection Report Submittal:
    - (a) The Consulting Engineer shall submit a Testing and Inspection Report to the SFWMD for review and approval within thirty (30) days after the completion of the inspections and testing.

- (b) The Consulting Engineer shall analyze the test results and provide an assessment of the impact of the Licensee's facilities on SFWMD Communications Systems, including but not limited to:
    - (i) Performance of the SFWMD Communications Systems.
    - (ii) Changes in the electric and magnetic field and potential for the creation or the perception of a hazardous or dangerous condition.
    - (iii) The restrictions placed upon the design of the Licensee's facilities so that the above conditions are eliminated, reduced or mitigated.
  - (c) The report shall fully document the results of the testing and identify SFWMD Communications Systems that are not in good working order. SFWMD may choose to address those areas prior to Licensee's construction of the Licensee's facilities.
  - (d) Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii) except the SFWMD shall have 60 days to complete its review.
- (d) Design Phase
- (i) This phase consists of designing the Licensee's facilities and developing test plans to ensure compliance with the Conditions of Certification during the construction, in-service testing, and operation phases of the Licensee's facilities.
  - (ii) The proposed design for the Licensee's facilities shall meet the conditions defined in Section (k), Licensee's Facilities Design Conditions.
  - (iii) Design Coordination Meetings
    - (1) During the course of the design phase, the Licensee shall meet with SFWMD on a regular basis, as agreed to by SFWMD, to provide a status of the design of the Licensee's facilities.
    - (2) During the meetings, the Licensee shall consult with the SFWMD concerning proposed electrical transmission line placements in the SFWMD Area of Concern and to discuss whether the proposed pole locations may cause interference to SFWMD Communications Systems in the Area of Concern, or cause damage to a sensitive environment at any location.
  - (iv) Draft Design Report Submittal
    - (1) The Licensee shall develop a Draft Design Report that meets the requirements of Section (m), Design Report Submittal Requirements.
    - (2) In general, the Draft Design Report shall document how Licensee will design, construct, operate and maintain the certified Licensee's facilities to eliminate, reduce or mitigate impacts to the SFWMD Communications Systems with respect to radio frequency interference (RFI) and life safety. The Draft Design Report shall include, at a minimum:
      - (a) Traffic Control Requirements
      - (b) Baseline Test Plan

- (c) Conditions of Certification Compliance Monitoring Plan and Construction Schedule
  - (d) In-Service Test Plan
  - (e) Operational Test Plan
  - (f) Cutover Plans
  - (g) Description of the modeling tool used for calculating RF & EMF levels
  - (h) Calculations from RF and EMF modeling
  - (i) Levels, distances, setbacks and clearances for safety and RF system performances
- (3) The Licensee shall submit a complete Draft Design Report to the SFWMD for review and approval at least ninety (90) days prior to completion of the design plans for the Licensee's facilities.
  - (4) Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii) except the SFWMD shall have 60 days to complete its review.
- (v) If modeling indicates that SFWMD will be negatively impacted by the Licensee facilities, the applicable requirements and procedures of Section (o), Elimination, Reduction and Mitigation Requirements and Procedures shall be followed.
  - (vi) If the results of the modeling and calculations show any conflicts with the existing conditions as reflected in the Testing and Inspection Report, as well as any violation of accepted standards, the Draft Design Report shall address those conflicts and shall include proposed design solutions that resolve any such conflicts.
- (vii) Final Design Report
    - (1) The Licensee shall develop a Final Design Report that meets the requirements of Section (m), Design Report Submittal requirements.
    - (2) Upon approval of the Draft Design Report and completion of the Final Design, the Consulting Engineer shall submit a letter, along with the signed-and-sealed Final Design Report, certifying that the Final Design Report meets the Design Conditions specified in these Conditions of Certification.
    - (3) Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii) except the SFWMD shall have 60 days to complete its review.
- (e) Construction Specifications and Plans Quality Assurance
    - (i) If there is a delay greater than 180 days between approval of Final Design Report and issuance of Construction Specifications and Plans, the Consulting Engineer shall verify that the Final Design Report is accurate and submit a new letter certifying that the Final Design Report still meets the Design Conditions specified in these Conditions of Certifications. If changes

- are required for the Final Design Report to be recertified, the Final Design Report shall be updated and the review process shall be re-initiated.
- (ii) The Licensee shall develop Construction Specifications and Plans for the construction of the Licensee's facilities in accordance with Section (n), Construction Specifications and Plans Requirement.
  - (iii) Construction Specifications and Plans shall be submitted to SFWMD for review and approval. The submittal shall be accompanied by a signed and sealed letter from the Consulting Engineer stating that the Construction Specifications and Plans meet the requirements of the Final Design Report.
  - (iv) Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii) except the SFWMD shall have 60 days to complete its review.
- (f) Baseline Testing
- (i) No earlier than three months prior to the planned start of construction, the Licensee shall perform the Baseline Testing per the Conditions of Certification Compliance Monitoring Plan.
  - (ii) Baseline Testing shall be performed in the months of June through September. If construction does not start within six months of Baseline Testing, Baseline Testing shall be repeated prior to start of construction. Such retest shall be performed in the months of June through September.
  - (iii) Within 60 days of completing the Baseline Testing, the Consulting Engineer shall provide a Baseline Testing report to the SFWMD for review and approval. Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii) except the SFWMD shall have 60 days to complete its review.
  - (iv) The Consulting Engineer shall review the Baseline Testing data to determine if any changes to the design of the Licensee's facilities are required to comply with the Conditions of Certifications. Any impacts the Baseline Testing has on the design of the Licensee's facilities that had not previously been accounted for shall be detailed in the report.
  - (v) Should the results of the Baseline Testing require that the Licensee redesign the Licensee's facilities or alter the Final Design Report and/or the Construction Specifications and Plans, the Licensee shall resubmit an updated Final Design Report and/or Construction Specifications and Plans for SFWMD review and approval. Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii) except the SFWMD shall have 60 days to complete its review.
- (g) Construction Phase
- (i) This phase consists of monitoring the construction of the Licensee's facilities and performing regular testing to ensure compliance with the Conditions of Certifications.
  - (ii) During the construction phase, all changes to the Construction Specifications and Plans shall be submitted to the SFWMD in accordance

with the Change Management Process. The submittal shall be accompanied by a signed and sealed letter from the Consulting Engineer stating that the submittal meets the requirements of the Final Design Report.

(iii) Rights of Inspection

- (1) SFWMD personnel shall have full authority to inspect the Licensee's facilities that may impact the SFWMD's Communications Systems in the Area of Concern at any time during construction or operation to determine compliance with the Conditions of Certification.
- (2) If mitigation improvements or changes are made to the SFWMD Communications systems by the Licensee, SFWMD personnel shall have the full authority to inspect, approve or stop the work at any time to determine compliance with the Conditions of Certification
- (3) The Licensee shall not refuse entry or access to any SFWMD representative who, requests entry in to any Area of Concern for the purpose of the above noted inspections and presents appropriate credentials.
- (4) The Licensee shall provide the Conditions of Certification Compliance Monitoring Plan and Construction Schedule (which are part of the Final Design Report) to the Licensee's employees and contractors involved in project construction.

(iv) Execution of Conditions of Certification Compliance Monitoring Plan

- (1) During construction, the Licensee shall continue to execute the Conditions of Certification Compliance Monitoring Plan to monitor the performance of the SFWMD's Communications Systems in the Area of Concern.
- (2) Conditions of Certification Compliance Monitoring Testing will be performed on a regular basis during the construction phase.
- (3) Degradation to RF systems shall be considered to be a deviation of greater than 2 dB between test values measured during the construction phase and the test values measured during the Baseline Test.
- (4) Degradation to SCADA systems shall be considered to be a change in RTU readings of sensors that exceed the limits established by SFWMD to determine when recalibration or repair is required, per SFWMD Standard Operating Procedures (SOPs).
- (5) If any degradation to the SFWMD's Communications Systems in the Area of Concern is identified by the Licensee during construction, the Licensee shall notify the SFWMD immediately and the SFWMD Site Certification Coordinator shall be notified.
- (6) If any degradation to the SFWMD's systems in the Area of Concern is identified by SFWMD during construction, the SFWMD Site Certification Coordinator shall notify the Licensee immediately.

- (7) If the degradations are caused by the Licensee's construction activities, the activities shall cease until remedied, unless otherwise agreed to in writing by SFWMD.
- (8) Within 30 days of completing the Compliance Monitoring Test, the Consulting Engineer shall provide a Conditions of Certification Compliance Monitoring Test Report to the SFWMD for review and approval. The report shall compare the test data with the Baseline Test results and analyze the impact the construction is having on SFWMD Communications systems. Any new impacts on the design of the Licensee's facilities that had not previously been accounted for shall be detailed in the report.
- (9) Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii).
- (v) Right to Halt Construction
  - (1) Should the SFWMD determine that actions by the Licensee are causing degradation to the SFWMD Communications Systems, is creating a harmful impact to any SFWMD facility or structure, or is creating an unsafe condition or the perception of an unsafe condition for SFWMD personnel; the SFWMD reserves the right to immediately halt any and all construction activities by the Licensee.
  - (2) Within seven (7) days of the halt, the Licensee shall identify potential remedies for the SFWMD's consideration.
  - (3) As soon as practicable, the Licensee shall submit to SFWMD the Consulting Engineer's signed and sealed proposed remedial construction plan that addresses the SFWMD's concerns.
  - (4) At its discretion, the SFWMD has the right to require the Licensee to remove the Licensee's equipment and/or facilities that is causing the issue.
  - (5) The Licensee may resume construction activities upon the SFWMD's written acceptance of the proposed remedial construction plan.
- (vi) Mitigation
  - (1) For mitigation, the applicable requirements and procedures of Section (o), Elimination. Reduction and Mitigation Requirements and Procedures shall be followed.
- (vii) Damages During Construction
  - (1) The Licensee shall be financially responsible for the repair, replacement and uninterrupted operation of the SFWMD's Communications Systems that are damaged as a result of the construction, maintenance, or operation of the all Licensee's facilities.
  - (2) Such damages may be construed to be but not limited to, lack of monitoring, control, failure to operate, or direct electrical and physical damage.

- (3) The SFWMD reserves the right to perform repair to SFWMD Communications Systems to restore operation. SFWMD shall be reimbursed by the Licensee for such efforts.
  - (4) The SFWMD shall have full authority for acceptance or rejection of repairs or replacements performed by the Licensee. Such repair and replacement shall be completed based on a schedule approved by the SFWMD and shall not cause any adverse impact to any SFWMD communications facilities and systems.
  - (5) Upon completion of construction, the Consulting Engineer shall submit a signed and sealed letter that certifies that the Licensee's facilities have been constructed in accordance with the Construction Specifications and Plans.
- (h) In-Service Testing Phase
- (i) This phase of the project involves the testing of the Licensee's facilities at full-load conditions and verifying the compliance with the Conditions of Certification
  - (ii) Upon completion of construction and prior to commercial operation of the Licensee's facilities, the Licensee shall conduct tests, in accordance with the In-Service Test Plan, to verify that the electrical transmission facilities meet the Conditions of Certification.
  - (iii) Tests shall be conducted at electrical transmission line full-load conditions.
  - (iv) Degradation to RF systems shall be considered to be a deviation of greater than 2 dB between test values measured during the construction phase and the test values measured during the Baseline Test.
  - (v) Degradation to SCADA systems shall be considered to be a change in RTU readings of sensors that exceed the limits established by SFWMD to determine when recalibration or repair is required, per SFWMD Standard Operating Procedures (SOPs).
  - (vi) If any disruption or interference to the SFWMD's Communications Systems occurs in the Area of Concern that is identified during the test as a result of the Licensee's certified transmission facilities, the Licensee shall take prompt mitigation steps, prior to commercial operation of the proposed transmission lines in accordance with applicable provisions of Section (o), Elimination, Reduction and Mitigation Requirements and Procedures.
  - (vii) Should EMF tests indicate electric or magnetic field measurements exceed accepted safe levels or creates the perception of hazardous or dangerous conditions, the Licensee's facilities shall be immediately de-energized and the unsafe or perceived hazardous or dangerous condition shall be corrected.
  - (viii) If mitigation or corrections are required due to the results of the In-Service Testing, the In-Service Testing shall be repeated.
  - (ix) Within thirty (30) days after the completion of the In-Service Testing, the Licensee shall submit an In-Service Test Report to the SFWMD that defines

the Baseline Test results, In-Service Test results, and comparison thereof. The report shall be signed and sealed by the Consulting Engineer. The report shall be submitted to SFWMD for review and approval in accordance with the Review and Approval process as specified in 1)(b)(vii).

- (x) Upon completion of construction and prior to commercial operation of the Licensee's facilities, the Consulting Engineer shall submit a signed and sealed letter that certifies that the Licensee's facilities are operating in compliance with the Conditions of Certification.
- (i) Operational Testing Phase
  - (i) This phase consists of long-term monitoring of the Licensee's facilities to ensure continued compliance with the Conditions of Certification.
  - (ii) SFWMD and the Licensee shall perform the tests delineated in the Operational Test Plan.
  - (iii) If it is determined that degradation exists to the SFWMD Communications Systems, the SFWMD will perform tests to determine if the degradation is related to operation of the Licensee's facilities.
  - (iv) If it is determined that the degradation is due to the Licensee's facilities, the Licensee shall work with SFWMD to locate, isolate, and eliminate the source of the degradation.
  - (v) If the source of the problem is identified to be the Licensee's facilities, Licensee shall be responsible for paying all reasonable costs, for all Parties, for identifying the problem and for the design and implementation of a mitigation or corrective action to eliminate the degradation.
  - (vi) The results of the EMF tests shall be compared to the accepted safe levels to determine if levels are safe for the operation of SFWMD personnel and equipment. If unsafe EMF levels exist, the Licensee shall immediately correct the deficiency.
  - (vii) The Licensee shall maintain an open avenue of contact and designate a person or office to be available to the SFWMD to allow for notification of any aberration regarding the Licensee systems.
  - (viii) The Licensee shall promptly advise the SFWMD whether or not they believe the problem is caused by Licensee's facilities and shall provide the SFWMD with supporting documentation from their investigation.
  - (ix) If the Licensee disputes with the SFWMD that the problem has been caused by the Licensee's facilities, the Licensee shall promptly consult with a consulting engineering firm agreed upon by both the SFWMD and the Licensee, and the SFWMD to determine what steps can be taken to address the interference.
  - (x) Depending on the nature of the interference, the Licensee, in cooperation with a designated person or consulting agency, shall propose a solution as soon as practicable for SFWMD review and approval in accordance with the Review and Approval process as specified in 1)(b)(vii). If the solution is approved by the SFWMD, the Licensee shall implement the solution as

soon as practicable and shall conform to the above requirements of time lines, submittals, and all documentation of this agreement.

- (j) Testing and Monitoring Requirements
  - (i) This section describes the RF, EMF, and SCADA performance testing that is required by these Conditions of Certification. During certain phases of this project, testing shall be performed in accordance with these testing requirements.
  - (ii) For all tests, the Consulting Engineer shall be responsible for recording the testing results and obtaining signatures of each party on each page of the test result collection forms. Failure to obtain signatures of each party on each page shall represent a need to perform a retest in the event there is a dispute involving the recorded test data.
  - (iii) All testing shall be performed with calibrated testing equipment with lab certifications traceable to the National Institute of Standards and Testing.
  - (iv) RF Testing Requirements
    - (1) RF tests are being performed to verify that the electrical transmission lines do not cause harmful interference that results in the degradation of the SFWMD systems.
    - (2) RF testing shall be performed in both clear weather and in rainy weather conditions. Determination of clear weather conditions and rainy weather conditions shall be agreed to by the SFWMD.
    - (3) Telemetry
      - (a) Receive Signal Level shall be determined for each identified telemetry radio from the primary and secondary base station sites in accordance with TSB-88, Section 8.7, "Measurements".
      - (b) Receiver Noise Level shall be determined for each telemetry radio at the primary and secondary base station frequencies. Testing shall be performed in accordance with TSB-88, Section 6.3.4, "Fixed RF Noise Measurement".
    - (4) Microwave
      - (a) Receive Signal Level shall be determined for each identified microwave location from the coordinated transmitter. Testing shall be performed in accordance with TSB-88, Section 8.7, "Measurements".
      - (b) Threshold to interference radio (T/I) of each receiver of each identified microwave path shall be determined. Testing shall be performed in accordance with TSB-10F, Section 2.5.5, "Considerations related to victim digital systems".
      - (c) Land Mobile Radio
        - (i) Receive Signal Level shall be determined for each identified land mobile radio base station and control station location for each of the Frequencies of Operation. Testing shall be performed in accordance with TSB-88, Section 8.7, "Measurements".

- (ii) Receiver Noise Level shall be determined for each identified land mobile radio base station and control station for each of the Frequencies of Operation. Testing shall be performed in accordance with TSB-88, Section 6.3.4, "Fixed RF Noise Measurement".
- (iii) Mobile Noise Level shall be determined for one of the Frequencies of Operation in each of the identified SFWMD land mobile radio Bands of Operation within the Area of Concern. Testing shall be performed in accordance with TSB-88, Section 6.3.3, "RF Noise Measurement in a Mobile Environment".
- (d) EMF Testing
  - (i) EMF tests are being performed to verify that the electrical transmission lines do not create a hazardous or dangerous situation or the perception of such situation for SFWMD personnel when they are carrying out their duties. Testing of the coupling between the electrical transmission lines and the wire-line communications cabling of SFWMD is being performed to verify that such coupling that does adversely affect the operation of the SCADA equipment that is vital to the SFWMD operations.
- (e) Electric Field Testing
  - (i) Electric field strength shall be measured at the Test Points and shall be performed in accordance with IEEE644, Section 5, "Electric field strength measurement procedures". The electric field strength shall be determined at 1m above ground and heights where otherwise indicated by the Test Points List.
- (f) Magnetic Field Testing
  - (i) Magnetic flux density shall be determined at the Test Points and shall be performed in accordance with IEEE644, Section 7, "Magnetic field strength measurement procedures". The magnetic flux density shall be determined at 1m above ground and heights where otherwise indicated by the Test Points List.
- (g) Coupling Effects on SCADA Operation
  - (i) Performance tests of SCADA equipment listed in the SFWMD Facilities List shall be tested for proper operation.
  - (ii) Bottom Mount Culvert Gate Sensor
    - 1. Verify operation in accordance with SCMO220 SOP. Verify the gates reading match the gates staff gauge within +/- 0.05 feet with the gate closed.
  - (iii) Water Sampler Trigger and Confirmation
    - 1. Verify operation of water sampler trigger and confirmation in accordance with SCMO226.
  - (iv) Analog ISC40 Inductive Conductivity Sensor

1. Verify the RTU value is within 5% of test probe value per SCMO228.
- (v) Gate Sensor
  1. Verify sensor operation by moving the gate by a known distance and comparing results between gate indicator and RTU per SCDL220.
  2. Verify sensor reads "0" (+/- 0.05) when gate is closed per SCDL220.
- (vi) Stage Sensor
  1. Perform Distance to Water measurement per SCDL241.
  2. Verify reading for stage sensor agrees with Distance to Water per SCDL225.
- (vii) SDI-12 Shaft Encoder
  1. Perform Distance to Water measurement per SCDL241.
  2. Verify reading for shaft encoder agrees with Distance to Water per SCDL226.
- (viii) Balluff Sensor
  1. Perform Distance to Water measurement per SCMO217.
  2. Verify the RTU value matches the Distance to Water measurement to within +/- 0.02 feet per SCMO213.
- (ix) H3341 Encoder Sensor
  1. Perform Distance to Water measurement per SCMO217.
  2. Verify the RTU value matches the Distance to Water measurement to within +/- 0.02 feet per SCMO214.
- (x) Pressure Sensor
  1. Perform Distance to Water measurement per SCMO217.
  2. Verify the RTU value matches the Distance to Water measurement within +/- 0.02 feet per SCMO215.
- (xi) String Pot Gate Sensor
  1. Verify the RTU value matches the gate staff gauge to within +/- 0.05 feet with the gate closed per SCMO216.
  2. Verify the RTU value matches the gate staff gauge to within +/- 0.05 feet with the gate open by two feet per SCMO216.
- (xii) EIM Pot Sensor
  1. Verify the RTU value matches the gate staff gauge to within +/- 0.05 feet with the gate closed per SCMO219
  2. Verify the RTU value matches the gate staff gauge to within +/- 0.05 feet with the gate open by 2 feet per SCMO219.
- (k) Licensee's Facilities Design Conditions
  - (i) The proposed project design shall meet SFWMD technical requirements for the SFWMD Communications Systems, including technical standards, technical parameters, distances, setbacks, and practices, and shall meet

- the applicable safety requirements of the engineering standards and accepted industry practices.
- (ii) For physical protection purposes, the design for the electrical transmission lines shall be such that:
    - (1) SFWMD facilities are located no closer than 50 feet radius around electrical transmission line towers and located beyond a longitudinal route 20 feet in width centered directly under the conductors, per FPL “Right of Way Use – Customer Guidelines”
    - (2) Electrical transmission line towers are installed no closer to a SFWMD facility than the height above grade of the tower being installed.
    - (3) Electrical transmission line conductors are installed no closer to a SFWMD facility than a horizontal distance from the point directly underneath each of the conductors equal in length to the elevation above grade of the conductor at that location.
    - (4) Electrical transmission lines are installed no closer to a SFWMD facility than the height of the SFWMD facility above grade.
  - (iii) For personnel and equipment safety and performance purposes, the design for the electrical transmission lines shall be such that:
    - (1) The EMF levels associated with the electrical transmission lines within the Area of Concern meet the regulations specified in Chapter 62-814.450, F.A.C.
    - (2) The EMF levels associated with the electrical transmission lines meet the limits specified in Chapter 62-814.450, F.A.C., for the locations in the Test Points List at the indicated elevations above grade.
    - (3) The vertical clearance requirements of the National Electric Safety Code (NESC) based upon the tallest vehicle in operation by SFWMD are met. – NESC
    - (4) The vertical clearance requirements of the Occupational Safety and Health Administration (OSHA) based upon the tallest vehicle in operation by SFWMD are met. – OSHA
    - (5) Licensee fencing be grounded in accordance with Licensee guidelines and such fencing be separated by a minimum of 10 feet from SFWMD fences and other facilities.
    - (6) The condition for hazardous step and touch potentials associated with electrical transmission line towers during faults, lightning, or other events is eliminated, or effective means of preventing SFWMD personnel from entering an area where hazardous step and touch potentials may exist are provided. Atwater, DeHaan, Romero, “Utilities Field Test Safety Grounds”, Transmission and Distribution World, November 1, 2000
  - (iv) For SCADA system performance purposes, the design for the electrical transmission lines shall be such that magnetic, electric and conductive coupling does not cause degradation to the performance of the SFWMD

- wire-line communication facilities and SCADA system. – IEEE 487-2000, “Recommended Practice for the Protection of Wire-Line Communication Facilities Serving Electric Supply Locations”. Degradation to SCADA systems shall be considered to be a change in RTU readings of sensors that exceed the limits established by SFWMD to determine when recalibration or repair is required, per SFWMD Standard Operating Procedures (SOPs).
- (v) For maintenance of microwave communications performance and reliability purposes, the design for the electrical transmission lines shall be such that:
    - (1) Electrical transmission line towers are not located within the  $0.3F_1$  at  $K=2/3$  and  $1.0F_1$  at  $K=4/3$  of a SFWMD microwave path. – GTE Lenkurt Inc., “Engineering Considerations for Microwave Systems”, Section 7, “Clearance Criteria”
    - (2) 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.
  - (vi) For maintenance of land mobile radio voice 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, attributable to the electrical transmission lines, is increased by no greater than 2 dB.
  - (vii) 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 RTUs to less than 30 dB for the primary communications path and 20 dB for the secondary communications path – SFWMD Design Standard.
- (l) Consulting Engineer Qualifications and Selection Procedure
- (i) The following qualifications and procedures shall be followed in selecting the Consulting Engineer.
  - (ii) The Consulting Engineer shall have an active license from the State of Florida as a Professional Engineer with a record containing no disciplinary actions.
  - (iii) The Consulting Engineer shall have 10 years of documented experience and shall be qualified in the inspection, operation, and testing of the following types of communications equipment utilized by SFWMD:
    - (1) VHF Low-Band land mobile radio
    - (2) VHF High-Band and UHF telemetry radios (CalAmp Integra-TR, DL-3400, and others)

- (3) VHF land mobile radio
- (4) 900 MHz spread spectrum point to point
- (5) Aviat 6 GHz Megastar SONET microwave radios
- (6) Aviat 11 GHz and 18 GHz Truepoint microwave radios
- (7) Proxim Tsunami 2.4 GHz and 5.8 GHz microwave radios
- (iv) The Consulting Engineer shall have 10 years of documented experience and shall be qualified in the modeling and analysis of RFI and EMI from electrical transmission lines.
- (v) The Consulting Engineer shall have 10 years of documented experience and shall be qualified in the measurements of EMF levels.
- (vi) The Consulting Engineer shall have 10 years of documented experienced in the construction of high voltage electrical transmission lines.
- (vii) The Licensee shall submit the qualifications, resume, and five professional references for the Consulting Engineer to the SFWMD for review and approval.
- (viii) The Consulting Engineer shall be interviewed by the SFWMD to allow for verification of qualifications.
- (ix) SFWMD reserves the right to reject a proposed Consulting Engineer.
- (m) Design Report Submittal Requirements.
  - (i) The Draft Design Report and Final Design Report shall contain the following information and procedures:
    - (1) The report shall describe the design and location of the proposed electrical power lines consisting of towers, lines, and other support facilities such as fences, roadways and access points.
    - (2) The report shall describe all safety precautions that are to be observed when personnel are travelling through the locations in the proximity of Licensee facilities within the Area of Concern.
    - (3) The report shall include the modeling of the proposed electrical transmission line configurations and calculations shall be for worst-case RFI and EMF impacts at the individual Communications System frequencies as a function of distance from the phase conductors for the SFWMD systems per SFWMD requirements. The calculations shall be based upon full load operating condition and consider conductor heating and sag.
    - (4) The report shall describe the clearances from Licensee facilities that shall be maintained to ensure safety of all SFWMD personnel who may come in close proximity to Licensee facilities.
    - (5) The report shall include Traffic Control Requirements
      - (a) The Traffic Control Requirements shall detail how the Licensee intends to maintain access for SFWMD to SFWMD facilities during the construction and operation of the electrical power transmission lines.

- (b) The plan shall detail the distance around work zones required for safety travel of SFWMD personnel in vehicles, boats, and helicopters.
  - (c) The plan shall detail the restrictions placed upon the design of the electrical transmission line project such that access for SFWMD to SFWMD facilities is maintained.
- (6) The report shall include a Conditions of Certification Compliance Monitoring Plan and a Construction Schedule.
  - (a) The Conditions of Certification Compliance Monitoring Plan and Construction Schedule shall describe how the SFWMD's Communications Systems will be maintained and monitored during construction, including temporary facilities and configurations.
  - (b) The plan shall include performing a Baseline Test based upon the test requirements defined in Section (j), Testing and Monitoring Requirements. The results of these tests will establish the baseline against which subsequent tests during the construction, in-service, and operation phases of the electrical transmission lines are compared.
  - (c) The plan shall include regularly performing the testing during construction, at a minimum of once every three months, for comparison to the Baseline Test. Any deviation of the RF tests results greater than 2 dB shall be considered to be potentially service affecting and shall be addressed per the applicable requirements and procedures of Section (o), Elimination, Reduction and Mitigation Requirements and Procedures. If changes to existing electrical transmission lines (i.e. East Corridor) are planned during construction, then EMF testing shall be performed.
- (7) The report shall include an In-Service Test Plan
  - (a) The In-Service Plan shall describe how the SFWMD Communications Systems will be tested to ensure that the electrical transmission lines, when operating at full load, do not result in degradation and how EMF levels will be tested to ensure that levels are safe for the operation of SFWMD personnel and equipment.
  - (b) The plan shall include performing the same RF and EMF and SCADA performance tests performed during the Inspection and Testing phase. The results of the RF tests shall be compared with the baseline test results to determine if degradation to the SFWMD's Communications Systems exists. Any deviation of the RF tests results greater than 2 dB shall be considered to be potentially service affecting and shall be addressed per the applicable requirements and procedures of Section (o), Elimination, Reduction and Mitigation Requirements and Procedures. The results of the EMF tests shall be compared to the accepted safe

levels to determine if levels are safe for the operation of SFWMD personnel and equipment and that a perception of a hazardous or dangerous condition does not exist. Any SCADA system performance test that results in a reading outside SFWMD established limits shall be considered to be potentially service affecting and shall be addressed per the applicable requirements and procedures of Section (o), Elimination, Reduction and Mitigation Requirements and Procedures.

- (8) The report shall include an Operational Phase Monitoring Test Plan
  - (a) The Operational Phase Monitoring Test Plan shall describe how, during the span of operation of the electrical transmission lines, the SFWMD's systems will be tested to ensure that the electrical transmission lines do not result in degradation and how EMF levels will be tested to ensure that safe levels are maintained for the operation of SFWMD personnel and equipment.
  - (b) The plan shall include the SFWMD performing RF tests on an annual basis. The results of the RF tests shall be compared with the baseline test results to determine if degradation to the SFWMD's Communications Systems exists.
  - (c) The plan shall include the Licensee performing the EMF tests and RF drive testing on an annual basis.
  - (d) The plan shall include SFWMD performing SCADA system performance testing on a quarterly basis.
- (9) The Final Design Report shall be signed and sealed by the Consulting Engineer as being accurate and complete detailing the RFI and EMF modeling and calculations that identify the impact to the SFWMD facilities and systems within the Area of Concern due to the planned electrical transmission lines.
- (n) Construction Specifications and Plans Submittal Requirements.
  - (i) The Construction Specifications and Plans shall be suitable for advertising.
  - (ii) The plans required for permitting shall be signed and sealed by a Florida Registered Professional Engineer.
  - (iii) The Licensee shall provide detailed Traffic Control Plan for each work area.
    - (1) Traffic Control Plan shall describe the methodology, procedures, and activities the Licensee will utilize during construction to ensure that access by the SFWMD and general public to SFWMD and public property and facilities is not negatively impacted.
    - (2) For each work zone, the plan shall describe the signage, markings, and signaling that will be used to ensure safety at all times.
    - (3) The plan shall describe the alternate routing, if any, that will take place during the construction and the associated duration.
    - (4) Describe plans to restore travelways that are altered during construction.

- (iv) The Construction Specifications and Plans shall include:
  - (1) Final Design of Project Features
  - (2) Updated Final Design Report to reflect Final Plans and Specifications
  - (3) Final Level Construction Schedule
  - (4) Final Design Calculations (signed and sealed by Engineer of Record)
  - (5) Final Plans and Specifications for Advertising (include signed and sealed sets by Engineer of Record)
- (o) Elimination, Reduction and Mitigation Requirements and Procedures
  - (i) Licensee shall use all availability options to eliminate any and all impacts to the SFWMD Communications Systems. Should the SFWMD agree that elimination is not possible; the Licensee shall first seek to reduce impacts. Should the SFWMD agree that reduction is not possible or sufficient, Licensee shall mitigate for the impacts. In any event, Licensee shall indemnify the SFWMD for any and all costs, damages, repairs and changes to the SFWMD Communications Systems and damages to third parties as a result of the impacts.
  - (ii) The following process shall be followed:
    - (1) The Licensee shall perform an exhaustive analysis to determine alternative designs that would eliminate or sufficiently reduce the impact.
    - (2) If after performing an exhaustive alternative analysis the Licensee determines that the impact must be accommodated through mitigation, the Licensee shall provide a detailed justification report that defines the nature of the impact, the reason for the impact, the design restrictions that require the design to be such that it results in an impact, the alternatives that were investigated but eliminated and the reason(s) why those alternatives were not considered to be acceptable or reasonable solutions, and a description of the possible mitigation solutions. Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii)
    - (3) Should SFWMD approve the justification report, the SFWMD, Licensee and Consulting Engineer shall hold an initial planning meeting to discuss the alternative methods of mitigation.
    - (4) At SFWMD's sole discretion, SFWMD may elect to contract with a third party to develop a design for the mitigation. The licensee shall be responsible for paying the reasonable costs associated with developing this design.
  - (iii) If the SFWMD determines, to the best of its knowledge, that SFWMD Communications Systems are experiencing harmful interference or degradation or an unsafe condition exists:
    - (1) The Licensee shall submit mitigation remedies within 2 days from notice by the SFWMD. Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii).

- (2) Insofar as the need for mitigation is not required to resolve an immediate degradation or safety concern, as determined by SFWMD, the Licensee shall submit a mitigation plan within 30 days from notice by the SFWMD. Review and approval shall be in accordance with the Review and Approval process as specified in 1)(b)(vii).
- (3) Should the mitigation plan not be provided within the specified timeframe, construction shall be reversed so as to remove the impediment until a suitable remedy can be achieved.
- (4) Should the mitigation plan involve service affecting operations, the mitigation plan shall also include a Cutover Plan that details the timeframes service will be affected. The Cutover Plan shall be submitted to the SFWMD IT/SCADA change control team for review and approval and scheduling for construction and mitigation activities.
- (5) At SFWMD's sole discretion, SFWMD may elect to contract with a third party to develop a design for the mitigation. The licensee shall be responsible for paying the reasonable costs associated with developing this design.

References:

Sections 373.085(1)(b) and 373.086(1), F.S.; Sections 40E-6.6011(2) and 62-814, F.A.C. (Florida "EMF Rule")

TSB-88-B, "Wireless Communications Systems – Performance in Noise and Interference-limited Situations, Recommended Methods for Technology Independent Modeling, Simulation, and Verification", Telecommunications Industry Association, September 2004

TIA TSB-10-F, "Interference Criteria for Microwave Systems", Telecommunications Industry Association (adopted May 31, 1994)

IEEE 644-1987, IEEE Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields from AC Power Lines

FPL "Right of Way Use – Customer Guidelines"

SFWMD Standard Operating Procedures: SCMO213; SCMO214; SCMO215; SCMO216; SCMO217; SCMO219; SCMO220; SCMO226; SCMO228; SCDL225; SCDL226; SCDL241.

National Electrical Safety Code (NESC) ANSI C2-2007, Institute of Electrical and Electronics Engineers, Inc.

Occupational Safety and Health Administration, Code of Federal Regulations, Title 29, Section 1910.333(C)(3)(i)(A)(2)

Atwater, DeHaan, Romero, "Utilities Field Test Safety Grounds", Transmission and Distribution World, November 1, 2000.

IEEE 487-2000, Recommended Practice for the Protection of Wire-Line Communication Facilities Serving Electric Supply Locations.

GTE Lenkurt Incorporated, "Engineering Considerations for Microwave Communications Systems", San Carlos, CA, June 1970

Serizawa, 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

#### 4.2.2.2 Operations & Maintenance/Right-Of-Way

##### 1) General Conditions

- a) At least ninety (90) days prior to the commencement of construction of any portion of the transmission lines, the Licensee shall provide the 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 (90) days prior to the commencement of construction of any portion of the transmission lines over, across, or adjacent to any canal or levee of the SFWMD or use of any SFWMD canal or levee right-of-way to facilitate the construction of the transmission line, the Licensee shall submit complete scaled or fully dimensioned 8½" X 11" drawings to the SFWMD showing the proposed facilities for a determination of compliance with the 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, the following.
  - 1) The location of the facilities in relation to a section line, major road or other prominent well-known landmark by the which the facility may be located in the field.
  - 2) The canal right-of-way lines.
  - 3) The top of the canal bank and its elevation (all elevations to be NGVD 1929 Datum).
  - 4) The location and elevation of any buried facilities, including culverts.

- 5) A cross-section of the overbank right-of-way taken beneath the conductors (said cross-sections shall be from right-of-way line to right-of-way line and taken at 10 foot intervals). The profile view of the conductor crossings shall clearly show the location of any poles, towers, anchors, downguys or spanguys, and/or access roads located within or in the immediate vicinity of the SFWMD's right-of-way and the elevation of the point of maximum sag of the lowest conductor and the elevation of the highest point on the SFWMD's right-of-way below the conductor shall be labeled.

Reference: Section 373.085 and 373.086, F.S.; Rules 40E-6.091(1) and 40E-6.201(1)(h), F.A.C.

- c) For any use of the SFWMD's right-of-way for construction access, the Licensee shall:
  - 1) Provide a time schedule for use of the right-of-way.
  - 2) Submit a detailed plan identifying the proposed route, type and number of vehicles to be used and the frequency of such use; and
  - 3) Obtain any necessary SFWMD Key Permits and pay applicable deposits.

Reference: Section 373.085 and 373.086, F.S.; Rules 40E-6.091(1) and 40E-6.201(1)(h), F.A.C.

- d) Vertical clearances for any aerial crossings over SFWMD canals and rights-of-way shall meet SFWMD criteria and requirements in effect at the time of project construction, as set forth in Chapter 40E-6, F.A.C., in effect at that time. Reference: Sections 373.085(1) and 373.086(1), F.S.
- e) Prior to use of SFWMD right-of-way for access during construction of the transmission line and/or for inspection and maintenance after construction, the Licensee shall submit to the SFWMD a detailed plan identifying the proposed route, type and number of vehicles to be used and the frequency of such use. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.
- f) Subsequent to Certification, any requests for variances/waivers to SFWMD Right Of Way Occupancy Permit criteria, as set forth in Rule 40E-6, F.A.C., shall be processed as an amendment or modification to this Certification. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.
- g) The Licensee is responsible for identification of potential conflicts with

existing facilities permitted by the 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. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

- h) The Licensee and its authorized representatives and contractors shall only have the right to utilize the SFWMD's right-of-way for those activities, uses and purposes specifically authorized in this Certification. All other activities, uses and purposes on the SFWMD's 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 the SFWMD's right-of-way for any activity, use, or purpose without the prior written consent of the SFWMD. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.
- i) The 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, F.A.C.
- j) The Licensee shall be responsible for any mitigation or permitting arising from impacts to any state or federally listed threatened or endangered species on the SFWMD's right-of-way 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.
- k) The Licensee, its agents, employees, contractors and subcontractors shall be prohibited from removing any items of historical, architectural, archaeological, or cultural significance. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.
- l) The Licensee does not have any authority to incur liens for labor or materials on the SFWMD's right-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 Agreement. Pursuant to Sections 713.01(21) and (24) Florida Statutes, the SFWMD's 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 for services involving the SFWMD's right-of-way. In the event that the Licensee shall not, within 10 days following the imposition of any such lien, cause the same to be released of record by payment or posting of a bond, the 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 the 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 the SFWMD by the Licensee on demand. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

- m) The 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. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.
- n) The Licensee shall be responsible for the increased cost that the 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's right-of-way due to the Licensee's facilities or uses being located within the SFWMD's right-of-way. The increased cost shall be determined by the 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 the SFWMD's increased cost. The Licensee shall pay the SFWMD's increased cost no later than thirty (30) days after receipt of written notice from the 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. The 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.
- o) For purposes of this Certification, "Pollutant" shall mean any hazardous or

toxic substance, material, or waste of any kind or any contaminant, pollutant, petroleum, petroleum product, or petroleum by-product as defined or regulated by environmental laws. "Disposal" shall mean the release, storage, use, handling, discharge or disposal of such Pollutants. "Environmental Laws" shall mean any applicable federal, state or local laws, statutes, ordinances, rules, regulations or other governmental restriction. The Licensee shall not cause the Disposal of any Pollutants upon the SFWMD's right-of-way or upon any adjacent lands. The Licensee shall operate and occupy the SFWMD's right-of-way in compliance with all Environmental Laws. Any Disposal of Pollutants, whether caused by the Licensee or any other third party, shall be reported to the SFWMD immediately upon the knowledge thereof by the Licensee. The Licensee shall be solely responsible for the entire cost of cleanup of any Disposal of Pollutants resulting from the activities of the Licensee, its contractors, subcontractors, agents, and/or assigns with respect to the SFWMD's right-of-way. For good and valuable consideration, the adequacy and receipt of which are hereby acknowledged, the Licensee shall indemnify, defend and hold harmless the SFWMD, its Governing Board members, employees, contractors, invitees and agents, from and against any and all claims, loss, damage, cost or liability incurred by the SFWMD, its Governing Board members, employees, contractors, invitees and agents, (including but not limited to reasonable attorney's fees and costs) which arises directly, indirectly or proximately as a result of the Disposal of any Pollutants by Licensee, its contractors, subcontractors, agents, and/or assigns which affects the SFWMD's right-of-way or emanates from the SFWMD's right-of-way to adjacent lands. This responsibility shall continue to be in effect for any such Pollutants as are discovered after the date of termination of this Certification. While this paragraph establishes contractual liability for the Licensee regarding pollution of the subject lands as provided herein, it does not alter or diminish any statutory or common law liability of the Licensee for such pollution. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

- p) The Licensee shall maintain the SFWMD's right-of-way at all times in a good condition acceptable to the SFWMD. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.
- q) If deemed necessary by the SFWMD, the Licensee shall construct vehicle turn-around/passing areas to meet SFWMD requirements to accommodate unimpeded continuous access by SFWMD vehicles and equipment. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.
- r) The Licensee shall only use the access points and gates authorized by the

SFWMD. Upon payment of applicable key deposit fees and submission of complete key permit applications, the SFWMD agrees to grant the Licensee the necessary key permits allowing temporary access across SFWMD roads to support the construction needs of the Licensee. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.

- s) The Licensee shall not utilize the SFWMD's right-of-way for the general servicing or maintenance of its construction equipment or for the storage of any contaminant, hazardous substance, fuel or other petroleum products. The Licensee shall take all necessary measures 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.
- t) Temporary access authorization is for the use of the Licensee and the Licensee's contractor(s)/sub-contractor(s) only. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.
- u) The Licensee shall not stockpile excavated material in the canal or within the SFWMD's right-of-way except in areas approved by the SFWMD. The Licensee is responsible for the removal of all excess material from the SFWMD's right-of-way, unless otherwise directed by the SFWMD. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.
- v) The 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, and/or staff caused by the Licensee and its employees, and contractors during the design, construction, operation and/or maintenance of the proposed facilities. The time-frames specified in these conditions shall be considered maximum allowable time frames. 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 the SFWMD's lands and

works. The 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.

- b) The 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 the SFWMD's regulation and potential fluctuation, without notice, of water levels in canals and works, 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 the SFWMD's review of this project and authorization to commence construction, including, but not limited to, any field inspections performed by the 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 Certification review process, including, but not limited to, any field inspections, shall not in any way be relied upon by Licensee as the SFWMD's 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.
- c) The Licensee agrees to abide by all of the terms and conditions of this Certification, including any representations made in the application for Certification and related documents. Licensee agrees to pay all removal and restoration costs, investigative costs, court costs and reasonable attorney's fees, including appeals, resulting from any action taken by the SFWMD to obtain compliance with the conditions of Certification. If SFWMD legal action is taken by staff counsel, "reasonable attorney's fees" is understood to mean the fair market value of the services provided, based upon what a private attorney would charge.
- d) Unless specifically prohibited or limited by statute, the Licensee shall indemnify, defend and save and hold harmless the SFWMD (which used herein includes the SFWMD and its past, present and future employees, agents, representatives, officers and Governing Board members and any of

their successors and assigns) from and against any and all lawsuits, actions, claims, demands, losses, injuries, expenses, costs, judgments, liabilities, attorneys fees and costs (including but not limited to the fair market value of the SFWMD's in house attorneys' fees based upon private attorneys' fees/rates, as well as costs recoverable under the Statewide Uniform Guidelines for Taxation of Costs in Civil Actions, other provisions of the Florida Statutes and Florida Administrative Code, and any and all costs associated with litigation that are not taxable costs under the cited authorities at all levels of litigation), which arise from or may be related to the ownership, construction, maintenance or operation of the authorized use or the possession, utilization, maintenance, occupancy, activities conducted upon, and/or ingress and egress of the SFWMD's right-of-way which arise directly, indirectly or proximately and/or are caused in whole or in part by the acts, omissions or negligence of the Licensee, its agents, employees, contractors, subcontractors and/or agents, the SFWMD or of third parties. The Licensee agrees to provide legal counsel acceptable to the SFWMD if requested for the defense of any such claims.

- e) The SFWMD does not waive sovereign immunity in any respect.
- f) 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.Licensee shall be responsible for any costs incurred by the SFWMD resulting from any such interference, as set forth in (a), (b), and (c), above;
  - (4) leaving construction or other debris on the SFWMD's right-of-way or waterway;
  - (5) damaging SFWMD berms and levees;
    - (a) the removal of SFWMD owned spoil material;
    - (b) removal of or damage to SFWMD locks, gates, and fencing;
    - (c) opening of SFWMD rights of way to unauthorized vehicular access;
    - (d) running or allowing livestock on the SFWMD's right of way.
- g) The SFWMD is not responsible for any personal injury or property damage which may directly or indirectly result from the use of water from the SFWMD's canal or any activities which may include use or contact with water from the SFWMD's canal, since the SFWMD periodically sprays its

canals for aquatic weed control purposes and uses substances which may be harmful to human health or plant life.

- h) The Licensee shall allow the SFWMD to inspect the authorized use at any reasonable time.
- i) The Licensee shall not interfere with any other existing or future permitted uses or facilities authorized by the SFWMD.
- j) The 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 the SFWMD or the U. S. Army Corps of Engineers for the works of the SFWMD.
- k) The Licensee shall be responsible for the repair or replacement of any existing facilities located within the SFWMD's right-of-way which are damaged as a result of the installation or maintenance of the authorized facilities.
- l) It is the responsibility of the Licensee to make prospective bidders aware of the terms and conditions of this Certification. It shall be the responsibility of the Licensee's contractors to understand the terms and conditions of this Certification and govern themselves accordingly.

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) Prior to commencement of construction or utilization of the SFWMD's right-of-way, the Licensee is required to contact the SFWMD's field representative at the Homestead Field Station office to schedule a pre-construction meeting.
- b) The Licensee shall comply with any more stringent conditions set forth in other required permits and approvals and in accepted industry standards.
- c) A copy of the Certification application, Certification order, SFWMD post-certification submittals, and the SFWMD's construction authorization letter will be kept at a location to be determined until completion of all phases of construction and acceptance of the constructed facilities and restoration of the right-of-way by the SFWMD's field representative.

- d) The Licensee shall be responsible for the removal of all construction materials and debris from the SFWMD's canal and right-of-way; and, for the repair, replacement and restoration of any sections of the SFWMD's right-of-way damaged or disturbed resulting from the authorized activity. Restoration shall be to the satisfaction of the SFWMD and shall include grading/re-shaping, seeding, re-sodding with bahia, argentine, or other species recognized by the SFWMD as a drought tolerant species.
- e) Should the authorized activities or placement of the authorized facilities within the SFWMD's right-of-way or maintenance of same attribute to shoaling, erosion or wash-outs of the SFWMD's right-of-way, berm or side slope of the canal, it is the Licensee's sole responsibility and expense to, upon notification from the SFWMD, immediately take appropriate steps to restore the right of way to its pre-construction condition to the satisfaction of the SFWMD.
- f) At no time shall the Licensee place permanent or semi-permanent above-ground encroachments or facilities within the 40 foot wide strip of land lying parallel to the canal as measured from the top of the existing canal bank landward, unless otherwise authorized in this Certification.
- g) At no time shall the Licensee place facilities crossing over SFWMD structures or project culverts, unless otherwise authorized in this Certification.
- h) At no time shall the Licensee place above ground facilities within the SFWMD's designated 100 foot long equipment staging areas located at all bridges and pile-supported utility crossings, unless otherwise authorized in this Certification.
- i) Immediately upon completion of the authorized work, the Licensee shall contact the SFWMD's field representative at the Homestead Field Station office to schedule a final inspection.
- j) For culvert connections, 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 the

SFWMD to prevent the discharge of debris or aquatic weeds into any project 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 project 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 the SFWMD's right of way at location(s) specified by the SFWMD's field representative.

(8) Culverts to be installed in association with structure pads and pad access ramps connecting to the SFWMD's levee access roads shall be of adequate design to prevent adverse impacts to wetlands or weakening of the levee due to impoundment of water.

k) The Licensee shall comply with the following requirements during temporary use of SFWMD right-of-way for construction activities:

(1) Prior to commencement of construction or utilization of the SFWMD's right-of-way, the Licensee is required to contact the SFWMD's field representative at the 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 designer, their titles and telephone numbers for office, mobile, beeper, home or local residences.

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

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

(2) This temporary 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 the SFWMD's access gate upon entering and leaving the SFWMD's 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 the SFWMD's vehicular access gate during any working hours that the gate remains open. At no time shall an open SFWMD gate be left unlocked and unattended.

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

(6) No vehicular maintenance/repair activities or substances or parts associated with the repair or maintenance of vehicles/equipment will take place, be used, stored or discarded within the right-of-way nor shall the SFWMD's right-of-way be used for storage or parking of equipment, associated machinery or construction trailers.

(7) The Licensee shall not stockpile excavated material in the canal or within the SFWMD's right-of-way. The Licensee is responsible for the removal of all excess project related material from the SFWMD's right-of-way, unless otherwise authorized in this Certification

(8) The Licensee shall maintain insurance coverage to the amounts and limits specified by the SFWMD throughout the life of the project. The Licensee is responsible for providing the SFWMD with renewed/updated certificates. Insurance coverage will remain in effect until such time as all activities within the SFWMD's right-of-way have ceased, the right of way restored to the satisfaction of the SFWMD and the Licensee is notified by the SFWMD that insurance coverage may be cancelled.

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

(1) If storm, hurricane, or emergency circumstances are developing, the SFWMD will attempt to provide a forty-eight (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 the SFWMD may or may not be able to provide the Licensee.

(2) If storm, hurricane or emergency circumstances have developed, the 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 per the SFWMD's approved contingency plans.

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

m) The Licensee shall comply with the following concerning removal of exotic/nuisance vegetation:

(1) The Licensee shall remove all exotic vegetation from within the SFWMD's right-of-way throughout the limits of the constructed project and keep the right-of-way free of said exotic vegetation throughout the life of the project. Exotic vegetation shall be defined as all Category I & II plants listed on the Exotic Pest Plant Council's most current listing.

(2) The 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 manufacturers label instructions.

(3) The Licensee shall take all precautions to not damage or destroy existing native (indigenous) vegetation located within the SFWMD's right-of-way throughout the project limits.

(4) The Licensee shall not remove, or treat with herbicide applications any mangrove or other native shoreline vegetation.

(5) The Licensee shall maintain the project area on a regular cycle basis and keep the right-of-way free of excessive weeds and exotic vegetation.

n) The SFWMD may not own all underlying fee title to the canal and levee rights of way and, therefore, grants its approval only to the extent of its interest in the rights of way. This Certification does not convey any property rights nor any rights or privileges other than those specified herein and this Certification shall not, in any way, be construed as an abandonment or any such impairment or disposition of the SFWMD's property rights. The 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. The Licensee further agrees to indemnify the SFWMD and hold the SFWMD harmless, to extent permitted by law, from any claims raised against the SFWMD by any underlying owner within the Premises as it relates to the Licensee's activities. The Licensee shall comply with any more stringent conditions or provisions which may be set forth in other required permits or other authorizations. The SFWMD, however, assumes no duty to ensure that any such authorizations have been obtained or to protect the legal rights of the underlying owner, in those instances where the SFWMD owns less than fee title.

- o) In the event of floods or other natural or civil disasters or emergencies affecting the SFWMD or SFWMD right-of-way, the Licensee shall cooperate with the SFWMD to mitigate the impact of such emergencies. The Licensee shall immediately notify the SFWMD and Miami-Dade County of any emergency situation occurring upon the SFWMD's right-of-way.
- p) The Licensee is put on notice that, prior to the placement of additional facilities or alterations to existing facilities other than those specified in the Certification, an amendment or modification to the Certification will first be required.
- q) Any facilities or additions approved under this certification shall comply with the minimum requirements contained within Chapter 40E-6, Florida Administrative Code and/or the certification conditions contained in this report, whichever is more stringent.
- r) For those areas where the Licensee is proposing access to SFWMD rights-of-way and facilities from an adjacent road, the Licensee shall provide the SFWMD with a copy of the Maintenance of Traffic (MOT) Plan for review prior to submittal to the Florida Department of Transportation (FDOT) to confirm that there will be no adverse impacts to SFWMD operations, maintenance, and other activities. The Licensee shall provide the SFWMD with a copy of the Final MOT approved by the FDOT. In addition, the Licensee shall provide the SFWMD with an alternatives analysis which demonstrates that no other viable access alternatives to SFWMD facilities are available.
- s) In those areas identified by the SFWMD within the certified corridors where there are existing operational and/or maintenance constraints and the

Licensee's proposed facilities cross or abut SFWMD canal rights-of-way, the Licensee shall install the proposed transmission line facilities at a height sufficient to provide adequate clearances for SFWMD equipment to perform routine or emergency field maintenance operations within its right-of-way, or the Licensee shall implement other design measures or techniques to avoid potential conflicts.

- t) The Licensee shall comply with all applicable U.S. Department of Occupational, Safety, and Health Administration (OSHA) standards and safe clearance requirements including, but not limited to, height and swing radius clearances, and any other health and safety related governmental requirements or industry standards that may be in effect at the time of project construction, as they relate to SFWMD operations and maintenance activities within or adjacent to the final certified transmission line right-of-way.
- u) SFWMD canals, levees, and associated facilities were constructed as part of the Central & Southern Florida (C&SF) Flood Control Project within land interests (rights of way) acquired for the purpose of providing drainage and flood protection. The 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 (33 C.F.R. 208). Due to the critical importance of works and lands of the SFWMD in providing flood protection and other benefits, it is essential that the SFWMD retain complete control over the use of such works or lands. Licensee acknowledges its obligation to obtain all necessary approvals from the USACE. 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.

#### **4.2.4 *Land Management/Ecosystem Restoration***

- 1) The Licensee shall avoid impacting wetlands on SFWMD lands wherever 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.
- 2) The Licensee shall employ culverting, geoweb, bridging, roadless construction techniques, or other appropriate construction methods or techniques to

maintain historical drainage patterns and sheetflow. For those areas where wetland impacts are approved, wetland control elevations shall be established to maintain or improve pre-construction hydroperiods within all affected areas. Reference: Section 373.1391, F.S.

- 3) The Licensee shall, wherever possible, use adjacent existing public roads for access to the right-of-way for construction, operation, and/or maintenance purposes. Reference: Section 373.1391, F.S.
- 4) Transmission line access roads shall be designed to include steel guard rails, heavy locked gates, or other appropriate methods or techniques to prevent illegal access to SFWMD-owned lands. Reference: Section 373.1391, F.S.
- 5) The Licensee shall design, construction, operate, and maintain the proposed transmission line facilities on or adjacent to SFWMD's lands to reflect the SFWMD's right to manage its lands, including conducting periodic prescribed burns on its lands. Reference: Section 373.1391, F.S.
- 6) The Licensee shall provide the SFWMD with as-built drawings of the final right-of-way, certified by a Florida professional engineer, for those portions of the final right-of-way that cross or abut SFWMD lands, works, or projects. Reference: Sections 373.085(1)(b) and 373.1391, F.S.
- 7) The Licensee's project activities shall not interfere with the SFWMD's project activities. Reference: Sections 373.1391, 373.1501(4)(d), 373.1502(2)(a), and 373.4592, F.S.
- 8) The Licensee's project construction schedule must not conflict with the SFWMD's project construction schedules. Reference: Sections 373.1391, 373.1501(4)(d), 373.1502(2)(a), and 373.4592, F.S.
- 9) As part of the post-certification review process, the Licensee shall provide detailed hydrologic modeling and analysis demonstrating that the proposed project will not impede historic or future hydrologic flows associated with implementation of Comprehensive Everglades Restoration Plan and other SFMWD restoration projects. Reference: Sections 373.1391, 373.1501(4)(d), 373.1502(2)(a), and 373.4592, F.S.
- 10) The Licensee must reimburse the SFWMD for any increased costs associated with changes to design plans for Comprehensive Everglades Restoration Plan and other SFWMD restoration projects resulting from construction of the Licensee's project. Reference: Section 373.1391, F.S. Reference: Sections 373.1391, 373.1501(4)(d), 373.1502(2)(a), and 373.4592, F.S.

- 11) The Licensee shall not obstruct or encroach SFWMD Comprehensive Everglades Restoration Plan or other SFWMD restoration projects such that ecosystem restoration benefits are compromised or reduced, SFWMD project operations and maintenance activities are hindered, or the project function is compromised or reduced. Reference: Sections 373.1391, 373.1501(4)(d), 373.1502(2)(a), and 373.4592 F.S.
- 12) Final project fill elevations shall consider current peak stages as well as increased flows and water levels anticipated to result from implementation of Comprehensive Everglades Restoration Plan and other ecosystem restoration projects. Reference: Sections 373.1391, 373.1501(4)(d), 373.1502(2)(a), and 373.4592, F.S.

#### **4.2.5 Water Use**

- 1) Prior to the commencement of construction of those portions of the project which involve dewatering activities, the Licensee shall submit a detailed plan for the proposed dewatering activities to the SFWMD for a determination of compliance with the non-procedural requirements of Chapters 40E-2, 40E-3 and 40E-20, F.A.C., in effect at the time of submittal. The following information, referenced to NGVD where appropriate, shall be submitted:
  - a) A detailed site plan which shows the location(s) for each proposed dewatering area;
  - b) The method(s) used for each dewatering operation;
  - c) The maximum depth for each dewatering operation;
  - d) The location and specifications for all proposed wells and/or pumps associated with each dewatering operation;
  - e) The duration of each dewatering operation;
  - f) The discharge method, route, and location of receiving waters generated by each dewatering operation, including the measures (Best Management Practices) that will be taken to prevent water quality problems in the receiving water(s);
  - g) An analysis of the impacts of the proposed dewatering operations on any existing on and/or off-site legal users, wetlands, or existing groundwater contamination plumes;
  - h) The location of any infiltration trenches and/or recharge barriers; and
  - i) All plans must be signed and sealed by a Professional Engineer or a Professional Geologist registered in the State of Florida.

#### **4.3 Corridor-Specific Conditions**

### **4.3.1 East Preferred Corridor**

#### 4.3.1.1 Central and South Florida Project

- 1) Electrical transmission line support structures and overhead wires shall not be placed parallel to and within the SFWMD's C-102 (Princeton) Canal right-of-way northwest of the Florida Turnpike crossing and the SFWMD's C-2 (Snapper Creek) Canal right-of-way north of the Dadeland Mall. Reference: Sections 373.085 and 373.086, F.S.; Chapter 40E-6, F.A.C.
- 2) Due to existing SFWMD access constraints at the intersection of U.S. Highway 1 and the C-2 (Snapper Creek) Canal, which would be exacerbated by any new aerial crossings at this location, the 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 Avian Conditions

- 1) Quantification of the movements and flight behaviors of wood storks and other Comprehensive Everglades Restoration Plant (CERP) wading bird species are needed to understand the risk of collision of birds in the colony cluster with the proposed transmission lines and the potential effects on population dynamics. The Licensee shall conduct a pre-construction study that focuses primarily on the wood stork for the following reasons: (1) The wood stork is numerically the most dominant species at the colony cluster; (2) The colony cluster is critically important to the wood stork population, supporting on average half of all wood stork nests in the Everglades; and (3) The wood stork is potentially at greater risk of collision than other CERP wading bird species due to its nocturnal foraging, the flight ability and behavior of fledgling birds, and its relatively long nesting season. Data from this study shall be used by the Licensee to determine the final right-of-way location and project design.

The study shall be conducted during a minimum of two wading bird nesting seasons and shall begin no later than five years prior to the date of anticipated construction of the transmission lines to ensure that sufficient data are collected under a wide range of environmental conditions with respect to weather and hydrology. The study shall comprise the following components:

- a) Wading bird flight patterns across or within the proposed corridor. This component shall record the flight and foraging behaviors of wood storks and other wading bird species (both locally nesting and non-nesting foraging birds) as they fly within or across the footprint of the certified transmission

line corridor. The purpose is threefold: (1) To determine how many birds encounter the transmission line corridor during the course of the breeding season; (2) To understand critical aspects of the behavior of the birds as they cross the corridor that may affect the potential for collisions, such as flight height, flight type, and life-history stage of the bird; and (3) To understand how environmental factors, such as time of day, weather conditions, and foraging conditions, affect the potential for collisions. This will provide an index of collision risk for the certified transmission line corridor.

Data shall be collected in accordance with the methodological procedures outlined in the publications of the Avian Power Line Interaction Committee at the time the study is conducted. To the extent possible, the study shall include a sufficient sample size of adult and juvenile birds, and shall include, at minimum, one nesting season with a total nesting population comparable to the ten year mean of the colony cluster (approximately 500 nesting pairs of stork). Monitoring shall focus on, but not be limited to, sections of the certified corridor that encroach the USFWS habitat management zones of the colonies.

- b) Flight behaviors of individual wood storks at each colony. This component shall examine the flight behaviors of individual adult and juvenile storks at each colony over the course of the breeding season including, but not limited to the direction and destination of individual flights, the altitude of the flight, the type of flight (flapping/soaring), and the daily frequency of flights. This will provide a mechanistic understanding of stork collision risk and will assist in identifying options to mitigate for potential collisions. It will allow for an independent estimate of wood stork collision risk for each colony. Observations shall focus on wood storks from the following colonies: Tamiami West, Tamiami East 1, Tamiami East 2 and 3B Mud.

Individual behaviors shall be examined at various times of day, weather conditions, and light conditions, including diurnal, dusk, dawn, and night flights, throughout the duration of the nesting season. Survey methods shall include a combination of remote tracking, such as satellite or radio tracking, and traditional visual techniques, such as the use of binoculars.

The principle investigator of the scientific team shall be an expert on wading birds with at least one peer-reviewed publication related to the wood stork, and preferably with working knowledge of the colony cluster.

The Licensee shall provide the SFWMD and the cooperating wildlife agencies with a study proposal at least six months prior to initiation of the study, including

a schedule and a statement of work, for review and approval. The study proposal shall include an overview of the project objectives, the preliminary study design/logistics, and a time schedule. The proposed study must meet participating agency technical requirements for the study design, including monitoring locations, sampling frequencies, methodology, specific parameters to be examined, and statistical approach.

Following implementation of the study, the Licensee shall submit an annual progress report to the SFWMD on or prior to October 1st of each year for the preceding nesting season, and a final summary report at the end of the study. The annual progress report shall include, but not be limited to, the following sections: Methods, results, discussion, all raw data, statistical output, and any essential figures and tables.

- 2) The Licensee shall make every effort to eliminate or reduce wading bird collisions within the final right-of-way through appropriate construction design, including, but not limited to the following.
  - a) Installing avian flight diverters on the overhead ground wires of the transmission lines. At a minimum, flight diverters shall be placed from a point one-half mile south of where the U.S. Fish and Wildlife Service (USFWS) secondary zone of the nearest Tamiami Trail colony intersects the final right-of-way to a point one-half mile north of where the USFWS secondary zone of the 3B Mud colony intersects the final right-of-way. Spacing of flight diverters shall be determined based on the results of the pre-construction study and consultation with the Florida Fish and Wildlife Conservation Commission (FWC) and the USFWS.
  - b) Adjusting the height range of the conductors. This shall include, but not be limited to, using the appropriate support structure (pole) design, reducing the length of the span between the support structures, reducing ground wire elevation, and cable bundling. The final height and configuration of the conductors shall be based on the results of the pre-construction study and consultation with the FWC and the USFWS.
  - c) Limiting the use of guy wires within a one-mile distance of each colony and at important roosting or foraging locations. Where the use of guy wires is absolutely necessary within a one-mile distance of each colony and at important roosting or foraging locations, individual guy wires shall be fitted with avian flight diverters. The Licensee may utilize other methods or techniques to minimize collision risk, subject to review and approval by the participating review agencies.

- 3) The Licensee's pre-construction, construction, operation, and maintenance activities shall follow USFWS Guidelines, as listed below.
  - a) Within the USFWS Primary Zone, the Licensee shall avoid all construction and maintenance activities when nesting activity is occurring, as determined by a qualified observer, or prior to nesting if the qualified observer notices behavior consistent with colony formation. During the non-nesting season, the Licensee shall perform construction activities in the least obtrusive manner possible.
  - b) Within the USFWS Secondary Zone, the Licensee shall avoid intrusive construction or maintenance activities including, but not limited to blasting, pile-driving, and earthwork, when nesting activity is occurring as determined by a qualified observer. The Licensee shall coordinate with the U.S. Fish and Wildlife Service to determine which, if any, construction activities are appropriate if nesting occurs. During the non-nesting season, the Licensee may proceed with authorized construction and maintenance activities.
- 4) After construction activities have been completed, the Licensee shall conduct a follow-up study to quantify wood stork collisions and any associated levels of mortality. The study shall include behavioral observations of birds interacting with the transmission lines and regular surveys for dead or injured birds within the transmission line right-of-way. The data from the post-construction surveys shall be reviewed by the SFWMD to determine whether, based on a statistical analysis of the data, further design modifications and mitigation measures are required. The components of the study shall include the following.
  - a) The Licensee shall perform post-operational behavioral and mortality surveys for a period of three years beginning no later than the first nesting season after completion of transmission line construction activities. The data collected from the post-construction surveys shall be reviewed by the SFWMD to determine whether, based on a statistical analysis of the data, further post-construction surveys are required for up to an additional two years.
  - b) Behavioral interactions and mortality data shall be collected according to the procedures outlined in the latest published edition of Mitigating Bird Collisions with Power Lines by the Avian Power Line Interaction Committee. Data pertaining to wood stork behavioral interactions when approaching a transmission line shall include, but not be limited to, the flock size, the direction and altitude of the flight during approach, crossing and departure, the section where the flight crosses the power line, and the reaction of the bird (altitude change, direction change, flare, collision). Ground-based

surveys for dead and injured birds shall occur at appropriate frequencies along sections of the transmission line that bisect wetland habitat, with particular attention paid to those sections that intersect USFWS habitat management zones. While the wood stork is the focus of the mortality surveys, collisions and mortality for all avian species shall be noted.

- c) Interaction behaviors shall be examined at various times of day and under different weather and light conditions, including diurnal, dusk, dawn, and night flights, throughout the duration of the nesting season. To the extent possible, the study shall include a sufficient sample of adult and juvenile birds and shall include, at minimum, one nesting season with a total nesting population comparable to the ten year mean number of nests for the colony cluster (approximately 500 nests).
  - d) The principle investigator of the scientific team shall be an expert on wading birds with at least one peer-reviewed publication related to the wood stork and, preferably, working knowledge of the colony cluster.
  - e) The Licensee shall provide the SFWMD and the cooperating wildlife agencies with a study proposal prior to construction of the transmission lines, including a schedule and a statement of work, for review and approval. The study proposal shall include an overview of the project objectives, the preliminary study design/logistics, and a time schedule. The proposed study must meet participating review agency technical requirements for the study design, including monitoring locations, sampling frequencies, methodology, specific parameters to be examined, and statistical approach.
  - f) Following implementation of the study, the Licensee shall submit an annual progress report by October 1st of each year for the preceding nesting season, and a final summary report at the end of the three years. The reports shall include, but not be limited to, the following sections: Methods, results, discussion, all raw data, statistical output, and any essential figures and tables.
- 5) The Licensee shall make every effort to reduce the loss or degradation of tree islands from transmission line construction and operation, including direct loss of habitat due from transmission line construction and indirect loss from construction-related hydrological changes.

Reference: Sections 373.1501(4)(d), 373.1502(2)(a), and 373.470(3)(a), F.S.

#### 4.3.2.2 Central and South Florida Project

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.

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, the 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 in locations specified by the 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 approvals are requested prior to 2014, the Licensee shall consult the SFWMD concerning the need to include NGVD 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 the SFWMD if the studies were completed less than three hundred sixty five (365) days 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, to assess the structural integrity of the levee(s).
- 4) If the SFWMD determines, based on review of Licensee's surveys, visual inspection, or other assessment method, that further investigation is needed to accurately assess the integrity of the levee(s), the SFWMD shall notify the Licensee. The Licensee shall conduct additional investigations in accordance with SFWMD recommendations. 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 engineer, to the SFWMD. The SFWMD retains the right to require additional

investigations or assessments, as necessary, to satisfy SFWMD non-procedural requirements, prior to authorizing any access or construction activities.

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

- 1) Prior to construction of the certified electrical transmission line facilities, the Licensee shall provide the 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 the 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 the 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 the 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 the SFWMD's 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. The improvements shall be performed in a manner consistent with the applicable non-procedural requirements of the U.S. Army Corps of Engineers, as set forth in 33 Code of Federal Regulations, Section 208. The Licensee shall not commence construction activities on SFWMD rights-of-way without prior written authorization from the SFWMD. The SFWMD shall not unreasonably withhold authorization and shall identify any applicable requirements that the 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 the SFWMD through its routine maintenance schedules, if deemed

necessary by the SFWMD. If not deemed necessary by the 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 the SFWMD. If the further deterioration or changes are determined to be caused by the Licensee's construction activities, the further deterioration or changes shall be remedied by the Licensee to the satisfaction of the SFWMD. If not deemed necessary by the Licensee, the Licensee shall continue to monitor unless the SFWMD requests that the levee(s) be returned to pre-construction conditions, as documented pursuant to Condition (1) of this subsection.

- 2) The SFWMD reserves the right to halt any and all construction activities due to concerns related to the structural integrity of the levee(s). If the SFWMD requires a halt to construction activities, the SFWMD shall provide the Licensee with a description of its concerns regarding the structural integrity of the levee(s) within 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 the SFWMD with a proposed Remedial Construction Plan that addresses the SFWMD's concerns within three (3) working days. The SFWMD's failure to respond to the Licensee within five (5) working days after Licensee's submittal of the Remedial Construction Plan shall constitute acceptance by the SFWMD of the Licensee's Remedial Construction Plan.

e) Damages During Construction

- 1) The Licensee shall be responsible for the repair or replacement of the SFWMD's 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 the SFWMD's 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) The Licensee agrees to allow SFWMD personnel access at all times and the opportunity to inspect improvements to the L-29, L-30, and L-31N Canal levees during construction or operation at all times. The Licensee shall reimburse the SFWMD for costs associated with the SFWMD's hiring of an inspector to oversee Licensee's work.

g) Post-Construction

- 1) The Licensee shall provide as-built drawings showing all improvements within the L-29, L-30, and L-31N Canal rights-of-way within 30 days of completion of each phase of construction. The as-built drawings shall be signed and sealed by a Florida-registered Engineer and shall be referenced to NAVD 88. The Licensee and the 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 the 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) Any use and/or occupancy of the L-29, L-30, and L-31N canal rights-of-way shall be limited to the terms and conditions as set forth in the Cooperation Agreement By and Between Florida Power and Light Company and the South Florida Water Management District Regarding FPL's Utility Corridor Within the Everglades National Park Expansion Area, dated August 21, 2008 (Resolution No. 2008-640). No other use and/or occupancy of the L-29, L-30, and L-31N Canals is authorized. An amendment or modification to this Certification shall be required for any additional use and/or occupancy of the SFWMD's L-29/L-30/L-31N rights-of-way beyond that authorized in the Cooperation Agreement.
  - 3) 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 500kV 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) Within the West Preferred Corridor and the Krome Avenue Access Corridor, access shall be restricted to the west sides of the L-30 and L-31N Canals. Access on the east sides of the L-30 and L-31N Canals is prohibited.
- 5) The Licensee shall comply with the following conditions concerning use of the Ratner bridge:
  - a) The Licensee's proposed use is secondary to the SFWMD's and the USACE's proposed use and shall not interfere with the SFWMD's proposed use.
  - b) The Licensee shall inspect the bridge prior to and after construction activities in accordance with Florida Department of Transportation standards. Prior to construction, the Licensee shall provide load rating calculations for specific high frequency and special vehicles that will need to use the bridge. Maximum load criteria shall not be exceeded.
  - c) Prior to construction, the Licensee shall provide the SFWMD with videos and photographs documenting the condition of the bridge.
  - d) The Licensee shall be responsible for paying the cost of any necessary bridge improvements.
  - e) 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.
  - f) The Licensee shall provide the SFWMD with uninterrupted access acceptable to the SFWMD for the duration of any necessary repair work.
  - g) Prior to construction, the Licensee shall obtain a key for the SFWMD gate. The gate shall be closed and locked after each vehicle crossing or a gate tender shall be provided during construction activities, at Licensee's expense.
  - h) Prior to the SFWMD authorizing the Licensee's proposed use, the Licensee shall obtain consent from the underlying fee owners and all affected parties for use of the bridge and related access road and shall submit said documentation to the SFWMD.
- 6) Use of the SFWMD's S-334 and S-335 Service Bridges is prohibited.
- 7) Transmission line support structures (poles) shall be placed a minimum of 15 feet from the toe of the landward slope of the levee. The depth of the anchors or poles shall not penetrate the theoretical design slope of the levee when

extended below the ground surface.

#### 4.3.2.3 Land Management/Ecosystem Restoration

- 1) The SFWMD has the right to temporarily restrict access to the L-30 Canal right-of-way in the event of fire if wildlife migrates to the right-of-way to temporarily seek refuge. Reference: Section 373.1391, F.S.
- 2) At least 90 days prior to construction of the transmission line within the L-29/L-30/L-31N replacement corridor, the Licensee shall submit a construction schedule and a coordination plan for SFWMD review and approval. Reference: Sections 373.1391, 373.1501(4)(d), 373.1502(2)(a), and 373.4592, F.S.
- 3) Placement of support structures along the L-31N levee must be located at the minimum distance practicable from the toe of the levee to minimize filling of marsh wetlands and discontinuity in marsh hydrology for wetlands adjacent to the L-31N levee. Reference: Sections 373.1501(4)(d), 373.1502(2)(a), and 373.4592, F.S.
- 4) The 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 operated by the Rinker Corporation shall accommodate the potential that the L-31N levee in this area will be eliminated, pursuant to the Comprehensive Everglades Restoration Plan. 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) No fill roads shall be constructed within that portion of the West Secondary Corridor that falls within the boundaries of Water Conservation Area 3B. Roadless construction and maintenance techniques shall be used in this area. If an access/maintenance road is approved, it shall be designed as a continuous elevated bridge structure within WCA 3B. 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) Transmission line support structures shall be placed on topographical ridges within the marsh and excluded from sloughs, to the extent possible.

- b) Transmission line support structures shall be constructed with concrete. Use of fill for construction of transmission line support structures is prohibited.
- c) Support structure pads shall be constructed to sustain water levels greater than 10 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.

EXHIBITS

APPENDICES