



South Florida Water Management District

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LAN 04 02

August 31, 1992

Mr. Robert N. Kessler
Senior Environmental Specialist
Florida Power and Light Company
P.O. Box 078768
West Palm Beach, FL 33407-0768

Subject: Levee-Midway 500 kV Transmission Line
Post Certification Submittal for Northern Broward County
First Sufficiency Review

Dear Mr. ^{Bat}Kessler:

District staff has reviewed the proposed design criteria, construction details, and other related information regarding the above-referenced transmission line structure pads/access roads submitted pursuant to the relevant conditions of the Certification Order for the above-referenced project. In order for staff to make a determination of compliance with the non-procedural (i.e., technical) criteria of the District and authorize construction, please answer the attached list of questions.

If any of the questions require additional clarification, please give me a call at 687-6920.

Sincerely,

A handwritten signature in cursive script that reads "Susan".

Susan Coughanour
Senior Planner
Regulation Department

SC/jg

c: Hamilton S. Oven, DER, Tallahassee
Linda McCarthy, DER
Carolyn Dekle, SFRPC
Brian Barnett, GFWFC
Dan Dunford, GFWFC
J.B. Miller, DNR
Joe Carroll, USFWS
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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

LEVEE-MIDWAY 500 KV TRANSMISSION LINE

POST-CERTIFICATION SUBMITTAL FOR NORTHERN BROWARD COUNTY

FIRST SUFFICIENCY QUESTIONS/COMMENTS

1. In regard to Certification Condition I.C.1.a. (Endangered Species Survey and Consultation), please be advised that the SFWMD will respond by separate letter to the August 12, 1992 letter from Rachel Scott to Susan Coughanour on this subject.

The following questions deal with FPL's responses to Certification Conditions II.C.2. (Water Flow Impacts) and II.F.1.a. (Drainage Patterns and Sheet Flow).

2. In the "Drainage Summary Table" in the KBN bound book, Pages 1 and 2 of 2, it appears that the units were inadvertently left off from the structures in the "Required Culvert Size" column. Please add the appropriate units.
3. It appears that 2.5 fps is too high a velocity to use for a non-erosive culvert design. A velocity of less than 2 fps is more appropriate to use for the equalizer culverts. Please revise Appendix B-4 of the KBN bound book, other portions of the design, and the route-of-line drawings as appropriate.
4. On Sheet 1 of 2 (A-88049) of the USCOE submittal, titled "Installation of Corrugated Metal Pipe Culverts," it states that a minimum spacing of 3 feet is required between tandem culverts. What procedure will be used and how will culverts be designed if the topographic information indicates that the culvert spacing should be less than the minimum of 3 feet?
5. It appears that Structure 418 may impact existing water resource related physical facilities, such as septic tanks, drain fields, potable water wells, etc., at the Sawgrass Fish Camp. Please provide documentation, including detailed drawings and/or calculations, which demonstrates that these facilities will not be impacted or, if impacts will occur, how those impacts will be mitigated.
6. Statements on Page 3 of the KBN bound book indicate that no drainage structures are required to maintain existing drainage patterns within certain portions of Water Conservation Area (WCA) 2B, while culverts will be required in other portions. These statements might apply to occasions when the WCAs are inundated and flow around the "finger-pads" could easily be accomplished. However, when these areas are dry, the small deviations in natural ground elevations create a network of interconnected depressions through which rainfall runoff is conveyed and retained until an inundated condition exists. These interconnected depressions are important to the spacial distribution of wetland vegetation species. In this situation, obstructions to overland flow could alter the hydropatterns and result in a modified distribution of vegetation within the right-of-way.

Therefore, SFWMD staff is requesting that equalization culverts be installed in all finger-pads constructed in the WCAs. Based on staff's review of the route-of-line drawings, culverts are also needed at Structures 439-469 and 419-425. Unless FPL can document otherwise, staff also recommends that pipe arch culverts be used in this portion of the WCAs, as has been proposed in the South Broward/North Dade segment of the transmission line, in order to better equalize flows. Please revise the route-of-line drawings, KBN bound book, and other documentation to reflect the additional culverts. Specific locations on the structure pads can be confirmed once final topographic information is received.

7. Please note that the topographic information provided to date will need to be supplemented with additional topographic surveys at all previously unsurveyed structure pads in order to identify the most appropriate culvert location(s) for each structure pad. Profiles should be provided along the centerline of each structure pad with any deviation of ± 0.5 feet or greater identified in order to insure that culverts are located in the most appropriate locations. While the SFWMD has agreed to accept this topographic information and proposed culvert locations two weeks prior to the initiation of construction, an earlier submittal would enable SFWMD staff to provide FPL with more timely feedback regarding number and location of culverts, particularly in the southern portion of WCA 2B.
8. The topographic information provided by FPL for Water Conservation Area 2B consisted of profiles of selected finger-pads proposed in WCA 2B. However, no reference was made on the drawings to the National Geodetic Vertical Datum (NGVD). Please provide elevations in NGVD and include the date.
9. Certification Condition II.C.3. (Construction in SFWMD Right-of-Way [ROW]) requires detailed plan and profile view drawings of the proposed uses of SFWMD ROW to document compliance with Chapter 40E-6, F.A.C. Certification Condition II.D.7. (Unauthorized Access) requires FPL to install fencing or other structures to restrict unauthorized vehicular access. While detailed aerial crossing information will be provided no later than 90 days prior to the installation of the wire that confirms compliance with SFWMD clearance criteria (as required by Certification Condition II.C.2.1. [Vertical Clearance]), the following information is needed at this time in order to issue the right-of-way permits scheduled for approval at the September 10, 1992 Governing Board. FPL has applied for these permits in lieu of providing the performance bond required by Certification Condition II.C.2.2.(b).

Due to the extent of the uses of and improvements to SFWMD facilities proposed within the WCAs, the existing drawings included in the post-certification submittals to the SFWMD and the DER do not adequately depict all of the required information on a single set of drawings as required by the ROW permit application. Therefore, please provide a set of 8-1/2" x 11" drawings of the entire route-of-line inside the WCAs which includes:

- (a) all patrol/access road locations with access points to District roads/levees identified;

- * (b) cross-sections of all roads to be constructed and/or improved in the WCAs;
- * (c) pad configurations of all structure pads to be constructed in the WCAs;
- (d) detail sketches at all points where gates and fences are to be built;
- (e) all culvert locations along the patrol/access roads and/or structure pads, including a tabulation of pipe diameters, lengths, invert elevations, etc.

* Typical drawings can be used to classify the various types of roads and structure pads, but the specific type must be identified at each specific patrol/access road and structure pad location.

10. Regarding Certification Condition II.C.6. (As-Built Drawings), please include a reproducible original at the time the as-built drawings are provided to the SFWMD, including both the 8-1/2" x 11" drawings and the route-of-line drawings.
11. The response to Certification Condition II.C.7. (Engineering Certification) indicates that all appropriate documents have been signed and sealed in accordance with Section 471.003(2)(d), F.S. However, Figures 3 and 4, Pages 29 and 30 of the KBN bound book, were not signed and sealed by a State of Florida registered professional engineer as were the rest of the applicable drawings. Please provide.
12. In regard to Certification Condition II.D.2.(b) (Use of SFWMD ROW/Performance Bond), as previously noted, compliance with this condition will be met with the issuance of the ROW permits, recommended for approval, at the September 10, 1992 Governing Board meeting.
13. Regarding Certification Condition II.D.2.(c) (Use of SFWMD ROW/Key Fees), please explain how the key fees have been addressed.
14. On Page 3-8 of the USCOE submittal, there is a statement that says construction debris or materials may be "buried" if incineration is not allowed. Please note that this type of activity is not allowed on SFWMD lands and/or rights-of-way, as specified in both the easements granted to and right-of-way permits to be issued to FPL by the SFWMD, and would be inconsistent with Certification Condition II.D.3.(d) (Compatibility with Agency Works). Please remove it from the construction specifications for all activities on SFWMD lands and/or rights-of-way.
15. In regard to Certification Condition II.D.5. (Levee Integrity), please revise the response to include the proposed improvements to the existing SFWMD levee roads in the vicinity of the Sawgrass Fish Camp as provided for in the KBN bound book.

16. In regard to Certification Condition II.D.6. (Compliance with Standards), please note that a determination of compliance with all standards set forth in Chapter 373, F.S., and Chapters 40E-2, 40E-4, 40E-6, and 40E-61, F.A.C., cannot be made until all of the required post-certification information has been submitted and evaluated by the SFWMD.
17. The responses to Certification Conditions II.D.1. (Native Vegetation) and II.D.2. (Exotic Vegetation) are not site specific to this portion of the WCAs nor sufficiently detailed to adequately assess the impacts associated with the proposed clearing and maintenance practices. In addition, the information contained in the USACOE submittal regarding clearing and maintenance practices during and after construction of the transmission line (Chapters 3 and 4; Pages 3-1 through 4-25) is from the original Certification Application filed by FPL and does not include the additional information contained in the SFWMD's Alternate Corridor application. The SFWMD document, which is part of the official certification application, recognized that the WCAs would require different and modified clearing and maintenance practices if the proposed corridor was certified.

There are several certification conditions which recognize this need for different and modified construction, clearing, and maintenance practices within the WCAs by requiring minimization of impacts to wetlands and other environmentally sensitive areas, such as the WCAs. They include I.A.2. (Environmentally Sensitive Areas), II.A.1. (Clearing Practices/Forested Wetlands), II.D.1. (Native Vegetation/ Clearing), and II.E.1. (Ecological Values) of Appendix C and Appendix K (Clearing Practices and Locations).

It is the SFWMD's position that the emergent marsh and willow communities located in the WCAs should not threaten the integrity of the transmission line, thereby precluding the need for extensive maintenance within the transmission line ROW except on the structure pads and the access roads. In those areas where fuel reduction below the lines needed, we believe that the use of prescribed burning, in conjunction with the Division of Forestry, could be appropriately used to achieve the desired objective.

It is our understanding, based on an assessment of the information submitted and discussions held to date with FPL staff and a review of the practices currently used by FPL to maintain the existing 500 kV transmission lines within the WCAs, that clearing and maintenance practices during the initial construction phase will be limited to the structure pads and the access roads and that additional clearing and maintenance between the structure pads, to the extent it may be needed, will not occur until the transmission lines are installed. Please confirm or clarify if our understanding is incorrect.

Consistent with Conditions II.D.1. and II.D.2. in Appendix C and Appendix K (Clearing Practices and Locations), please revise and/or incorporate into a detailed, site-specific vegetation management plan the above referenced responses to Certification Conditions II.D.1. and II.D.2.

Please note that the workplan should distinguish between clearing and maintenance practices to be used during construction and those to be used after construction is complete and the transmission line is operational. Separate plans for the construction and operation phases are acceptable.

At a minimum, please include the following items:

- a. a detailed annual workplan which includes, for each site and type of vegetation:
 - (1) identification of the specific site and extent of the area to be cleared/maintained (i.e., structure pad, access road, maximum distance outside the pad/road, maximum area beneath the transmission lines, etc.), including identification of those areas where clearing and/or maintenance will not be required due to the type of vegetation present (for example, the southern portion of WCA 2B which consists of an open slough/marsh system);
 - (2) a decision matrix for choosing the appropriate clearing technique(s) and/or herbicide(s) and method(s) to be used, including supporting documentation which clearly demonstrates that there are no other acceptable alternatives which will achieve the same objective with less environmental impact;
 - (3) a schedule for frequency of maintenance activities, including clearing/herbicide application;
 - (4) application techniques, including the specific type of equipment to be used and supporting documentation;
 - (5) plans for protecting surrounding vegetation;
 - (6) when herbicides are used, a list of all herbicides, herbicide formulations and rates, and adjuvants to be used; and
 - (7) when herbicides are used, a copy of all proposed herbicide labels and any supplemental labeling;
 - b. An annual report which includes all activity reports, inspection reports, and monitoring reports;
 - c. A copy of the Florida Department of Natural Resources permit for vegetation management within the WCAs;
 - d. Notification of the vendor's name, if vegetation management activities are contracted out; and
 - e. Notification and approval of any changes to the plan.
18. In developing the plan referred to above, please be advised of the items listed below, which is based on SFWMD experience in treating exotics throughout the SFWMD, but particularly within the WCAs. Please note that staff are available to meet with FPL staff at their request to discuss these items further, if needed.

- a. With respect to construction removal in upland areas, Tordon is not labelled for use in Florida due to its potential to contaminate groundwater;
 - b. With respect to construction removal in wetland areas and the WCAs, SFWMD staff have found that Rodeo is not effective in the removal of melaleuca. SFWMD staff also recommend using a (24-C) label of Arsenal herbicide;
 - c. With respect to maintenance control of individual exotic plants in upland areas, SFWMD staff recommend using a frill application of Garlon 4 for Brazilian Pepper and Australian Pine.
19. Please add the kudzu vine to the list of exotics to be removed and/or treated by FPL. The presence of this species has been verified at several locations in the vicinity of the SFWMD levees. SFWMD staff have surveyed the WCAs for any known infestations and have found kudzu adjacent to WCAs 2A and 2B along L-36 and L-35. None was found along L-33, L-37 and L-68A. SFWMD staff have not yet surveyed L-38E along U.S. 27. We are currently investigating and testing various treatment methods and will keep FPL informed. It is recommended that any kudzu found in the ROW be treated and removed, subject to SFWMD approval, prior to the initiation of construction in order to minimize the potential for further infestation within the WCAs. Please contact Dan Thayer, Director, Plant Management, for further information and guidance on this subject.
20. According to the route-of-line drawings (Sheet 63), construction of the proposed section of the transmission line between Structures 464 and 465 appears to pose a serious threat to the continued survival of the tree island in that area. This tree island is the larger of the two remaining tree islands in WCA 2B and is extensively used by numerous birds and other animals. It has never burned during any of the fires in WCA 2B, probably due to its location adjacent to the levee and the adjacent water depths. In contrast to clearing forested communities, the loss of this particular tree island, in an otherwise extensive open marsh system, would be significant.

FPL staff indicated, at the meeting held on July 29, 1992, that this section of the transmission line would be elevated somewhat to minimize impacts to the tree island due to standard clearing and maintenance requirements. However, SFWMD staff were unable to find site-specific (as opposed to generic) information in the submittal which specified exactly how the transmission line would be constructed in the vicinity of this particular tree island, including detailed clearing/maintenance practices and plans and construction drawings of the proposed transmission towers showing heights and clearances.

In view of the significance of this tree island, as discussed above, and in keeping the certification conditions discussed in Question 17 above and their requirements for minimization of wetlands/hammock impacts, the SFWMD strongly recommends that FPL explore other alternatives for minimizing the impacts of the proposed transmission line to this tree island. We believe

that construction designs, such as those proposed where I-75, U.S. 27, and the existing 500 kV transmission lines intersect, could substantially reduce the clearing impacts to this tree island by providing sufficient clearance between the transmission lines and the majority of the trees found on the tree island.

Please provide detailed plans for the proposed modifications to this tree island, including information relative to transmission line towers and catenary clearances from the existing vegetation, a detailed analysis of habitat impacts to the tree island which are expected to result from the proposed modification, including a detailed analysis of why they are unavoidable, and detailed clearing and cutting plans for the tree island. Please include a detailed drawing of the proposed access road and its relationship to the extent of the tree island adjacent to the levee.

21. There appears to be discrepancies within the DER and USACOE submittals regarding the extent of the proposed impacts to this tree island. In the DER submittal, Table A (Acreages of Wetlands Crossed by Levee-Midway 500kV Transmission Line--North Broward County) indicates that 1.34 acres of hardwood within Wetland B-6 will be impacted due to clearing (and none due to fill) while the Site Specific Inspection Report for Wetland B-6A indicates it is a small (0.01 acre) mesic hammock island. In the USACOE submittal, Table A (Acreages of Wetlands Crossed by Levee-Midway 500kV Transmission Line in Broward County) indicates that 0.27 acre will be impacted by filling and an unclear (due to a printing glitch) number of acres will be impacted by clearing. Please clarify.
22. In order to provide the SFWMD with reasonable assurances that the proposed construction techniques and activities within the WCAs will minimize adverse impacts on fish, wildlife, native vegetation, natural environmental values, water resources and water quality (Certification Condition II.E.1.1. [Ecological Values/Minimize Impacts], please elaborate further, beyond that provided in the original Certification Application, on the specific construction techniques, phasing, procedures, process, etc., to be used in the WCAs.
23. In regard to Certification Condition II.E.2.1. (Adjacent Wetlands), please confirm that silt fences will be used along the entire length of the construction within the WCAs in order to minimize adverse impacts to adjacent wetlands.
24. Please revise the response to Certification Condition II.H.4. (Hazardous and Noxious Substances) to reflect the use of herbicides, consistent with an approved vegetation management plan, and the use of fuel and other equipment lubricants, consistent with the requirements of the easements granted to and the ROW permits to be issued to FPL for the proposed transmission line within the WCAs.

25. The Letter of Insurance provided by FPL as a condition of construction authorization for the St. Lucie-Martin County Segment of the Levee-Midway Transmission Line (in response to the insurance requirements enumerated in Appendix D of the Certification Conditions) is sufficient to meet the insurance requirements for this segment of the transmission line. Therefore, FPL is in compliance with this condition.
26. SFWMD staff have reviewed the proposed elevations for the structure pads and access roads in WCAs 2A, 2B, and 3A in conjunction with the topographic information provided for selected locations within WCAs 2A and 2B. It is our understanding, based on the elevations previously discussed (your memorandum of June 26, 1992 from Benny Susi to Karran Coleman) that the proposed elevations for the structure pads and access roads would be 15.0 ft. NGVD in WCA 2A and 12.0 ft. NGVD in WCAs 2B and 3A, which means that the transmission tower structures would be at elevations 15.5 ft. and 12.5 ft. NGVD, respectively. However, the information submitted July 29, 1992 indicates that the structure pads and access roads in the area between U.S. 27 and the L-38E Levee, south of S-7 and north of the boat ramp at S-11C, would be 4 feet above natural ground, or approximately 11-12 feet NGVD (using the limited topographic information currently available).

As previously discussed at our July 29, 1992 meeting, this area needs to be treated as part of the WCAs when establishing structure pad and access road elevations. It was pointed out that the need to maintain the integrity of the road base for U.S. 27 could be a limiting factor in the amount of water which could be stored in this area and, hence, require lower elevations than those previously agreed to for the WCAs. We recommend that you review the U.S. 27 surface water management permits to determine this possibility. Please provide revised drawings and supporting documents for this segment of the transmission line which reflect the above discussion.

Please confirm that the elevations for the other portions of the transmission line within WCAs 2A, 2B, and 3A are as stated above. Assuming that the topographic elevations provided to date are in NGVD (see Question 8 above), and that the additional topographic surveys required at each of the previously unsurveyed, proposed structure pads (see Question 7 above) do not identify any significant variations in natural ground elevations, the proposed elevations for these other portions of the transmission line in WCAs 2A, 2B, and 3A are acceptable to the SFWMD.

As a point of information, SFWMD staff evaluated the projected fill requirements relative to the topographic information provided. Our assessment found that, in some cases, FPL's projections either over- or under-estimated the amount of fill that would actually be required at certain locations, but that it generally averaged out when all the areas where topographic information was generated were factored into the assessment. However, it should be noted that, once the remaining structure pads are surveyed, the projected fill requirements may need to be revised to reflect the actual field conditions.

27. Please provide a detailed profile drawing of the transmission line between Structures 371B and 372 showing the minimum design conductor clearance. Based on today's discussion regarding the current conceptual design for Stormwater Treatment Area (STA) #3, FPL will evaluate the current locations of Structures 371B and 372 in order to locate them in the most advantageous location for both STA #3 and the Levee-Midway Transmission Line.