



**MODIFICATION REQUEST
McINTOSH STATION SITE CERTIFICATION**

Lakeland-Taft 230 kV Transmission Line

**Lake Agnes Substation –McIntosh Substation,
Lake Agnes Substation –Osceola Substation and
Osceola Substation –Cane Island Tap Segments**

**MODIFICATION REQUEST
Upland and Wetlands Access Roads and Maintenance Pads**

Joint Environmental Resource Permit Application

September, 2011

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Orlando - Lakeland 230 kV Transmission Line

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Lake Agnes Substation –Osceola Substation and
Osceola Substation –Cane Island Tap Segments**

Reconstruction/Replacements

Proposed Modification

The Orlando Utilities Commission (OUC) requests authorization to reconstruct and replace structures and facilities in the existing Lake Agnes Substation - McIntosh Substation Segment of the Lakeland-Taft Transmission Line. The Lakeland-Taft 230 kV Transmission Line is an associated facility of the McIntosh Station Unit 3, which operates under Site Certification (PA74-06, issued 1978). To upgrade the transmission line as required, a larger conductor must be installed, the existing insulator systems must be upgraded and certain structure modifications must be made to assure that the line is structurally sound and that the required safety clearances are maintained for the public and OUC personnel. In addition, structure access pads and access roads need to be upgraded for maintenance of the facilities.

In addition to the upgrades to the Lake Agnes Substation - McIntosh Substation Segment, OUC requests authorization to construct additional access roads and structure maintenance pads along both the Lake Agnes Substation –Osceola Substation and the Osceola Substation – Cane Island Tap Segments of the Lakeland-Taft 230 kV Transmission Line.

Purpose/Reason for Activity

Transmission Line Upgrade

The Lakeland-Taft 230 kV Transmission Line was constructed in 1981. Since the original construction, the transmission line has become a critical link in the Central Florida Transmission Grid and requires upgrade to a higher power transfer rating to assure a safe and reliable source of power for the Central Florida area.

In 2006, the Florida Reliability Coordinating Council, Florida Central Coordinated Study, and Public Service Commission directed OUC to upgrade the entire Lakeland-Taft Transmission Line (which extends from the McIntosh Plant to OUC's Taft Substation) to a higher rating. To date, OUC has upgraded the transmission line in 3 of the 4 segments and has completed access roads and pad improvements in 2 segments as shown below.

Orlando – Lakeland 230 kV Transmission Line

Segment	Line Upgrade	Roads and Pads
McIntosh Substation – Lake Agnes Substation	Covered under this Request	Covered under this Request
Lake Agnes – Osceola	Completed June 1, 2008	Completed June 1, 2008 (1)
Osceola - Cane Island Tap	Completed June 1, 2010	Covered under this Request (2)
Cane Island Tap – Taft	Completed June 1, 2009	Completed June 1, 2009

- (1) Approval of additional access roads and pads for the Lake Agnes – Osceola Segment are being requested under this Modification.
- (2) Approval of access roads and pads upgrades was not requested by the Modification approved for the line upgrade of the Osceola – Cane Island Tap Segment and are being requested under this Modification.

Structure Access Pad and Road Improvements

The original construction along the Lake Agnes Substation – McIntosh Substation Segment provided minimal access roads and minimal access working pads at each transmission line structure. The existing access is not adequate to allow OUC's current utility maintenance/service trucks and equipment to perform maintenance work in and around the structure while the line is energized. Therefore, access roads and structure pads improvements are necessary to facilitate the line upgrades and improve working conditions.

This modification requests approval to perform similar reconstruction/upgrade efforts for the Lake Agnes Substation – McIntosh Substation Segment as previously approved for the Lake Agnes – Osceola, Osceola – Cane Island Tap and Cane Island Tap – Taft Segments of the transmission line.

In addition, it has been determined that additional access roads and structure access pads are needed along the previously upgraded Lake Agnes – Osceola and Osceola –

Cane Island Tap Segments to adequately and safely access the structures for maintenance.

Transmission Line Relocation to Coordinate with Interstate 4 Widening

The widening of Interstate I-4 from the Polk Parkway to just east of SR 33 required the State of Florida to utilize 45 feet of the north side of the transmission line right of way. Replacement right of way has been acquired on the south side of the transmission line right of way. As a part of this upgrade project, the transmission line (a total of 17 structures) will be reconstructed 45 feet south of its present location to accommodate the completed I-4 widening project.

Improvements at FDOT Retention Ponds

As a part of the discussions between OUC and FDOT related to the I-4 widening, it was agreed that the access pad improvements at structures 40, 47 and 48 of the Lake Agnes to McIntosh segment would require filling portions of FDOT retention ponds. FDOT and OUC worked together to prepare an acceptable design and obtain permits from South Florida Water Management District for the necessary improvements in the three FDOT retention ponds. A copy of the design and permit is included in Appendix G.

Technical Description of Activity

OUC proposes to perform the following work:

Transmission Line Improvements **(Lake Agnes Substation – McIntosh Substation Segment Only)**

- Modify the insulation system of the line as required to replace deteriorated insulators.
- Perform structural modifications to the existing structures as necessary to assure that the line is structurally sound.
- Re-conductor the 230 kV transmission line with a larger conductor.
- Increase the height of structures or replace structures as necessary to provide proper public safety clearance for the higher 2,000 ampere continuous (2,400 ampere emergency) rating. No additional structures will be needed.
- Relocate the portion of the line extending from the Polk Parkway to just east of SR 33 (a total of 17 structures) south 45 feet to accommodate the widening of I-4.

Attached Table 1 shows the proposed structure modifications, summarized as follows.

- Seventeen (17) wood H-frame structures require reframing to replace deteriorated insulator systems and to enhance their structural capability.
- Four (4) wood H-frame structures will be raised to provide the required safety clearance from the new conductor to ground.
- Ten (10) existing deteriorated wood angle structures will be replaced with ten (10) single pole steel structures to provide the required safety clearance from the new conductor to ground.
- In the area extending from Polk Parkway to SR 33, seventeen (17) existing wood structures will be replaced with seventeen (17) two pole steel structures and relocated 45 feet to the south.
- One (1) existing structure will be replaced with one (1) new steel deadend structure to provide additional safety integrity over major road crossing along the route.

Structure Access Pads and Roads Improvements

(Lake Agnes Substation – McIntosh Substation, Lake Agnes Substation – Osceola Substation and Osceola Substation – Cane Island Tap Segments)

- Install proposed access pads and road improvements in upland and wetland areas as shown on the attached drawings and Table 2. The drawing showing the improvements are included in Appendix A (Tab 1).
- Create compensating storage areas along and within the transmission line right of way as shown on Table 2 to offset impacts to existing floodplain storage. Drawings and calculations of the compensation storage areas are included in Appendix F (Tab 6).
- Perform clearing from the Polk Parkway (Structure 55) to an area east of State Road 33 (Structure 38). This portion of the line is being relocated 45 feet south to accommodate the widening of I-4.

Table 2 shows the proposed access pad, access road improvements and clearing in both upland and wetland areas. Table 2 also shows the impacts (acres and cubic yards) in upland, wetland and floodplain areas.

As shown in Table 2:

- 35,210 linear feet of at-grade access road and 37 at-grade structure access pads will be constructed. The use of the at-grade roads and pads minimizes the potential impact to the area's floodplain.
- 6,760 linear feet of raised access road and 30 raised structure access pads will be constructed. Raised roads are proposed in wetland areas or in upland areas where fill is needed to level the structure site.

- OUC proposes to place 26,462 cubic yards of fill on 35.05 acres of uplands and to place 14,445 cubic yards of fill on 4.92 total acres of wetlands as a result of the access road and access pad improvements.
- OUC will perform 1.34 acres of forested upland clearing and 1.66 acres of forested wetland clearing from the Polk Parkway (Structure 55) to east of State Road 33 (Structure 38).
- In accordance with previous discussions between OUC and FDOT, three (3) structure access pads will be installed in FDOT storm water retention ponds. As a part of the I-4 widening project, OUC and FDOT worked together to design and obtain permits from South Florida Water Management District for these 3 pads.

The work proposed will result in approximately 16,010 cubic yards of impact to floodplain areas. Compensating storage areas, located as shown on the drawings, will be constructed to offset this floodplain impact. The suitable fill material excavated during the construction of the compensating storage areas will be used in the construction of the access roads and pads.

Materials excavated during the construction of pads and roads will be spread in adjacent upland areas, seeded and a layer of mulch applied.

OUC proposes to obtain 3.3 wetland credits to offset the wetland impacts created by the proposed construction.

Environmental Consequences of Modification

OUC anticipates no significant adverse environmental impacts from this activity. The primary impacts are at the specific structure locations where the existing maintenance pad will be enlarged to the size of the proposed pad. No additional storm water facilities are required for the activity; loss of floodplain storage will be compensated. During installation of the access pads and road improvements, sedimentation controls, such as silt fences, and best management practices will be used to minimize the maintenance and construction impacts. Table 2, Summary of Proposed Improvements, summarizes the wetlands, upland and floodplain impacts. In addition, Golder Associates, Inc. has prepared the attached Ecological Assessment dated August, 2011. Existing conditions, impacts, and mitigation are presented in this report.

All work and staging areas will be limited to the existing transmission line right of way and associated access roads. Dewatering will not be required for the work described in this Modification Request.

Post Modification Submittals

No post modification submittals are anticipated.

Effect of Modification on Certification/Conditions of Certification

OUC believes that approval and implementation of the Lake Agnes – McIntosh Segment reconstruction and replacements requested herein will require a modification of the existing McIntosh Station Conditions of Certification, similar to COCII.A.13.a.13.