



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Chief, Rulemaking and Directives Branch  
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Subject: **Comments on Final Environmental Impact Statement (FEIS) for Levy Nuclear Plant Units 1 and 2, Application for Combined Licenses (COLs) for Construction Permits and Operating Licenses, (NUREG-1941), Levy County, Florida; EIS Filed: 04/27/12; CEQ Federal Register: 05/04/12 CEQ Number: 20120134; ERP Number: NRC-E06029-FL**

Dear Sir:

Pursuant to Section 309 of the Clean Air Act (CAA) and Section 102(2)(C) of the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) Region 4 has reviewed the "Final Environmental Impact Statement (FEIS) for Combined Licenses (COLs) for Levy Nuclear Plant Units 1 and 2" dated April 2012. This FEIS was jointly developed by the U.S. Nuclear Regulatory Commission (NRC) with the assistance of the Regulatory Branch of the Jacksonville District, U.S. Army Corps of Engineers (USACE), and was prepared in response to an application submitted to the NRC by Progress Energy Florida, Inc. (PEF) for combined construction permits and operating licenses (combined licenses or COLs). This FEIS provides supplemental information to address comments and issues previously identified in the draft EIS (DEIS) filed by NRC with EPA HQ on 08/06/10 (CEQ Federal Register: 08/13/10, CEQ Number: 20100311, ERP Number: NRC-E06029-FL).

EPA understands the proposed actions related to the PEF application are (1) NRC issuance of COLs for two new power reactor units at the Levy Nuclear Plant (LNP) site in Levy County, Florida, and (2) U.S. Army Corps of Engineers (USACE) issuance of a permit to perform certain construction activities on the site. The USACE is participating under NEPA as an EIS Cooperating Agency and is serving collaboratively on the review team (which comprises NRC staff, contractor staff, and USACE staff, with significant input from EPA). The FEIS appropriately includes the review team's analysis that considers and weighs the environmental impacts of constructing and operating two new nuclear units at the LNP site and at alternative sites, as well as mitigation measures available for reducing or avoiding adverse impacts. EPA notes that the NRC's evaluation of the site safety and emergency preparedness aspects of the proposed action will be addressed in the NRC's Safety Evaluation Report anticipated to be published later in 2012 and forwarded to EPA for review.

EPA previously provided a letter to the NRC (dated 10/26/2010) in which we rated the DEIS as "EC-2" using EPA's EIS rating guidelines (Environmental Concerns - Category 2), meaning that EPA's review of the DEIS had identified environmental

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impacts that should be avoided, minimized, or mitigated in order to fully protect the environment, with additional information requested for the FEIS. EPA also provided detailed comments with our letter, and we appreciate your responses to our comments, which are included in Appendix E of the FEIS. Our comments included identifying impacts to wetlands as a primary concern that needed to be further addressed in the ongoing process. We noted that corrective measures could require changes to the proposed site layout or application of mitigation measures that could reduce the environmental impacts. Since the issuance of our 10/26/2012 letter, EPA has been working closely with the NRC and the COE to reduce these wetland impacts. As part of our review of the DEIS, EPA also requested additional information on a number of issues including the on-going structural safety analysis of the AP1000 shield building and the potential for long-term storage of spent fuel at LNP in light of the new "Waste Confidence" regulation.

The FEIS appropriately notes that the Federal Water Pollution Control Act (Clean Water Act) requires that the USACE and EPA review and apply the criteria set forth in the 404(b)(1) Guidelines in evaluating projects that propose to discharge dredged or fill material into waters of the United States. The USACE and EPA must also determine whether the proposed project is contrary to the public interest. The USACE permit decision, including its evaluation under the 404 Guidelines and the Public Interest Review (PIR), will be documented in the USACE Record of Decision (ROD), which will be issued following the issuance of the FEIS. As part of the USACE public comment process, USACE released a public notice on 3/16/2009 to solicit comments from the public about PEF's proposed preconstruction activities at the LNP site. USACE held a joint 404 permit public hearing in conjunction with the NRC public meetings on the Draft EIS (DEIS) on 9/23/2010 in Crystal River, FL, which EPA Region 4 staff attended. EPA will also be attending the NRC public meetings on the FEIS to be held in Crystal River later in 2012.

EPA understands that, after considering the environmental impacts of the proposed action, the NRC staff's final recommendation to the Commission is that the COLs be issued as proposed. This recommendation is based on (1) the application, including the Environmental Report (ER), submitted by PEF; (2) consultation with Federal (including EPA), State, Tribal, and local agencies; (3) the review team's independent review; (4) the consideration of public scoping and DEIS comments; and (5) the assessments summarized in the FEIS, including the potential mitigation measures identified in the ER and the FEIS.

Finally, EPA notes that the FEIS has been appropriately modified to reflect strategic considerations that indicate the LNP site is preferable to collocating at the Crystal River Energy Complex (CREC) because it is located farther from the Gulf Coast and at a higher elevation. EPA notes that these reasons include system reliability (e.g., not including all power generation at one site in the event of a hurricane or natural disaster), potential security issues derived from having all power generation at one site, the importance of selecting a site that addresses the projected effects of future sea-level rise, increased hurricane intensity, increased storm surge heights, increased wave action, etc.

## **Project Implementation Recommendations**

EPA previously provided observations and detailed technical comments on the DEIS, and we note that the FEIS adequately responds to our comments and incorporates new information where relevant on some of these issues. On several of these issues, EPA has follow-up recommendations to the FEIS that reflect our on-going concerns to facilitate a more environmentally sustainable outcome in several key areas.

### **Recommendations on Transmission Line Impacts**

- PEF proposes to acquire rights-of-way as necessary to provide a typical width of 220 ft for the proposed 500-kV transmission lines and a typical width of 100 ft for the proposed 230-kV transmission lines." In order to protect higher quality wetland ecosystems, EPA continues to recommend that the all rights-of-way be reduced to the minimum dimensions practicable. The FEIS notes that the review team has assessed the environmental impacts of the planned installation of the new transmission system and related upgrades on land use and aesthetic resources, and this discussed in FEIS Sections 4.1.2, 4.4.1.4, 5.1.2, and 5.4.1.4. In addition, the FEIS notes that transmission line-related environmental impacts on terrestrial and aquatic resources, including wetlands, have been addressed in FEIS Sections 4.3.1.2, 4.3.2.2, 5.3.1.2, and 5.3.2.2, as well as also being discussed in terms of their cumulative impacts in FEIS Chapter 7. EPA concurs with the findings in the FEIS that impacts on land use and terrestrial resources would result from installing the new and upgraded transmission lines, and that impacts on visual aesthetics would result from adding lines and corridors through relatively highly populated areas.
- EPA also previously recommended that the FEIS should provide some supporting scientific data to support the assumption made in the DEIS that 10 acres per mile of transmission line corridors would be impacted by each of the proposed alternatives. The FEIS notes that, as discussed in Section 4.1.2 for the LNP site, where transmission-line land-use impacts were analyzed in detail, 1790 acres are expected to be disturbed over 180 miles of corridor, which roughly equates to 10 acres/mile. The FEIS notes that, because of the absence of data at the reconnaissance level, the review team concluded that this assumption is reasonable to apply at the alternative sites. The FEIS further notes that applicant is bound by permit conditions resulting from the Florida State Site Certification Application process, which would require it to use existing corridors to the extent practicable. EPA concurs with the State's Site Certification in that we strongly recommend that existing transmission corridors be used to the maximum extent possible where found practicable.

### **Recommendations on Groundwater Pumping and the Effects on Wetlands**

- As many as 2092.9 acres of wetlands could be adversely affected over the course of the 60 years that groundwater is pumped to support the LNP project. EPA notes that the impacts of constructing LNP on groundwater levels are

appropriately addressed in FEIS Section 4.2 of the FEIS, and related wetland impacts are addressed in FEIS Section 4.3. The impact of operating the proposed units on groundwater levels is addressed in FEIS Section 5.2, and associated impacts on wetlands are addressed in FEIS Section 5.3. EPA also notes that FEIS Section 2.3 has been appropriately modified to clarify the role of the groundwater model in the review team's assessment.

- In response to EPA's on-going concerns (expressed in several review team meetings, field visits, and in our DEIS comment letter) that sustained groundwater pumping may adversely impact area wetlands, the FEIS provides an analysis of alternative sources of water to support the LNP project in lieu of groundwater pumping. The FEIS appropriately discusses these alternative water sources in FEIS Section 9.4.3, and notes that the review team recognized that groundwater and surface water are interdependent resources and that potential impacts on wetlands due to groundwater withdrawal cannot be predicted with certainty using the available groundwater model. EPA concurs with the State of Florida's approach, where the groundwater use permitting process is utilizing the groundwater model only as a scoping-level assessment tool, and ultimately will rely upon a mandatory, rigorous, environmental monitoring program and adaptive mitigation plan to ensure the hydrologic integrity of these baldcypress-dominated forested wetlands.
- EPA concurs with USACE's plan to continue (post-FEIS) an on-going evaluation of groundwater withdrawal for the service water used in plant operations. At this time, we understand that PEF is developing a groundwater testing and monitoring plan in order to demonstrate to the USACE and EPA that the LNP site with groundwater withdrawal for service water for plant operations can serve as the Least Environmentally Damaging Practicable Alternative (LEDPA). The groundwater testing and monitoring plan must be submitted by PEF to the USACE for review and approval before a Department of the Army (DA) permit can be issued. If PEF's groundwater testing and monitoring plan receives USACE approval, implementation of the plan would be required by special conditions of a DA permit, if issued. EPA requests that the groundwater testing and monitoring plan also be submitted to EPA for our review and comment at the same time it is submitted to the USACE. EPA also is continuing our coordination with USACE to review and comment on this groundwater testing and monitoring plan.

#### Recommendations on Avoidance and Mitigation

- EPA previously identified environmental impacts that should be avoided, minimized, or compensated in order to fully protect the environment. Impact to wetlands remains a primary concern of EPA, and this needs to be fully considered throughout the planning and construction process. The FEIS notes that the NRC and USACE have been working with EPA to identify further reductions of such impacts, and these have been incorporated into FEIS Section 4.3.1, as well as FEIS Section 4.3.1.7, which outlines wetland mitigation activities proposed by the applicant. EPA notes that PEF has further developed a wetland mitigation plan,

and we recommend that PEF continue to work to minimize impacts to wetlands during implementation of this plan. The FEIS notes that the USACE will have to approve the proposed wetland mitigation before issuing a DA permit to the applicant, and the revised FEIS Section 4.3.1.7 now reflects this new information.

- In order to avoid and minimize impacts in high quality wetland systems associated with the pipeline installation, EPA also recommended the FEIS provide an analysis of other alternatives such as tunneling or horizontal directional drilling. EPA understands that the State of Florida has now accepted a modification to the corridor certified by the State for the heavy-haul road, cooling-water makeup pipelines, and the blowdown pipelines to be constructed between the LNP site and the CREC. EPA concurs with the purposes of the modification, including more flexibility in minimizing impacts on wetlands and other natural resources when siting these facilities, reducing the use of State-owned lands along the CFBC, and minimizing the disruption of recreational activities along the CFBC (Cross Florida Barge Canal). EPA continues to analyze the revised route for the blowdown pipeline that has been established in order to avoid impacting 4.5 ac of high-value salt marsh wetland. We understand that the USACE recently completed a jurisdictional verification that identifies wetlands along the revised route subject to USACE regulation, and the revised route for the blowdown pipeline would still affect 11 freshwater wetlands (totaling about 4.28 ac), one (1) USACE isolated (nonjurisdictional) freshwater wetland (about 0.24 ac), and across the CFBC (about 300 lineal ft). EPA notes that PEF has conducted an analysis that concludes that tunneling or horizontal directional drilling would not be practicable, and EPA recommends the USACE evaluate PEF's response in the ROD.
- Finally, EPA has previously noted in review team meetings and in our DEIS comment letter that shifting the project "footprint" further south on the property could lessen wetland impacts, and possibly reduce the length of the transmission line corridor and reduce impacts to other onsite wetlands. We understand that the need for appropriate geotechnical/foundation conditions makes shifting the site footprint impractical.

#### Recommendation on Restoring Forested and Mixed Forested Wetlands

- EPA continues to recommend that approximately 150 acres of the site that would be disturbed for temporary facilities, such as material storage areas, laydown areas, parking areas, and a construction zone buffer, be restored back to forested and mixed forested wetland systems if there are no safety or other serious operational reasons that would require these areas to remain open (typically as grass-covered areas). EPA commends PEF for agreeing to implement our recommendation as noted in the FEIS.

#### Recommendations for Monitoring (Aquatic and Radiological)

- EPA previously commended PEF for the extensive pre-applicant [aquatic] monitoring programs at the proposed LNP discharge location. EPA

recommended that pre-operational surveys and monitoring be conducted, and that statistical analysis be used to establish seasonal and climatological baseline, biological and water quality conditions. EPA also requested that PEF submit a CFBC and Withlacoochee River Survey and Monitoring Plan to EPA for review prior to initiation of formal monitoring, and we have since received this document. When updated information on pre-operational monitoring to fulfill requirements for compliance with the FDEP permit becomes available, EPA requests a copy be forwarded to our Region 4 Water Protection Division (WPD).

- The FEIS states that the details of the radiological environmental monitoring program (REMP) around the LNP site have not been developed yet (page E-149). Planning for radiological monitoring should continue as the project progresses. The FEIS notes that the NRC ensures that effluents from operating plants under its oversight are within the established limits, and notes EPA's generally applicable environmental radiation standards in 40 CFR Part 190, (page E-153).

#### Recommendations on Salt Drift

- The maximum predicted offsite deposition rate has been calculated to be 6.83 kg/ha/mo of total solids at the property boundary west of the cooling towers, as determined from the 2002 meteorological data year. Offsite deposition rates would decrease significantly with increasing distance from the proposed plant site, reportedly approaching one-third of the maximum offsite rate at 3280 ft from the site boundary. EPA previously requested the predicted maximum rate at the nearest residence (about 6000 ft from the cooling towers) and the closest public park and recreational area. EPA notes that the FEIS reports that only the location of maximum salt deposition rather than the deposition at other locations that might be of interest. Because the value of maximum offsite salt deposition is smaller than the threshold of concern (10 kg/ha/mo), EPA concurs with the FEIS that all other points of interest would also have deposition rates are noted to be smaller than the threshold. If rates exceed this threshold, EPA recommends that our Region 4 Air Protection and Toxics Management Division (APTMD) be consulted.

#### Recommendations on the Waste Confidence Rule and High Level Waste

- The FEIS notes that a revision of the Waste Confidence Rule was made on December 23, 2010. The NRC Commissioners determined that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 60 years beyond the licensed operational life (which may include the term of a revised or renewed license) of that reactor in a combination of storage in its spent-fuel storage basin and at either onsite or offsite independent spent-fuel storage installations. EPA understands that the Commission believes there is "reasonable assurance" that sufficient mined geologic repository capacity will be available to dispose of the commercial high level (HLW) radioactive waste and spent fuel generated in any reactor when necessary. EPA notes that, on January 26, 2012, the Blue Ribbon Commission on America's Nuclear Future (BCR), sent the Secretary of Energy its final report.

As requested, EPA notes that FEIS Section 6.1.6 has been updated to reflect these changes to the Waste Confidence Rule and for the BCR issuing their final report.

- EPA continues to recommend that an EIS be developed by NRC for any potential HLW repository. A full description and detailed analysis of the transportation of spent nuclear fuel from nuclear power plants to the new repository location should be included in the EIS.

#### Recommendations on Shipping Cask Designs

- Shipping casks have reportedly not been designed for the spent fuel from advanced reactor designs such as the Westinghouse AP1000. EPA recommends that the final design information on these casks be provided to the Regional Health Physicist in the Region 4 Air Protection and Toxics Management Division (APTMD).

We appreciate the opportunity to comment on this action. Please include us in any notifications of future interagency meetings, and please forward a copy of the Record of Decision (ROD) when it becomes available. If you wish to discuss EPA's comments, please contact me at 404/562-9611 ([mueller.heinz@epa.gov](mailto:mueller.heinz@epa.gov)) or Paul Gagliano, P.E., of my staff at 404/562-9373 ([gagliano.paul@epa.gov](mailto:gagliano.paul@epa.gov)) and for wetlands issues contact Eric Hughes from EPA's Wetlands Regulatory Section at 904-232-2464 ([hughes.eric@epa.gov](mailto:hughes.eric@epa.gov)) or Mr. David Pritchett at 916-978-4467 ([pritchett.davida@epa.gov](mailto:pritchett.davida@epa.gov)).

Sincerely,



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cc:

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