

**Consideration of New Information Regarding the
Revised Wetland Mitigation Plan Dated August 2015
for Levy Nuclear Plant Units 1 and 2**

Issue

The assessment of potential terrestrial ecology impacts in the final environmental impact statement (FEIS) published by the U.S. Nuclear Regulatory Commission (NRC or Commission) staff in 2012 for the proposed Levy Nuclear Plant (LNP) Units 1 and 2 (NRC 2012) relies in part on a wetland mitigation plan dated 2011 (ESI and TEI 2011) that was prepared by a contractor for Progress Energy Florida (now Duke Energy Florida). Although the NRC staff published the FEIS in 2012, the NRC has not yet issued the requested combined license (COL). Duke Energy Florida recently submitted a revised wetland mitigation plan dated August 2015 (ESI and TEI 2015) that modifies the proposed wetland mitigation actions. The NRC staff has reviewed the August 2015 revision and concluded that the plan does not constitute new and significant information necessitating a supplemental analysis under the National Environmental Policy Act (NEPA). The NRC staff visited the areas potentially affected by the revised plan on March 20, 2015 with representatives of Duke Energy Florida, who discussed the anticipated revisions. The new information contained in the revised plan does not meet the criteria for supplementing an FEIS established in Title 10 of the *Code of Federal Regulations* (CFR) Part 51.92(a) and associated staff guidance (NRC 2014).

Background

The conclusions regarding terrestrial ecology impacts in the FEIS (NRC 2012) rely in part on the NRC staff's review of a wetland mitigation plan dated 2011 provided by Duke Energy Florida (ESI and TEI 2011). The 2011 plan called for a series of wetland restoration, enhancement, and preservation activities on the LNP site and at five offsite locations (Goethe State Forest, Boarshead Ranch, Five Mile Creek, Homosassa Tract, and Brooker Creek Preserve). Wetland restoration and enhancement are defined in 33 CFR 332 and involve application of vegetation management and physical conservation measures to existing or former wetland areas. Wetland preservation, also defined in 33 CFR 332, involves exclusion of wetland areas from future land development. Such wetland mitigation activities typically do not involve large-scale land clearing or grading. The plan called for conducting these activities in four designated areas (termed "Activity Areas" 1, 2, 3, and 4) within that part of the LNP site that would remain in an undeveloped condition following construction of the proposed new plant and ancillary facilities. Specific wetland restoration, enhancement, and preservation actions proposed for lands within the four Activity Areas included removal of existing roadway and ditch segments to restore natural sheet flow patterns, thinning stands of planted pines to mimic natural pine stands, removing planted pines from some wetlands to restore herbaceous wetland vegetation, and preserving land from possible future urban development (ESI and TEI 2011, Section 3.4).

Duke Energy Florida recently provided NRC with a revised wetland mitigation plan dated August 2015 (ESI and TEI 2015). The revised plan alters certain specific wetland mitigation procedures from the 2011 plan for the LNP site, Goethe State Forest, Homosassa Tract, and Brooker

Creek Preserve while calling for purchase of credits from established wetland mitigation banks instead of applicant-sponsored actions at Boarshead Ranch and Five Mile Creek (ESI and TEI 2015, Table 2 of the Executive Summary). Wetland mitigation banks, defined by the U.S. Army Corps of Engineers in 33 CFR 332, are previously established wetland mitigation projects that regulatory authorities have already deemed successful and whose sponsors have been granted the right to sell credits on the open market to satisfy wetland mitigation requirements of other parties. Most of the other changes are minor revisions to the proposed enhancement and restoration of existing wetlands on the Goethe State Forest, LNP site, Homosassa Tract, and Brooker Creek Preserve.

However, the revised plan also calls for the introduction of wetland creation as a mitigation activity on parts of the LNP site (ESI and TEI 2015, Table 2 of the Executive Summary). Wetland creation, defined using the term “wetland establishment” in 33 CFR 332, is a process whereby dry lands (uplands) are converted to wetlands by altering their hydrological properties. The inclusion of wetland creation in the revised plan constitutes a departure from the original plan. Unlike the other types of wetland mitigation, wetland creation commonly involves a significant excavation component to lower the land surface to an elevation close to or below the seasonal high water table (groundwater) elevation.

The proposed wetland creation involves surface soil excavation to reduce the grade on approximately 91 acres of uplands within the Activity Areas to establish new wetlands (ESI and TEI 2015, p. 113). Specific land areas subject to wetland creation are depicted in Figure 3-7 and supporting panels of the revised plan. Details of the proposed wetland creation are provided on pages 113-116 of the revised plan. Surface soils will be excavated to be “consistent with the natural elevations of the [adjoining] preservation wetlands” (ESI and TEI 2015, p. 114). Although the revised plan does not explicitly depict specific excavation depths, careful review of the plans in Table 3-7, in light of the low and relatively level topography of the site suggests that excavation would not exceed 1 to 2 feet in most areas and may be only a few inches in places. But even such shallow excavation depths would require removal of all or nearly all existing vegetation as well as all or a part of the topsoil. The revised plan calls for placing temporary siltation curtains or haybales along the interface between excavations and existing wetlands to prevent siltation from soils exposed by excavation (ESI and TEI 2015, p. 144). The excavated areas will then be planted with nursery stock of native tree species measuring one half to one inch in trunk diameter and 5-6 feet in height to achieve a naturalistic random pattern with an overall tree density of 400 stems per acre (ESI and TEI 2015, p. 115). That tree density corresponds to average spacing of roughly 10 feet between neighboring trees, which is typical of young regenerating natural forests; as the saplings mature they can expect to thin naturally through competition, ultimately reaching the lower densities typical of mature forests. The revised plan calls for installing piezometers (devices for recording groundwater elevations) to monitor groundwater throughout the wetland creation and subsequent monitoring process to ensure successful establishment of natural wetland hydrology capable of supporting the planted vegetation (ESI and TEI 2015, pp. 114-115).

Requirements for Supplementing an Environmental Impact Statement

As required by 10 CFR 51.92(a), the NRC staff must prepare a supplement to an FEIS if the proposed licensing action has not been taken and:

- (1) There are substantial changes in the proposed action that are relevant to environmental concerns; or
- (2) There are new and significant circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

The applicant's changes to its proposed wetland mitigation do not constitute a change to the project activities requiring NRC approval. Therefore, 10 CFR 51.92(a)(1) does not require a supplement in this case.

However, the NRC staff must also determine whether the changes to the applicant's proposed wetland mitigation constitute new and significant circumstances relevant to the assessment of environmental impacts contained in the FEIS, as required under 10 CFR 51.92(a)(2). To warrant a supplement, information must be both new and significant and it must bear on the proposed action or its impacts. The Commission has stated that for new information to be sufficiently significant to warrant preparation of a supplemental EIS, it must present "a seriously different picture of the environmental impact of the proposed project from what was previously envisioned."¹

In determining whether new information meets this "seriously different picture" standard, the staff looks to, among other things: previous Commission decisions on claimed new and significant information; previous environmental analyses done for the proposed action at issue; and *Marsh*.² In other proceedings, the Commission has explained that if it found any new information that presents a significant new environmental impact that should be addressed in site-specific environmental analyses, the Commission would supplement or otherwise incorporate the information into the environmental analyses as warranted (See CLI-12-15). In doing so, the Commission will have provided access to the relevant information and the agency decision makers will have considered that information before a final decision on the matter is reached.³

Significance Evaluation

The analysis in the FEIS (NRC 2012) anticipated that the wetland mitigation plan would be progressively refined as the LNP project progressed through the subsequent planning stages. Frequent minor adjustments to the specific details of a wetland mitigation plan, especially one for a project with the complexity of the LNP project, are common as plans continue to be reviewed and refined. Wetland mitigation plans typically mature from a conceptual stage developed to support environmental permit applications and FEIS development (when

¹ *Union Electric Co.* (Callaway Plant, Unit 2), CLI-11-5, 74 NRC 141, 167-68 (2011); *Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-12-11, 75 NRC 523, 533 n.53 (2012); *Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 14 (1999) (citing *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 373 (1989); *Sierra Club v. Froehlke*, 816 F.2d 205, 210 (5th Cir. 1987)).

² *Marsh* provides that Agency decisions regarding the need to supplement an EIS based on new and significant information are subject to the "rule of reason."

³ *Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 14 (1999).

necessary) to later stages containing more precise grading, topsoiling, and planting plans and specifications. Normal maturation of the wetland mitigation plan typically occurs in close coordination with natural resource conservation agencies and therefore can be expected to reduce, not increase, the extent of wetland impacts and the potential for unforeseen adverse side effects. Other than the proposed wetland creation, the changes called for in the revised wetland mitigation plan (ESI and TEI 2015) constitute only minor departures from the original plan (ESI and TEI 2011).

Although the newly proposed use of wetland creation constitutes a distinct departure from the original plan with a potential for increased environmental impacts, those impacts are expected, as explained below, to not be significant. While the originally proposed wetland mitigation actions were limited to land management processes routinely carried out on natural lands managed for conservation, the proposed wetland creation involves excavation of approximately 91 acres of natural upland habitat not accounted for within the anticipated project footprint evaluated in the FEIS. The proposed wetland creation would require increasing the projected footprint of ground disturbance on the Levy site from approximately 777 acres (NRC 2012, p.4-29) to approximately 868 acres.

However, the excavation and grading conducted as part of the proposed wetland creation would result in much gentler impacts than from the site preparation typical of urban or industrial development. Grading would not be conducted in the broad blocks typical of urban development but would instead be conducted in narrow and irregular bands interspersed at the outer edges of existing wetlands (see dark blue wetland creation polygons in ESI and TEI 2015, Figure 3-7 and component panels). The depth of excavation would only be enough to match the natural elevations of the adjacent wetlands (ESI and TEI 2015, p. 113). Considering the nearly flat topography of the site, most excavated areas would likely experience less than 2 feet of excavation. Most uplands on the LNP site comprise planted pines (coniferous plantation) (NRC 2012, Table 2-5); hence most of the vegetation removed by grading would be planted pines and associated understory. Site observations during the March 20, 2015, site visit suggest that much of the excavation work would consist of removing elevated bedding rows established for planted pines. Unlike areas excavated for urban development, the wetland creation areas would be immediately topsoiled and planted with native vegetation. The plan calls for placing siltation curtains and haybales between excavated areas and existing wetlands to prevent sedimentation (ESI and TEI 2015, p. 113). In contrast, excavation for and development of larger buildings, administrative areas, parking lots, or even managed lawns and landscapes, can result in a substantial increase in the area of exposed soils subject to wind and water erosion, an increase in the area of compacted soils and impervious surface capable of altering sheet flow patterns, a decrease in wildlife habitat, and an increase in noise potentially disruptive to wildlife. To summarize, the potential impacts from the grading necessary to achieve the proposed wetland creation therefore do not rise to the level of impacts expected from expansion of a construction footprint to accommodate additional urban development.

Furthermore, the objective of the proposed wetland creation is to enhance the ecological qualities of the Levy site. The wetland creation will convert uplands with a history of intensive pine silviculture to wetland forests typical of the surrounding region. Once established, the wetland forests will provide improved wildlife habitat and help shield adjoining natural wetlands from runoff and sedimentation. The proposed wetland creation will therefore result in a net ecological benefit.

Overall Conclusion

The changes to the Wetland Mitigation Plan for the LNP, while “relevant to environmental concerns” according to 10 CFR 51.92(a), do not constitute “new and significant circumstances” or information that has a “bearing on the proposed action or its impacts” according to 10 CFR 51.92(a). Although NRC staff guidance specifically identifies an increase in the amount of land disturbed as an example of possible new and significant information potentially necessitating a supplemental NEPA analysis (NRC 2014, p. 6), the minor character and largely beneficial effects of the additional land disturbance called for in the revised wetland mitigation plan would not have a material effect on the analyses conducted for or conclusions presented in the FEIS completed in 2012. Therefore, the information contained in the revised plan does not warrant a supplement to the FEIS for LNP Units 1 and 2. The information does not alter the NRC staff’s recommendation in the FEIS that the COL should be issued.

References

Environmental Services, Inc. and Taylor Engineering, Inc. (ESI and TEI). 2011. Levy Nuclear Plant and Associated Transmission Lines Wetland Mitigation Plan Comprehensive Design Document. Jacksonville, Florida. ADAMS Accession No. ML11308A066.

Environmental Services, Inc. and Taylor Engineering, Inc. (ESI and TEI). 2015. Levy Nuclear Plant and Associated Transmission Lines Wetland Mitigation Plan Comprehensive Design Document. Jacksonville, Florida.

U.S. Nuclear Regulatory Commission (NRC). 2012. Final Environmental Impact Statement for Combined Licenses (COLs) for Levy Nuclear Plant Units 1 and 2. NUREG-1941.

U.S. Nuclear Regulatory Commission (NRC). 2014. Staff Process for Determining if a Supplement to an Environmental Impact Statement is Required in Accordance with 10 CFR 51.92(a) or 51.72(a). November 24, 2014. ADAMS Accession No. ML14325A043.