



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

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Interoffice Memorandum

TO: Buck Oven
Siting Coordination Office

FROM: Trudie D. Bell *DB*
Bureau of Wetland Resource Management

DATE: June 19, 1992

SUBJECT: PA89-25, Hardee Power Station
Hardee to Lee 500 kV Transmission Line

The Bureau of Wetland Resource Management staff has reviewed the post-certification submittals for the above referenced transmission line between the Vandolah Substation and the Lee Substation. The Department reviewed the post-certification submittal for the Hardee Power Station to Vandolah Substation previously and in a letter dated December 26, 1991, stated that the Department would not object to the initiation of construction of that portion of the line, but was unable at that time to establish mitigation ratios for the impacts of that portion of the project. Therefore, the review of the Vandolah Substation to Lee Substation portion of the line must include a consideration of the impacts for the entire line from the Hardee Power Station to the Lee Substation.

To the greatest extent possible, the ROW within the corridor has been located adjacent to existing linear facilities to minimize wetland impacts. In addition, the access road location and the structure placement within the ROW have been located so as to minimize the wetland impacts to the greatest extent possible. The impacts of the Hardee to Vandolah section of the line are 0.84 ac. of shrub wetland filling in two wetlands, 0.05 ac. of ditch fill, 4.19 ac. of shrub clearing in three wetlands and ~~2.66~~ ^{3.67} ac. of forested clearing in three wetlands. The impacts of the Vandolah Substation to Lee substation portion of the line is 0.27 ac. of forested wetland fill in two wetlands, 1.03 ac. of shrub wetland fill in 13 wetlands, 0.74 ac. of herbaceous fill in three wetlands, 0.57 ac. of ditch fill, ~~10.7~~ ^{13.64} ac. of forested wetland clearing in 15 wetlands, and 4.21 ac. of shrub wetland clearing in 26 wetlands.

The three forested wetland area that will be cleared between the Hardee Power Station and the Vandolah Substation are adjacent to the Seaboard Coast Railroad line and include portions of Payne Creek and two small unnamed tributaries. The area of Payne Creek to be cleared is dominated by Quercus nigra (water oak), Liquidambar styraciflua (sweetgum), Pinus elliotii (slash pine), and Acer rubrum (red maple). The portions of the two forested tributaries that are to be cleared are dominated by Acer rubrum

(red maple), Liquidambar styraciflua (sweetgum) and Magnolia virginiana (sweet bay). The forested wetlands to be impacted by the transmission line between the Vandolah Substation and South Arcadia are small, mostly unnamed tributaries associated with the Peace River and the Peace River itself. The tributaries are typically dominated by Taxodium distichum (bald cypress), Acer rubrum (red maple), Quercus nigra (water oak), Magnolia virginiana (sweet bay). Two of the tributaries and the Peace River crossing point have steeply incised banks that are dominated by Quercus virginiana (live oak). Two of the three wetlands impacted by clearing south of Arcadia are channelized tributaries. Quercus virginiana (live oak) is the dominant vegetation on the banks of one; the other is dominated by Ulmus americana (American elm) and Acer rubrum (red maple). The third wetland is a forested wetland lobe of a larger forested system. The lobe is dominated by Acer rubrum (red maple), Gordonia lasianthus (loblolly bay), Persea borbonia (red bay), Magnolia virginiana (sweet bay), and Quercus nigra (water oak).

The shrub wetlands to be cleared for the transmission line are dominated by Salix caroliniana (willow), Myrica cerifera (wax myrtle) and various herbaceous species. The herbaceous wetlands to be impacted by the project varying in quality from good marsh system and wet prairies to Typha sp. (cat-tail) dominated systems.

To mitigate for the wetlands filled and cleared as a part of the project, Seminole Electric Cooperative proposes to enhance a portion of Myrtle Slough in the Cecil M. Webb Wildlife Management Area. The Webb Management area is located in Charlotte County and is owned and managed by the Florida Game and Freshwater Fish Commission. Myrtle Slough drains to the north out of the Webb Management Area into the Peace River. The historic drainage pattern of the slough was disrupted by the construction of the Zemil Grade in the early part of the century. The Zemil Grade, owned by the Zemil family rather than the FGFWFC, consists of an old railroad embankment and a borrow canal running down the east side of the canal. The drainage from the eastern part of Myrtle Slough is intercepted by the borrow canal and routed north to the point where the borrow canal drains into a downstream portion of Myrtle Slough. The slough both upstream and downstream of the Zemil Grade shows indications of stress due to the altered hydrology. The downstream area is overdrained near the berm due to the altered drainage. Farther from the berm, the adverse effects are less evident. The portion of the slough upstream of the borrow canal is severely overdrained, with the central channels scoured into deep gullies. Large portions of the historic wetlands in the area have succeeded to upland vegetation to the extent that the only areas within the Department's Wetland Resource jurisdiction are the narrow, central channels.

The proposed mitigation is to construct a berm along the eastern bank of the borrow canal separating the northernmost three arms of Myrtle Slough from the borrow canal. Adjustable weirs initially will be installed in the berms to control the water discharged into

the canal, and the upstream water elevations will be monitored for a minimum of five years to determine the appropriate weir elevations to restore historic water elevations in the slough. Once the appropriate elevations have been established, the adjustable weir will be converted to a fixed crest weir. A more effective form of mitigation would be to remove the Zemil grade or to install culverts in the berm and control structures in the borrow canal, however, the owners of the grade will not allow that type of work on their property. The construction of the berms and weirs is expected to restore the historic hydroperiods to 116 ac. of Myrtle Slough. In addition, to the wetland restoration, the South Florida Water Management District is requiring that Seminole Electric create 12.7 ac. of forested wetland and 6.64 ac. of marsh (a total of 20 ac.) from upland pasture, which lies between the northern two arms of the slough. The created wetlands will be waters of the State.

The FGFWFC supports the mitigation for the transmission line being carried out in the Webb Management area. The Department's hydrologist has reviewed the project and indicated that the proposed work should be expected to restore the historic water levels upstream of the berms.

To offset impacts to isolated wetlands, the Southwest Florida Water Management District required that 13.81 ac. of the wetland restoration and 0.66 ac. of the creation area be applied as mitigation for losses to isolated wetlands. Therefore, 102.43 ac. of the restoration area and 19.34 ac. of the creation area remain to offset the wetland impacts to wetlands within the Department's jurisdiction. The Department is not convinced that the creation area is an appropriate form of mitigation. However, since the SWFWMD is requiring that it be constructed as mitigation and the creation site is currently upland pasture, the Department will authorize its construction, but will not consider it to be required as mitigation to offset the wetland losses within the Department's jurisdiction that will result from construction of the power line. On the other hand, the restoration is expected to result in the re-establishment of DER jurisdictional wetlands to their historic limits. This restoration will also improve the health of the existing jurisdictional wetlands, and will improve the ability of these wetlands to provide functional wildlife habitat and nursery functions, as well as providing an area to store and filter water within a tributary that discharges into the Peace River.

To offset the wetland impacts to wetlands within the Department's jurisdiction, the following mitigation ratios will apply: (1) For the 0.27 ac. of forested wetland fill, a 4:1 ratio will be required, which equals 1.08 ac. of restored wetland; (2) For the 1.87 ac. of shrub wetland fill, a 2:1 ratio will be required, which equals 3.74 ac. of restored wetland; (3) For the 0.74 ac. of herbaceous fill, a 2:1 ratio will be required, which equals 1.48 ac. of restored wetland; (4) No mitigation will be required for the ditch fill; (5) Subtracting the above totals from the 102 ac. of restored wetland leaves 95.7 ac. of restored wetland to offset the

clearing impacts. The clearing of the shrub wetlands for construction will be a temporary impact that will not affect the ability of these cleared wetlands to become re-established with shrub species, so that mitigation will not be necessary to offset those impacts; (6) The 95.7 ac. of remaining mitigation offsets the 16.84 ac. of forested wetland clearing at a ratio of 5.68:1. Therefore, the mitigation is sufficient to offset the wetland losses.

The Bureau of Wetland Resource Management has determined that the Conditions of Certification have been complied with and does not object to the initiation of construction of the transmission line from the Vandolah Substation to the Lee Substation provided that the following conditions are met:

1. Within 30 days of the initiation of the construction of the transmission line south from the Vandolah Substation, revised certified fully dimensioned plan view and cross sectional view drawings of the weirs, showing adjustable structures, and a hydrology monitoring program shall be submitted to the Bureau of Wetland Resource Management for review and modification as necessary. Within 60 days of receiving written approval of the revised drawings and the hydrology monitoring plan by the Bureau of Wetland Resource Management, the construction of the berms and adjustable weirs in the Webb Management area shall commence. The berm and weir construction shall be completed within six months of the commencement of construction of the power line. Five years after the completion of construction of the berms and weirs, Seminole Electric shall submit certified drawings of the proposed fixed weirs to replace the adjustable weirs to the Bureau of Wetland Resource Management for review, modification if necessary, and approval. The drawings shall be accompanied by an analysis of the hydrologic data collected in the previous five years supporting the proposed elevations of the fixed weirs. The fixed weirs shall be constructed and completed within 90 days of receiving written approval of their design from the Bureau of Wetland Resource Management.

2. Prior to the berms and weirs being constructed, a baseline survey of the vegetation in the restoration area will be conducted. The purpose of the survey will be to provide the baseline data that will be used to determine whether the success criteria have been met. After the adjustable weirs are in place, the water levels in the restoration areas will be monitored for a minimum of five years to determine the final elevations for the fixed crest weirs. The creation area shall be monitored to ensure that the area is not invaded by nuisance and exotic species. Seminole Electric will provide the Bureau of Wetland Resource Management with semi-annual narrative reports and annual statistical reports documenting the progress of the mitigation area. The monitoring reports shall include the data from both the hydrologic monitoring and the vegetational monitoring.

3. The creation area shall be considered successful if the

following criteria are met after three years:

a. Nuisance and exotic species, such as cattail and primrose willow, are limited to 5% or less of the total cover.

4. The restoration areas shall be considered successful when the following criteria are met:

a. Wetland ground cover and shrub vegetation and wetland canopy tree species shall be reproducing naturally;

b. The vegetation monitoring data for the canopy stratum shows that the wetland canopy trees are not dying at an accelerated rate due to the altered hydroperiod;

c. The vegetation monitoring data for the herb and shrub strata show that not less than 95% of the vegetation cover is comprised of Florida Administrative Code Rule 17-301.400 listed species. If species occurring in the herb and shrub strata are not listed in Florida Administrative Code Rule 17-301.400, then they shall be species considered to be obligate hydrophytes (species requiring a wetland environment in some or all stages of the life cycle);

d. Nuisance and exotic species, such as cattail and primrose willow, shall be limited to 5% or less of the total cover; and

e. Not less than 116 ac. of restored wetlands are determined to be jurisdictional pursuant to Section 403.817, F.S.

5. If at the end of three years of monitoring, the restoration area does not appear to be trending toward success, Seminole Electric shall re-evaluate the restoration project to determine why the area is not trending toward success. A report on the evaluation study and possible solutions shall be presented to the Bureau of Wetland Resource Management for review. If the Bureau of Wetland Resource Management agrees that remedial action is needed, the DER approved action shall be implemented within 60 days of the approval. Seminole Electric shall be responsible for the mitigation areas achieving success.