



**Progress Energy**

Serial: NPD-NRC-2009-242  
December 14, 2009

10CFR52.79

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

**LEVY NUCLEAR PLANT, UNITS 1 AND 2  
DOCKET NOS. 52-029 AND 52-030**

**RESPONSE TO SUPPLEMENTAL REQUEST FOR ADDITIONAL INFORMATION REGARDING  
THE ENVIRONMENTAL REVIEW**

Reference: Letter from Douglas Bruner (NRC) to James Scarola (PEF), dated September 25, 2009, "Supplemental Request for Additional Information Regarding the Environmental Review of the Combined License Application for the Levy Nuclear Power Plant, Units 1 and 2"

Ladies and Gentlemen:

Progress Energy Florida, Inc. (PEF) hereby submits our response to the Nuclear Regulatory Commission's (NRC) request for additional information provided in the referenced letter.

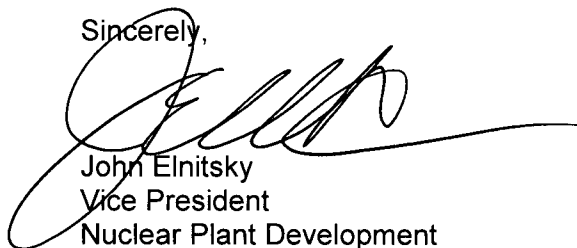
A response to the NRC request is provided in Enclosure 1. Enclosure 1 also identifies changes that will be made in a future revision of the Levy Nuclear Plant Units 1 and 2 application. Enclosure 2 provides a list of files included on the attached CD; these files have been prepared in accordance with NRC electronic submittal guidance. A pre-flight report is included as Enclosure 3.

If you have any further questions, or need additional information, please contact Bob Kitchen at (919) 546-6992, or me at (727) 820-4481.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 14, 2009.

Sincerely,



John Elnitsky  
Vice President  
Nuclear Plant Development

Enclosures/Attachment

cc : U.S. NRC Region II, Regional Administrator (without attached CD)  
Mr. Brian C. Anderson, U.S. NRC Project Manager (without attached CD)  
Mr. Douglas Bruner, U.S. NRC Environmental Project Manager (3 copies of attached CD)  
Mr. Gordon Don Hambrick, U.S. Army Corps of Engineers (1 copy of attached CD)

Progress Energy Florida, Inc.  
P.O. Box 14042  
St. Petersburg, FL 33733

DO94  
NRO

NRC023  
June 26, 2012

**Levy Nuclear Plant Units 1 and 2**  
**Response to NRC Supplemental Request for Additional Information Regarding the**  
**Environmental Review for the Combined License Application, dated September 25, 2009**

<u>NRC RAI #</u>	<u>Progress Energy RAI #</u>	<u>Progress Energy Response</u>
5.2.2-4	L-0561	Response enclosed – see following pages
9.3-2	L-0562	Response enclosed – see following pages
9.3-3	L-0563	Response enclosed – see following pages
9.3-4	L-0564	Response enclosed – see following pages
9.3-5	L-0565	Response enclosed – see following pages
9.3-6	L-0566	Response enclosed – see following pages
9.3-7	L-0567	Response enclosed – see following pages
9.3-8	L-0568	Response enclosed – see following pages
9.3-9	L-0569	Response enclosed – see following pages
9.3-10	L-0570	Response enclosed – see following pages
9.3-11	L-0571	Response enclosed – see following pages
9.3-12	L-0572	Response enclosed – see following pages
9.3-13	L-0573	Response enclosed – see following pages
9.3-14	L-0574	Response enclosed – see following pages
9.3-15	L-0575	Response enclosed – see following pages
9.3-16	L-0576	Response enclosed – see following pages
9.3-17	L-0577	Response enclosed – see following pages
9.3-18	L-0578	Response enclosed – see following pages
9.3-19	L-0579	Response enclosed – see following pages
9.3-20	L-0580	Response enclosed – see following pages
USACE-14	L-0581	Response enclosed – see following pages

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report**

**NRC RAI #:** 5.2.2-4

**Text of NRC RAI:**

Provide calibrated DWRM2 TMR model results that considers local scale conditions and the goodness of fit between simulated and observed hydraulic heads in the vicinity of the LNP site.

The assessment of groundwater usage impacts in the ER is based on the Southwest Florida Water Management District (SWFWMD) District Wide Regulation Model, Version 2, with Telescopic Mesh Refinement (DWRM2 TMR), which uses basin and regional-scale hydraulic property distributions. In Supplement 3 Response to RAIs (Accession No: ML092240658), three modifications were made to the model to better represent the Levy Nuclear Plant (LNP) site conditions. Model results indicated a poor goodness of fit between simulated and observed hydraulic heads in the vicinity of the LNP site.

Calibrate the DWRM2 TMR model to reflect local scale conditions in order to improve the fit between simulated and observed hydraulic heads in the vicinity of the LNP site. Consider consulting with SWFWMD staff when doing this calibration.

Provide documentation of the DWRM2 TMR model modifications that are made and any consultations with SWFWMD staff regarding calibration of the local scale groundwater conditions. In addition, provide updated versions of all figures that were submitted in Supplement 3 Response to NRC RAI # 5.2.2-3 (Accession No: ML092240658) for results generated using the recalibrated groundwater model.

**PGN RAI ID #:** L-0561

**PGN Response to NRC RAI:**

Recalibration of the District Wide Regulation Model, Version 2 (DWRM2) Telescopic Mesh Refinement (TMR) model was discussed with Southwest Florida Water Management District (SWFWMD) prior to beginning calibration activities. The SWFWMD verified that no additional local data were available for recalibration of the DWRM2 TMR model in the vicinity of the Levy Nuclear Plant Units 1 and 2 (LNP) site beyond what is provided in the DWRM2.

The recalibration of the DWRM2 TMR model and the associated predictive results using the revised TMR model are discussed and presented in detail in the Technical Memorandum "Revised Groundwater Model Evaluation of Simulated Drawdown Impacts, Levy Nuclear Plant" (Attachment 5.2.2-4A). The DWRM2 TMR model was recalibrated to accomplish the following:

1. Reproduce the U.S. Geological Survey (USGS) 2007 potentiometric surface for the Upper Floridan Aquifer (UFA) in the vicinity of the LNP site. The USGS 2007 UFA potentiometric surface identifies an area of high groundwater elevation (approximately 70 feet) east of the LNP site. The DWRM2 TMR model simulates a potentiometric surface of approximately 40 feet in this area.

2. Simulate observed water level elevations at the site surficial aquifer system and UFA monitoring wells.

The recalibration effort resulted in a root mean square (RMS) error of 1.27 feet at the calibration targets. RMS error is a method of quantifying the difference between the observed and simulated heads at all calibration targets.

The revised TMR model more closely simulates the USGS published potentiometric surface map of the UFA. The simulated impacts are greater than those from the DWRM2 TMR model. The differences are a result of the revised aquifer parameter values and distribution. Actual field conditions will be confirmed by the environmental monitoring and testing discussed below.

As part of the "Conditions of Certification, adopted by the Final Order on Certification for the Progress Energy Levy Nuclear Power Plant Units 1 & 2," dated August 26, 2009, Progress Energy Florida, Inc., will develop an Aquifer Performance Testing (APT) plan and an Environmental Monitoring Plan (EMP) for the proposed LNP raw water well field. The purpose of the APT plan is to measure the actual aquifer parameters in the wellfield to verify and, if necessary, revise the DWRM2 TMR model to incorporate field measured values. The EMP provides a framework for monitoring the hydrology and ecology of wetlands in the vicinity of the LNP wellfield that could potentially be affected by groundwater drawdowns resulting from operation of the LNP raw water wellfield. These required actions from the Conditions of Certification will ensure that the actual field conditions are understood at the wellfield location and that nearby wetlands are monitored to evaluate for any potential impacts from the groundwater withdrawals.

Revised versions of figures provided in Supplement 3 Response to the U.S. Nuclear Regulatory Commission Request for Additional Information No. 5.2.2-3 (Accession No. ML092240658) are presented in Attachment 5.2.2-4A.

**Associated LNP COL Application Revisions:**

None

**Attachments/Enclosures:**

001 Attachment 5.2.2-4A.pdf: CH2M HILL Technical Memo 338884-TMEM-123, Revised Groundwater Model Evaluation of Simulated Drawdown Impacts, Levy Nuclear Plant

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-2

**Text of NRC RAI:** Clarify how wetlands were included as a part of the exclusionary screening criteria for regional Ecological Features.

Environmental Report (ER) Table 9.3-1 (page 9-86) and Progress Energy Florida (PEF's) (2007) New Nuclear Baseload Generation Addition, Evaluation of Florida Sites (EFS) Table 3-1 of Attachment IV (page 51) state that known mapped wetlands/estuaries and designated critical habitat for Federal threatened and endangered species served as the Region of Interest (Step 1) exclusionary screening criteria for the data category of Regional Ecological Features. Clarify how this screening exercise was conducted for wetlands and provide a copy of the specific data sources for wetlands information used in the analysis.

**PGN RAI ID #:** L-0562

**PGN Response to NRC RAI:**

The objective of regional screening was to eliminate from consideration those large areas within the Region of Interest (ROI) that would preclude nuclear power plant development. Because no such large wetlands features exist (except as may have been included in dedicated lands), digitized maps of wetlands were not used in the screening of the ROI. While wetlands were considered during this stage of the siting process, the number, size, and distribution of wetlands areas in the ROI made it impractical to exclude these areas from further consideration. Accordingly, no wetlands data sources were used in regional screening. As such, ER Table 9.3-1 will be revised as depicted below.

In terms of the consideration of wetlands in the balance of the site selection process, during the selection of potential sites, wetlands were again qualitatively taken into consideration. Potential site locations were selected to optimize potential sites within each candidate area with respect to cost and environmental considerations (including impacts to wetlands) as described in Section 4.1 of Attachment IV to the EFS. Finally, wetlands were quantitatively evaluated in the screening criteria evaluations and the general site criteria evaluations of the EFS (Sections 5.0 and 6.0, respectively, of Attachment IV to the EFS).

**Associated LNP COL Application Revisions:**

ER Table 9.3-1 will be revised as shown on the following two pages.

**Attachments/Enclosures:**

None.

**Table 9.3-1 (Sheet 1 of 2)**  
**Process Used for Screening the Region of Interest**

<b>Data Category</b>	<b>Mapped Data</b>	<b>Screening Criteria</b>	<b>Suitability Impact</b>	<b>Data Source(s)</b>	<b>Comments/Rationale</b>
Geology/ Seismic	None (see Comments)	Areas within 25 miles of capable faults	Excluded	USGS records	No surface faults appear on the Florida State Geologic Map and no capable structures are identified in the USGS database for Florida. There are no Class A or B features in Florida. Accordingly, no mapping criteria for geologic/seismic issues were applied in regional screening.
		Areas within 5 miles of surface faults	Excluded	Crystal River FSAR	
Population	Population Density	Counties where population density is greater than 300 persons per square mile.	Excluded	2000 Census	Counties with more than 300 persons per square mile are likely to have multiple imbedded areas with greater than 500 persons/mi <sup>2</sup> . Siting within these areas would place the plant within an unacceptable distance of high population density areas.
Water Availability	Water sources (large rivers, coastal areas)	River reaches for which the average flow is greater than 10 times the plant makeup water requirement.	Excluded areas greater than 5 miles from water bodies that meet the mapping criteria	USGS records	Rivers for which more than 10 percent of the average flow will be required for makeup water may present permitting or operational water supply problems. Pumping makeup water more than 5 miles imposes significant construction and operational costs and can result in operational risks.
Dedicated Land Use	Federal and State parks, monuments, wildlife areas, wilderness areas, wild and scenic rivers	5-mile buffer around each mapped feature.	Excluded	Federal and state land use maps	A 5-mile buffer is expected to provide mitigation for potential visual impacts of a plant located near dedicated land uses.

**Table 9.3-1 (Sheet 2 of 2)**  
**Process Used for Screening the Region of Interest**

<b>Data Category</b>	<b>Mapped Data</b>	<b>Screening Criteria</b>	<b>Suitability Impact</b>	<b>Data Source(s)</b>	<b>Comments/Rationale</b>
Regional Ecological Features	Designated Threatened and Endangered species habitat	Map areal extent of identified features	Excluded	USGS topographic maps; USFWS	Development of a plant at the location of significant known areas of ecological importance could result in unacceptable environmental impacts and/or challenge as to whether obviously superior alternatives are available.
Transmission	None (see Comments)	N/A	N/A	N/A	Load conditions on the existing transmission grid are such that a new plant would be connected directly to load centers rather than being tied into the existing system. Accordingly, transmission was not evaluated directly in regional screening, but was taken into account in later stages of the site selection process as a site-specific cost issue in terms of distance to the load centers in the Orlando and Tampa-St. Petersburg areas.

**Notes:**

FSAR = Final Safety Analysis Report

mi. = mile

mi.<sup>2</sup> = square mile

N/A = not applicable

USGS = U.S. Geological Survey

Source: Reference 9.3-001

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-3

**Text of NRC RAI:** Clarify whether analyses were based on a 6,000-ac site.

The wetlands screening criterion for potential sites (P6 in ER Table 9.3-2, page 9-89; and EFS Table 5-1 of Attachment IV, page 60), candidate sites ("Disruption of Important Species/Habitats and Wetlands" criterion and "Dewatering Effects on Adjacent Wetlands Criterion" in EFS Table 3, page 25; and ER Tables 9.3-7 pages 9-99), and alternative sites ("Disruption Effects on Adjacent Wetlands Criterion" in EFS Table 4, page 30; and ER Table 9.3-8, pages 9-102) use a utility function and analysis of wetlands that is based on the acreage or percentage of wetlands within a 6,000 ac site, roughly a 3-mile diameter circle (EFS page 16) (Steps 3 and 4). Staff have several questions related to these wetland analyses. The first question is presented in this RAI and the others are presented in RAIs 9.3-4 to 9.3-10. A 3-mile diameter circle is equivalent to approximately 4,500 ac, not 6,000 ac. Clarify that analyses were based on 6,000-ac sites.

**PGN RAI ID #:** L-0563

**PGN Response to NRC RAI:**

For purposes of identifying and evaluating sites, each site was identified as a 6,000-acre area, nominally a circle centered on the site center-point. The convention that a representative site size for a two-unit nuclear power plant, including exclusion zone, ancillary features, construction laydown areas, security zones, and a cooling water storage reservoir, is 2,000 acres. A site area of 6,000 acres (three times the nominal area requirement) provides a consistent basis for comparison of sites while also providing flexibility for locating plant components within the evaluated area. This flexibility allows for the refinement of detailed plant locations as more information is developed regarding the site (for example, land availability, environmental and geotechnical considerations), while avoiding the need to re-evaluate the site as locational refinements are made.

All site criteria analyses in the EFS were based on the 6,000-acre circle around the site center-point; this is equivalent to a 1.73-mile radius (or a 3.46-mile diameter) circle.

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.



**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-4

**Text of NRC RAI:** Clarify whether a uniform metric for wetlands was used to account for size variations between potential sites.

Both the ER (Page 9-49) and the EFS (page 55) state that potential sites were generally 6,000 ac in size, although sites as small as 2,000 ac were considered. Identify which potential sites varied from the 6,000-ac size category and provide information to indicate the size of these sites. In the EFS, Appendix C of Attachment IV, The Technical Basis for Screening Criterion Ratings, Criterion P6 – Wetlands (page 107 of EFS) indicates that acres were used as the basis for assigning the ratings score. Clarify why the proportion or percentage of wetlands was not included as a metric in the analyses.

**PGN RAI ID #:** L-0564

**PGN Response to NRC RAI:**

For purposes of identifying and evaluating sites, each site was identified as a 6,000-acre area, nominally a circle centered on the site center-point. The convention that a representative site size for a two-unit nuclear power plant, including exclusion zone, ancillary features, construction laydown areas, security zones, and a cooling water storage reservoir, is 2,000 acres. A site area of 6,000 acres (three times the nominal area requirement) provides a consistent basis for comparison of sites while also providing flexibility for locating plant components within the evaluated area. This flexibility allows for the refinement of detailed plant locations as more information is developed regarding the site (for example, land availability, environmental and geotechnical considerations), while avoiding the need to re-evaluate the site as locational refinements are made.

All site criteria analyses in the EFS were based on the 6,000-acre circle around the site center-point; this is equivalent to a 1.73-mile radius (or a 3.46-mile diameter) circle.

Wetlands evaluations for all sites were based on a consistent 6,000-acre circle around the site center-point. Accordingly, there was no size variation between sites and a uniform metric was used for all sites. Wetland ratings were based on the percentage of site area covered by wetlands; the total number of acres within the 6,000-acre circle were calculated and divided by 6,000 (total acres in circle) to calculate the percentage of wetlands for each site. Ratings were then assigned based on the following metric (from Table 5-1 in the EFS):

- 5 = < 60 acres (<1%)
- 4 = < 300 acres (<5%)
- 3 = < 600 acres (<10%)
- 2 = < 1,200 acres (<20%)
- 1 = > 1,200 acres (>20%)

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-5

**Text of NRC RAI:** How were NWI maps used in analysis of alternative sites, and were the NWI data supplemented by other data sources? If so, identify the sources and explain how they were used.

The table for Criterion P6 – Wetlands (page 107 of EFS) indicates that National Wetland Inventory (NWI) maps served as the source for estimating the amount of wetlands present on most of the 20 potential sites, but not for all sites (see page 188 of EFS). Explain why the NWI maps were not used for all of the potential sites. Identify what other wetland data sources were used, such as FLUCCS maps. In the Comments and Discussion (column), page 188 of EFS, it states “Could not compile local map. Wetland polygon data from radius search only.” Clarify what is meant by this statement. The table for Criterion P6 – Wetlands (page 107 of EFS) states that the wetland estimates do not include riverine wetlands. Clarify this statement. For example, are areas of open water being excluded or area floodplain wetlands associated with riverine systems being excluded?

**PGN RAI ID #:** L-0565

**PGN Response to NRC RAI:**

With respect to the EFS, site evaluations at each step of the siting process relied on the NWI maps and mapping tool as the sole resource used to evaluate wetlands.

The statement relating to the exclusion of riverine wetlands is clarified as follows:

The area associated with open water of the river is being excluded, which corresponds to the NWI mapping tool code for “riverine.” Wetlands associated with or immediately adjacent to the river and identified as “riverine wetlands” in the NWI database are included in the reported wetlands acreage.

Regarding the reference to statements made in the “Comments and Discussion” column of the original evaluation (for example, “could not compile local map”), the material that is referred to has been superseded by the Supplemental Analysis for New Nuclear Baseload Generation Addition Evaluation of Florida Sites (EFS) (please see response to RAI 9.3-6 [L-0566] and Attachment A to that RAI for the updated information).

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-6

**Text of NRC RAI:** Clarify discrepancies in wetland acreage as reported for each site in the EFS and AA.

The table for Criterion P6 – Wetlands (page 107 of EFS) identifies 61 acres of wetlands on the Levy 2 site (i.e., the preferred LNP site analyzed in the ER). Applying the rating scale, Levy 2 was assigned a rating of 4 for containing between 60 and 300 acres of wetlands (Table 2, Potential Site Preliminary Technical Evaluation Screening, page 22 of EFS; Table 9.3-4, Technical Evaluation Screening for Potential Sites, page 9-92 of ER). Examining NWI maps suggests that many hundreds of acres of wetlands are present on the Levy 2 site. CH2M Hill's (2009) Levy Nuclear Units 1 and 2 Section 404(b)(1) Alternatives Analysis (AA) identifies 1742.38 ac of wetlands on the LNP site using NWI maps, and 1691.96 ac using FLUCCS maps (Table 7, Total Estimated Wetland acreages for Each of the Five Final Candidate Siting Areas, page 34). The AA estimates correspond closely with the actual field delineations conducted for the LNP site – about 2000 ac of wetlands over the 3505 ac LNP site. Table 7 from the AA identifies 2173.15 acres of wetlands (based on NWI maps) for Putnam as compared to 105 ac of wetlands in the EFS Criterion P6 Table. Similarly, the AA identifies 1168.97 acres of wetlands (based on NWI maps) for Crystal River as compared to 123 acres of wetlands in the EFS. There are similar inconsistencies in the number of wetlands for the other sites. Clarify these wetland acreage discrepancies between the EFS and the AA and, as appropriate, revise the estimated number of wetlands for each site and ratings within the EFS and ER.

**PGN RAI ID #:** L-0566

**PGN Response to NRC RAI:**

The Evaluation of Florida Sites (EFS) describes the analyses conducted and decisions made by Progress Energy Florida, Inc. (PEF) in considering alternatives and selecting a proposed site for a new nuclear power plant in Florida. Results from this document are reported in the Levy Nuclear Plant (LNP) Combined License Application (COLA) Environmental Report (ER) Section 9.3. As noted below, limitations on a National Wetlands Inventory (NWI) mapping tool used in developing the EFS required analyzing the effects of the corrected wetlands inventory data on the EFS results. This analysis is provided in an EFS Supplemental Analysis (002 Attachment 9.3.6-1A.pdf- Attachment A, Supplemental Analysis, for New Nuclear Baseload Generation Addition Evaluation of Florida Sites [EFS] October 2007 Appendix IV – McCallum-Turner Siting Study).

In the process of responding to requests for additional information (RAIs) on the LNP COLA, it was discovered that the NWI mapping tool did not report all wetlands within the specified geographic area, resulting in inaccurate enumeration of the wetland acreages in the EFS. This source of error is described in 002 Attachment 9.3-6-1A.pdf. In almost every case, the NWI values in the EFS were significantly under-represented. This source data problem is the primary reason for the discrepancy in wetland acreages between the EFS and the CH2M HILL, Technical Memorandum: 338884-TMEM-102, Revision 1, *Levy Nuclear Units 1 and 2 (LNP) Section 404(b)(1) Alternative Analysis*, June 2009 (submitted as an attachment to RAI USACE

11). Another reason for the discrepancy, which relates to the LNP site only, is that the location of the LNP site (as purchased for development and described in the ER) is slightly different from the location of the Levy 2 site evaluated in the EFS.

A Supplemental Analysis that provides corrected wetlands acreages and an analysis of the effect of these corrections on the EFS siting analyses are provided in Attachment 9.3-6-1A. An analysis of the effect of EFS analyses based on the LNP versus Levy 2 site locations is provided in response to RAI 9.3-7 (L-0567).

#### **Associated LNP COL Application Revisions:**

The following sections and tables in the ER will be updated with corrected wetland information:

Tables: 9.3-4; 9.3-5; 9.3-7; 9.3-8; 9.3-9

Sections: 9.3.2.1.4; 9.3.2.1.6; 9.3.3.1.4; 9.3.3.2.4; 9.3.3.3.4; 9.3.3.4.4

#### **9.3.2.1.4      *Evaluation of Potential Sites and Selection of the Candidate Sites***

##### **[Seventh paragraph]**

The results of the potential sites technical evaluation screening process yielded a list of eight top-ranked sites: Taylor, Lafayette, Levy 2, Gilchrist, Levy 3, Crystal River, Liberty 1, and Dixie (Table 9.3-4). The next four highest-rated sites (Levy 1, Putnam 2, Putnam 3, and Manatee) were rated similarly and were very close to the eighth site (Dixie). Finally, Hillsborough and Putnam 1 followed closely behind Manatee. Given the small difference in site suitability ratings between the top eight sites and the next six sites, additional considerations were evaluated to ensure that important site suitability tradeoffs could be evaluated in more detail. (Reference 9.3-001)

##### **[Tenth paragraph, first and third bullet]**

This evaluation and screening process grouped the 20 potential sites in order of suitability, based on the composite suitability ratings and the overall level of concern identified for each site. This grouping produced the following results (Reference 9.3-001):

- Group 1 — Minimal Concerns: Crystal River, Levy 2, Levy 3, and Taylor.
- Group 2 — Intermediate Concerns: Putnam 1, Putnam 2, and Putnam 3.
- Group 3 — One potential significant concern and favorable transmission: Dixie, Highlands, Lafayette, Levy 1, and Gilchrist.
- Group 4 — One or more potential significant concerns and no favorable transmission: Calhoun, Gulf, Hillsborough, Liberty 1, Liberty 2, Manatee, Seminole, and Volusia.

**[Eleventh paragraph]**

Minor modifications to the list of sites were made based on the following reasons: Liberty 1 was removed from the list due to its unsuitability from a transmission perspective; Levy 1 was removed from the list because it has no significant advantage over the Dixie site and it is located in proximity to a state park (Manatee Springs); Gilchrist was removed from the list due to the need for a supplemental reservoir and related water supply constraints; Hillsborough was removed from the list due to uncertainty about water supply, as well as potential transmission connection constraints; Putnam 3 and Highlands were added to the candidate site list based on their locations allowing for alternative water sources (St. Johns River and Kissimmee River, respectively), as well as proximity to PEF load centers, which provide the opportunity to connect from different directions. Putnam 3 was chosen out of the three potential sites in Putnam County based on rail and transmission access advantages and real estate considerations. (Reference 9.3-001)

**9.3.2.1.6      Technical Evaluation of Alternative Sites****[Tenth paragraph, first sentence]**

All of the sites examined have been previously disturbed via farming or mining activity and/or are in the process of being logged. All sites appeared to contain some wetland areas, although very little standing water was actually observed during the site visits.

**9.3.3.1.4      *Terrestrial Ecology*****[First paragraph, second sentence]**

The relative suitability of the Crystal River site with respect to potential impacts to terrestrial ecology (rare, threatened, and endangered terrestrial species, and critical habitat) and wetlands was evaluated. There are approximately 303.5 ha (750 ac.) of high quality wetlands within the Crystal River site area (Reference 9.3-001).

**9.3.3.2.4      *Terrestrial Ecology*****[First paragraph, second sentence]**

The relative suitability of the Dixie site with respect to potential impacts to terrestrial ecology (rare, threatened, and endangered terrestrial species, and critical habitat) and wetlands was evaluated. There are approximately 81.0 ha (200 ac.) of high quality wetlands within the Dixie site area (Reference 9.3-001).

**9.3.3.3.4      *Terrestrial Ecology*****[First paragraph, second sentence]**

The relative suitability of the Highlands site with respect to potential impacts to terrestrial ecology (rare, threatened, and endangered terrestrial species, and critical habitat) and wetlands

was evaluated. There are approximately 105.2 ha (260 ac.) of high quality wetlands within the Highlands site area.

9.3.3.4.4 *Terrestrial Ecology*

**[First paragraph, second sentence]**

The relative suitability of the Putnam site with respect to potential impacts to terrestrial ecology (rare, threatened, and endangered terrestrial species, and critical habitat) and wetlands was evaluated. There are approximately 441.1 ha (1090 ac.) of high quality wetlands within the Putnam site area (Reference 9.3-001).

**Table 9.3-4 (Sheet 1 of 2)**  
**Technical Evaluation Screening for Potential Sites**

Potential Site Name	Criterion									Composite Site Rating
	P1	P2	P3	P4	P5	P6	P7	P8	P9	
	Cooling Water Supply	Flooding	Population	Hazardous Land Uses	Ecology	Wetlands	Railroad Access	Transmission Access	Land Acquisition	
	Weight Factor									
	9.8	4.4	8.6	5.9	5.6	5.6	6.7	7.4	6.3	
Site Ratings										
Taylor	5	4	5	3	2	2	4.4	2.9	5	232
Lafayette	3	5	5	2	3	3	4.8	3.1	5	226.6
Levy 2	5	4	4	2	2	1	4.9	3.9	5	222.4
Gilchrist	3	5	4	2	4	2	4.9	3.1	5	218.4
Crystal River	5	3	4	1	2	2	4.9	3.9	5	217.9
Levy 3	5	2	5	2	2	1	4.7	3.5	5	217.9
Liberty 1	4	5	4	2	1	4	4.9	1.3	5	209.1
Dixie	3	4	4	2	2	3	4.7	3.1	5	207.6
Levy 1	3	4	3	2	2	4	4.9	3.3	5	206.6
Putnam 2	3	3	4	2	3	1	4.9	3.9	5	204.7
Putnam 3	3	2	3	3	3	2	5	3.9	5	203.3
Manatee	2	5	2	3	2	3	4.9	4.6	5	202.8



**Table 9.3-4 (Sheet 2 of 2)**  
**Technical Evaluation Screening for Potential Sites**

Potential Site Name	Criterion									Composite Site Rating
	P1	P2	P3	P4	P5	P6	P7	P8	P9	
	Cooling Water Supply	Flooding	Population	Hazardous Land Uses	Ecology	Wetlands	Railroad Access	Transmission Access	Land Acquisition	
	Weight Factor									
	9.8	4.4	8.6	5.9	5.6	5.6	6.7	7.4	6.3	
Site Ratings										
Hillsborough	5	4	1	2	2	2	5	3.7	5	201.6
Putnam 1	3	2	3	3	3	1	5	4	5	198.3
Gulf	5	1	5	2	1	1	5	1	5	191.6
Highlands	2	4	3	2	1	2	4.9	3.6	5	182.3
Seminole	2	4	1	2	3	1	4.9	4.7	5	178.8
Liberty 2	1	5	4	4	1	1	4.9	1.6	5	177.1
Volusia	2	3	2	3	1	1	4.8	4.6	5	176.6
Calhoun	2	1	4	2	2	1	4.8	1.1	5	159.2

Source: Reference 9.3-001

**Table 9.3-5 (Sheet 1 of 2)**  
**Summary of Screening Evaluation for Potential Sites**

Potential Sites	Composite Technical Screening Order	Final Ranking		PEF Preliminary Input					
		Technical Screening Top 8	PEF Down-Select Decision	Water Source	Transmission	Community Support	Economic Development	Environment	Legislative
Taylor	1	Taylor	Taylor	Gulf of Mexico	Green	Green	Yellow	Yellow	
Lafayette	2	Lafayette	Lafayette	Suwannee River	Green	Yellow	Red	Yellow	
Levy 2	3	Levy 2	Levy 2	Florida Barge Canal	Green	Green	Green	Yellow	
Gilchrist	4	Gilchrist	(Not Selected)	Suwannee/ Santa Fe	Green	Yellow	Red	Yellow	
Crystal River	5	Crystal River	Crystal River	Gulf of Mexico	Yellow	Green	Yellow	Green	Green
Levy 3	6	Levy 3	Levy 3	Gulf of Mexico	Green	Green	Yellow	Yellow	
Liberty 1	7	Liberty	(Not Selected)	Apalachicola River	Red	Yellow	Green	Yellow	Yellow
Dixie	8	Dixie	Dixie	Suwannee River	Green	Yellow	Red	Yellow	Yellow
Levy 1	9	(Not in Top 8)	(Not Selected)	Suwannee River	Green	Yellow	Red	Yellow	
Putnam 2	10	(Not in Top 8)	(Not Selected)	St. Johns River	Yellow	Yellow	Yellow	Green	
Putnam 3	11	(Not in Top 8)	Putnam 3	St. Johns River	Yellow	Yellow	Yellow	Green	

**Table 9.3-5 (Sheet 2 of 2)**  
**Summary of Screening Evaluation for Potential Sites**

Potential Sites	Composite Technical Screening Order	Final Ranking		PEF Preliminary Input					
		Technical Screening Top 8	PEF Down-Select Decision	Water Source	Transmission	Community Support	Economic Development	Environment	Legislative
Manatee	12	(Not in Top 8)	(Not Selected)	Manatee River	Yellow		Red	Yellow	
Hillsborough	13	(Not in Top 8)	(Not Selected)	Tampa Bay	Yellow	Red	Red	Yellow	
Putnam 1	14	(Not in Top 8)	(Not Selected)	St. Johns River	Yellow	Yellow	Yellow	Green	
Gulf	15	(Not in Top 8)	(Not Selected)	Gulf of Mexico	Red	Yellow	Red	Yellow	Yellow
Highlands	16	(Not in Top 8)	<b>Highlands</b>	Kissimmee River	Green	Green	Green	Yellow	
Seminole	17	(Not in Top 8)	(Not Selected)	St. Johns River	Green	Red	Red	Yellow	
Liberty 2	18	(Not in Top 8)	(Not Selected)	Ochlockonee River	Red	Green	Yellow	Yellow	
Volusia	19	(Not in Top 8)	(Not Selected)	St. Johns River	Green	Red	Yellow	Yellow	
Calhoun	20	(Not in Top 8)	(Not Selected)	Chipola River	Red	Yellow	Yellow	Yellow	Yellow

**Notes:**

Green = no significant concerns  
 Yellow = some potential concerns  
 Red = some significant concerns  
 No color = neutral ranking

Source: Reference 9.3-001

**Table 9.3-7 (Sheet 1 of 3)**  
**General Technical Evaluation for Candidate Sites**

EPRI Guide Section	Criteria	Weight Factor	Crystal River		Dixie		Highlands		Lafayette		Levy 2		Levy 3		Putnam 3		Taylor	
			Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score
1.1.1	Geology / Seismology	3.77	5	18.85	5	18.85	5	18.85	5	18.85	5	18.85	5	18.85	5	18.85	5	18.85
1.1.2	Cooling System Requirements	3.27	4	13.08	3	9.81	2	6.54	3	9.81	3	9.81	4	13.08	3	9.81	4	13.08
1.1.3	Flooding	2.4	2	4.8	3	7.2	1	2.4	2	4.8	5	12	3	7.2	5	12	3	7.2
1.1.4	Nearby Hazardous Land Uses	3.35	1	3.35	3	10.05	3	10.05	3	10.05	2	6.7	3	10.05	2	6.7	3	10.05
1.1.5	Extreme Weather Conditions	2.36	2	4.72	3	7.08	3	7.08	3	7.08	3	7.08	1	2.36	3	7.08	2	4.72
1.2	Accident Effect Related	4.09	4	16.36	4	16.36	4	16.36	4	16.36	3	12.27	4	16.36	4	16.36	4	16.36
1.3.1	Surface Water – Radionuclide Pathway	2.5	5	12.5	4	10	4	10	4	10	5	12.5	5	12.5	4	10	5	12.5
1.3.2	Groundwater Radionuclide Pathway	2.55	2	5.10	2	5.10	3	7.65	2	5.10	2	5.10	2	5.10	2	5.10	1	2.55
1.3.3	Air Radionuclide Pathway	2.5	5	12.5	4	10	4	10	4	10	4	10	5	12.5	4	10	5	12.5
1.3.4	Air-Food Ingestion Pathway	2.5	4	10	4	10	1	2.5	3	7.5	3	7.5	3	7.5	3	7.5	5	12.5
1.3.5	Surface Water-Food Radionuclide Pathway	2.41	5	12.05	4	9.64	3	7.23	4	9.64	5	12.05	5	12.05	4	9.64	5	12.05
1.3.6	Transportation Safety	2.14	3	6.42	3	6.42	3	6.42	3	6.42	3	6.42	3	6.42	3	6.42	3	6.42
2.1.1	Disruption of Important Species/Habitats	2.64	2	5.28	2	5.28	5	13.2	3	7.92	2	5.28	1	2.64	3	7.92	1	2.64

**Table 9.3-7 (Sheet 2 of 3)**  
**General Technical Evaluation for Candidate Sites**

EPRI Guide Section	Criteria	Weight Factor	Crystal River		Dixie		Highlands		Lafayette		Levy 2		Levy 3		Putnam 3		Taylor	
			Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score
2.1.2	Bottom Sediment Disruption Effects	2.14	3	6.42	2	4.28	2	4.28	2	4.28	2	4.28	3	6.42	2	4.28	3	6.42
2.2.1	Disruption of Important Species/Habitats and Wetlands	3.18	2	6.36	2	6.36	2	6.36	3	9.54	2	6.36	1	3.18	2	6.36	2	6.36
2.2.2	Dewatering Effects on Adjacent Wetlands	2.77	2	5.54	2	5.54	2	5.54	3	8.31	2	5.54	1	2.77	2	5.54	2	5.54
2.3.1	Thermal Discharge Effects	3.64	3	10.92	2	7.28	3	10.92	3	10.92	3	10.92	3	10.92	3	10.92	3	10.92
2.3.2	Entrainment/Impingement Effects	3.23	3	9.69	3	9.69	4	12.92	3	9.69	3	9.69	3	9.69	3	9.69	3	9.69
2.3.3	Dredging/Disposal Effects	2.36	3	7.08	2	4.72	2	4.72	2	4.72	2	4.72	3	7.08	2	4.72	3	7.08
2.4.1	Drift Effects on Surrounding Areas	2.36	2	4.72	3	7.08	3	7.08	3	7.08	2	4.72	2	4.72	3	7.08	2	4.72
3.1.1	Socioeconomics – Construction – Related Effects	2	4	8.0	3	6.0	5	10.0	3	6.0	4	8.0	4	8.0	5	10.0	3	6.0
3.3.1	Environmental Justice	1.95	5	9.75	5	9.75	5	9.75	5	9.75	5	9.75	5	9.75	5	9.75	5	9.75
3.4.1	Land Use	3.8	2	7.6	2	7.6	3	11.4	2	7.6	2	7.6	2	7.6	4	15.2	2	7.6
4.1.1	Water Supply	3.7	5	18.5	3	11.1	2	7.4	3	11.1	4	14.8	5	18.5	4	14.8	5	18.5
4.1.2	Pumping Distance	3.05	5	15.25	4	12.2	3	9.15	5	15.25	3	9.15	1	3.05	3	9.15	1	3.05
4.1.3	Flooding	2.9	2	5.8	3	8.7	2	5.8	2	5.8	5	14.5	3	8.7	5	14.5	3	8.7

**Table 9.3-7 (Sheet 3 of 3)**  
**General Technical Evaluation for Candidate Sites**

EPRI Guide Section	Criteria	Weight Factor	Crystal River		Dixie		Highlands		Lafayette		Levy 2		Levy 3		Putnam 3		Taylor	
			Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score
4.1.5	Civil Works	3.4	3	10.2	3	10.2	3	10.2	4	13.6	3	10.2	3	10.2	3	10.2	3	10.2
4.2.1	Railroad Access	2.6	5	13.0	3	7.8	4	10.4	3	7.8	4	10.4	3	7.8	5	13.0	3	7.8
4.2.2	Highway Access	2.8	5	14.0	5	14.0	5	14.0	5	14.0	5	14.0	5	14.0	5	14.0	5	14.0
4.2.3	Barge Access	2.85	5	14.25	2	5.7	2	5.7	2	5.7	2	5.7	3	8.55	4	11.4	3	8.55
4.2.4	Transmission Access	4.8	3	14.4	4	19.2	4	19.2	4	19.2	5	24	4	19.2	4	19.2	4	19.2
4.3.1	Topography	2.55	5	12.75	5	12.75	5	12.75	4	10.2	5	12.75	5	12.75	3	7.65	4	10.2
4.3.2	Land Rights	2.75	5	13.75	4	11	3	8.25	1	2.75	2	5.5	1	2.75	3	8.25	4	11
4.3.3	Labor Rates	3.3	5	16.5	4	13.2	3	9.9	3	9.9	5	16.5	5	16.5	2	6.6	3	9.9
<b>Composite Site Rating</b>			<b>349</b>		<b>320</b>		<b>314</b>		<b>317</b>		<b>335</b>		<b>319</b>		<b>340</b>		<b>327</b>	

**Notes:**

Site ratings for each criterion are assigned in the range: 1 = least suitable to 5 = most suitable

Source: Reference 9.3-001

**Table 9.3-8 (Sheet 1 of 3)**  
**General Technical Evaluation for Alternative Sites**  
**PEF General Site Criteria Ratings**

EPRI Guide Section	Criteria	Weight Factor	Crystal River		Dixie		Highlands		Levy		Putnam 3	
			Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score
A.1.1	Geology / Seismology	<b>3.77</b>	5	18.85	5	18.85	5	18.85	5	18.85	5	18.85
A.1.2	Cooling System Requirements	<b>3.27</b>	4	13.08	3	9.81	2	6.54	3	9.81	3	9.81
A.1.3	Flooding	<b>2.4</b>	2	4.8	3	7.2	1	2.4	5	12	5	12
A.1.4	Nearby Hazardous Land Uses	<b>3.35</b>	1	3.35	3	10.05	3	10.05	2	6.7	2	6.7
A.1.5	Extreme Weather Conditions	<b>2.36</b>	2	4.72	3	7.08	3	7.08	3	7.08	3	7.08
A.2	Accident Effect Related	<b>4.09</b>	4	16.36	4	16.36	4	16.36	3	12.27	4	16.36
A.3.1	Surface Water Radionuclide Pathway	<b>2.5</b>	5	12.5	4	10	4	10	5	12.5	4	10
A.3.2	Groundwater Radionuclide Pathway	<b>2.55</b>	2	5.10	2	5.10	3	7.65	2	5.10	2	5.10
A.3.3	Air Radionuclide Pathway	<b>2.5</b>	5	12.5	4	10	4	10	4	10	4	10
A.3.4	Air-Food Ingestion Pathway	<b>2.5</b>	4	10	4	10	1	2.5	3	7.5	3	7.5
A.3.5	Surface Water-Food Radionuclide Pathway	<b>2.41</b>	5	12.05	4	9.64	3	7.23	5	12.05	4	9.64
A.3.6	Transportation Safety	<b>2.14</b>	3	6.42	3	6.42	3	6.42	3	6.42	3	6.42
B.1.1	Disruption of Important Species / Habitats	<b>2.64</b>	2	5.28	2	5.28	5	13.2	3	7.92	3	7.92

**Table 9.3-8 (Sheet 2 of 3)**  
**General Technical Evaluation for Alternative Sites**

PEF General Site Criteria Ratings												
EPRI Guide Section	Criteria	Weight Factor	Crystal River		Dixie		Highlands		Levy		Putnam 3	
			Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score
B.1.2	Bottom Sediment Disruption Effects	2.14	3	6.42	2	4.28	2	4.28	2	4.28	2	4.28
B.2.1	Disruption of Important Species/Habitats and Wetlands	3.18	2	6.36	2	6.36	2	6.36	2	6.36	2	6.36
B.2.2	Dewatering Effects on Adjacent Wetlands	2.77	2	5.54	2	5.54	2	5.54	2	5.54	2	5.54
B.3.1	Thermal Discharge Effects	3.64	3	10.92	3	10.92	3	10.92	3	10.92	3	10.92
B.3.2	Entrainment/ Impingement Effects	3.23	3	9.69	3	9.69	4	12.92	3	9.69	3	9.69
B.3.3	Dredging/Disposal Effects	2.36	3	7.08	2	4.72	2	4.72	2	4.72	2	4.72
B.4.1	Drift Effects on Surrounding Areas	2.36	2	4.72	3	7.08	3	7.08	3	7.08	3	7.08
C.1.1	Socioeconomics Construction Related Effects	2	4	8.0	3	6.0	5	10.0	4	8.0	5	10.0
C.3.1	Environmental Justice	1.95	5	9.75	5	9.75	5	9.75	5	9.75	5	9.75
C.4.1	Land Use	3.8	2	7.6	2	7.6	3	11.4	2	7.6	4	15.2
D.1.1	Water Supply	3.7	5	18.5	4	14.8	2	7.4	4	14.8	4	14.8



**Table 9.3-8 (Sheet 3 of 3)**  
**General Technical Evaluation for Alternative Sites**

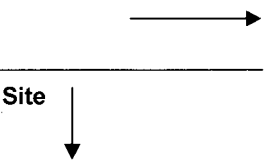
PEF General Site Criteria Ratings												
EPRI Guide Section	Criteria	Weight Factor	Crystal River		Dixie		Highlands		Levy		Putnam 3	
			Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score
D.2.1	Railroad Access	2.6	5	13.0	3	7.8	4	10.4	4	10.4	5	13.0
C.3.1	Environmental Justice	1.95	5	9.75	5	9.75	5	9.75	5	9.75	5	9.75
C.4.1	Land Use	3.8	2	7.6	2	7.6	3	11.4	2	7.6	4	15.2
D.1.1	Water Supply	3.7	5	18.5	4	14.8	2	7.4	4	14.8	4	14.8
D.1.2	Pumping Distance	3.05	5	15.25	4	12.2	3	9.15	3	9.15	3	9.15
D.1.3	Flooding	2.9	2	5.8	3	8.7	2	5.8	5	14.5	5	14.5
D.1.5	Civil Works	3.4	3	10.2	3	10.2	3	10.2	3	10.2	3	10.2
D.2.1	Railroad Access	2.6	5	13.0	3	7.8	4	10.4	4	10.4	5	13.0
D.2.2	Highway Access	2.8	5	14.0	5	14.0	5	14.0	5	14.0	5	14.0
D.2.3	Barge Access	2.85	5	14.25	2	5.7	2	5.7	2	5.7	4	11.4
D.2.4	Transmission Access	4.8	3	14.4	4	19.2	4	19.2	5	24	3	14.4
D.3.1	Topography	2.55	5	12.75	5	12.75	5	12.75	5	12.75	3	7.65
D.3.2	Land Rights	2.75	5	13.75	4	11	3	8.25	2	5.5	3	8.25
D.3.3	Labor Rates	3.3	5	16.5	4	13.2	3	9.9	5	16.5	2	6.6
Composite Site Rating				349		320		314		335		340

**Notes:**

Site ratings for each criterion are assigned in the range: 1 = least suitable to 5 = most suitable

Source: Reference 9.3-001

**Table 9.3-9 (Sheet 1 of 4)**  
**Summary of the Alternative Site Studies**

Site Suitability Issue					
	Transmission	Geotechnical	Environmental	Reliability	Land Acquisition
<b>Basis for Evaluation</b> 	Detailed transmission impact study (Navigant 2006)	On-site geotechnical investigations, including borings and geophysical studies [Relative suitability scale of 1 to 5, with 5 representing most suitable and 1 the least suitable.]	On-site reconnaissance survey of greenfield sites, visual evaluation of plant communities; Crystal River characterization based on other existing data	Qualitative analysis of risk factors for reliable power production and supply (such as vulnerability to single-event failures)	Real estate analysis supplemented by preliminary third-party negotiations with landowners
Crystal River	Upgrade costs conservatively estimated to be similar to those for Levy 2: \$563 million <sup>(a)</sup>	Geotechnical characteristics assumed to be acceptable; similar to those underlying existing plant.	Site is characterized by industrial development with both nuclear and fossil power plants and associated support facilities.	Site is subject to coastal storm surge flooding and concentration of additional units at the site would subject the entire service territory to a single weather event failure. Co-location of new units at the site does not allow for any physical separation of transmission lines from new units from existing corridors and would subject them to single weather event failures over several miles of co-located lines.	The Crystal River site is on land that is already owned by PEF and is already zoned for uses compatible with the development of new nuclear units.

**Table 9.3-9 (Sheet 2 of 4)**  
**Summary of the Alternative Site Studies**

	Site Suitability Issue				
	Transmission	Geotechnical	Environmental	Reliability	Land Acquisition
Dixie	Estimated total direct connect plus upgrade costs: \$726 million <sup>(a)</sup>	Recommended Suitability Index = 2. This site exhibits numerous sinkholes and depressions. The rock quality at this site is mostly very poor to poor with many voids and cavities.	Site is characterized primarily by open forested pineland with some evidence of timbering. Some wetlands indicator species apparent on site area.	Site would not be subject to storm surge flooding and would significantly reduce the possibility that new units would be affected by a single weather event. Location allows additional separation of transmission lines over that provided by Levy.	Acquisition of sufficient land for a nuclear power plant in the time frame necessary to meet the COLA schedule appears not to be feasible.
Highlands	Estimated total direct connect plus upgrade costs: \$1370 million. Includes significant (\$592 million) upgrades due to contingencies in FPL service area required. <sup>(b)</sup>	Recommended Suitability Index = 1. This site is assigned the lowest suitability index because of the thickness and variable consistency of soil deposits underneath it.	Mostly agricultural cleared land; significant sod farming on site and significant cattle and dairy farming near the site.	Site would not be subject to storm surge flooding and would almost eliminate the possibility that new units would be affected by a single weather event with Crystal River. Location provides for a different directional approach to load centers for transmission lines as compared to Crystal River, Dixie and Levy.	Acquisition of land appears to be feasible. However, coordination of water supply strategy with ongoing water resources plans of regional water management districts would likely preclude development of new units on the schedule required.

**Table 9.3-9 (Sheet 3 of 4)**  
**Summary of the Alternative Site Studies**

	Site Suitability Issue				
	Transmission	Geotechnical	Environmental	Reliability	Land Acquisition
Putnam	Estimated total direct connect plus upgrade costs: \$1013 million. Includes significant (\$590M) upgrades due to contingencies in FPL service area required. <sup>(b)</sup>	Recommended Suitability Index = 1. This site is assigned the lowest suitability index because of the thickness and variable consistency of soil deposits underneath it.	The majority of the site area has been disturbed from previous mining activities and much of the land reclaimed. Currently characterized by mostly open canopied forest. Some wetland areas noted on site area.	Site would be less subject to storm surge flooding and would significantly reduce the possibility that new units would be affected by a single weather event with Crystal River. Location provides for a different directional approach to load centers for transmission lines as compared to Crystal River, Dixie and Levy 2.	Acquisition of land appears to be feasible.

**Table 9.3-9 (Sheet 4 of 4)**  
**Summary of the Alternative Site Studies**

	Site Suitability Issue				
	Transmission	Geotechnical	Environmental	Reliability	Land Acquisition
Levy	Estimated total direct connect plus upgrade costs: \$653 million.	Levy 1 (Rayonier property): Recommended Suitability Index = 3. This site has a small variation in the top of limestone bedrock elevation, although rock quality is not good (very poor to fair rock). Levy 2 (Lybass property): Recommended Suitability Index = 3. This site seems to have slightly better rock quality than Levy 1. However, the top of limestone bedrock elevation is erratic across this site, with a boring advanced to a depth of 100 feet without encountering bedrock.	Site is characterized primarily by forested pineland but has been heavily timbered with associated disturbance to site ecology. Some wetlands indicator species apparent on site area.	Site would not be subject to storm surge flooding and would reduce the possibility that new units would be affected by a single weather event with Crystal River.  Location allows some separation of transmission lines as compared to Crystal River.	Land to be used for new units is owned by PEF. The land is currently a Greenfield site that will need to be re-zoned for development of the nuclear facility.

**Notes:**

a) Connection to Crystal River East substation with 800 MW assumed to be installed at the proposed Taylor Energy Complex.

b) Upgrades in service areas other than the PEF service area are subject to additional schedule uncertainty because of the need to negotiate upgrade strategies with other transmission operator(s).

Source: Reference 9.3-001

**Attachments/Enclosures:**

002 Attachment 9.3-6-1A.pdf: Attachment A, Supplemental Analysis, for New Nuclear  
Baseload Generation Addition Evaluation of Florida Sites (EFS) October 2007 Appendix IV –  
McCallum-Turner Siting Study

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-7

**Text of NRC RAI:** Clarify the boundaries of the Levy 2 site as reported in the EFS and ER.

Aerial photos in the unredacted version of the EFS (Appendix A, page 10 of 22) suggest that the geographical location for the Levy 2 site (i.e., the preferred LNP site analyzed in the ER) is not consistent with the location of the LNP site as presented in the ER. Provide clarification.

**PGN RAI ID #:** L-0567

**PGN Response to NRC RAI:**

The EFS siting process allows for optimization of sites as the process is executed and additional information is gathered. The LNP site was optimized during the siting process. Figure 9.3-7-1 depicts the geographic locations of the Levy 2 potential site, the Levy 2 candidate site, and the LNP site, as the site was slightly relocated to optimize or respond to siting considerations and findings from the analysis at various stages of the process. The Levy 2 (potential) site is the originally selected site (EFS Appendix IV, Section 4.0) as evaluated in the screening criteria evaluation of potential sites (EFS Appendix IV, Section 5.0). The Levy 2 (candidate) site is the relocated site as optimized based on aerial overflights and additional research and is evaluated in the general site criteria evaluation (EFS Section 6.0). The LNP site is the proposed site location as ultimately acquired and analyzed in the ER. The center point of the two LNP units is also depicted on the attached figure. The circles represent the 6,000-acre areas analyzed in the siting study.

Many of the criteria evaluated in the EFS consider information for the general site area and are not influenced by the precise site location. However, some of the criteria evaluated in the EFS are based on a center-point location for the site, and the corresponding evaluations may result in slightly different ratings for different site locations. Therefore, the LNP site (proposed site) has been re-evaluated for all siting criteria to illustrate the effect of using this precise point location throughout the siting study. The following tables contain the ratings/scoring for the LNP site.

**TABLE 1**  
Screening Criteria Evaluations for LNP Site

Criteria	Evaluation	Rating
P1. Cooling Water Supply	General area information – unchanged from Levy 2 evaluation	5
P2. Flooding	LNP site elevation = 44 feet, area is relatively flat. Lake Rousseau elevation ~ 33 feet Difference ~ 11 feet	4
P3. Population	General area information – unchanged from Levy 2 evaluation	4
P4. Hazardous Land Uses	Airports: JRS landing strip ~ 6 miles southeast. Freight Rail: Seaboard Coast RR 7.5 miles southeast and 10.1 miles northeast, no passenger service. Pipeline: Natural gas pipeline on western boundary, within 1 mile. Military Installation: None located near site. Other Potential Hazards: Power transmission line 1.1 miles west, Inglis Power Plant ~ 6 miles southwest (decommissioned), gas station ~ 9 miles east, Crystal River Energy Complex ~10 miles southwest.	2
P5. Ecology	General area information (county-level) – unchanged from Levy 2 evaluation	2
P6. Wetlands	Approximately 2,160 acres (>20%)	1
P7. Railroad Access	Seaboard Coast RR located to Northeast ~ 10.1 miles. Seaboard Coast RR located to Southeast ~ 7.5 miles, but would require major surface water crossing (Lake Rousseau). Seaboard Coast RR located to Northeast ~ 4.9 miles (abandoned).	4.9
P8. Transmission Access	General area information – unchanged from Levy 2 evaluation	3.9
P9. Land Acquisition	General area information (county-level) – unchanged from Levy 2 evaluation	5.0

### Summary Results of Screening Criteria Evaluations for LNP Site

The above ratings for the screening criteria evaluations for the LNP site, when applied with the weight factors, arrive at a composite rating for the LNP site of 222.4. This is the same as that for the Levy 2 site (using the revised wetlands data). While the information for the evaluations that are point-specific changed, the evaluation did not result in a change to the ratings. Thus, had the LNP site been evaluated in lieu of the Levy 2 site, the LNP site would have been selected as one of the eight candidate sites for further evaluation.



**TABLE 2**

General Siting Criteria Evaluations for LNP Site

Criteria	Evaluation	Rating
1.1.1 Geology/Seismology	General area information – unchanged from Levy 2 evaluation	5
1.1.2 Cooling System Requirements	General area information – unchanged from Levy 2 evaluation	3
1.1.3 Flooding	<p>LNP site elevation = 44 feet.</p> <p>Lake Rousseau elevation ~ 33 feet.</p> <p>Portions of site will be located within 100-year floodplain (Zone A), and others will be outside the 100-year floodplain (Zone X).</p> <p>The dam on Lake Rousseau (Inglis Dam) is located ~ 5 miles south of the site. The site would not likely be compromised in the event of failure of the dam.</p>	3
1.1.4 Nearby Hazardous Land Uses	<p>Airports: JRS landing strip ~ 6 miles southeast.</p> <p>Freight Rail: Seaboard Coast RR 7.5 miles southeast and 10.1 miles northeast, no passenger service.</p> <p>Pipeline: Natural gas pipeline on western boundary, within 1 mile.</p> <p>Military Installation: None located near site.</p> <p>Other Potential Hazards: Power transmission line 1.1 miles west, Inglis Power Plant (decommissioned and no longer active) ~ 6 miles southwest, gas station ~ 9 miles east, Crystal River Energy Complex ~10 miles southwest.</p>	2
1.1.5 Extreme Weather Conditions	General area information – unchanged from Levy 2 evaluation	3
1.2 Accident Effect Related	<p>Population Component – General area information – unchanged from Levy 2 evaluation</p> <p>Emergency Planning Component – General area information – unchanged from Levy 2 evaluation</p> <p>Atmospheric Dispersion – General area information – unchanged from Levy 2 evaluation</p>	3
1.3.1 Surface Water – Radionuclide Pathway	General area information – unchanged from Levy 2 evaluation	5
1.3.2 Groundwater Radionuclide Pathway	General area information – unchanged from Levy 2 evaluation	2
1.3.3 Air Radionuclide Pathway	General area information – unchanged from Levy 2 evaluation	4
1.3.4 Air Food Ingestion Pathway	General area information (county-level) – unchanged from Levy 2 evaluation	3
1.3.5 Surface Water Food Radionuclide Pathway	General area information (county-level) – unchanged from Levy 2 evaluation	5

**TABLE 2**

General Siting Criteria Evaluations for LNP Site

Criteria	Evaluation	Rating
1.3.6 Transportation Safety	General area information – unchanged from Levy 2 evaluation	3
2.1.1 Disruption of Important Aquatic Species/Habitats	General area information – unchanged from Levy 2 evaluation	2
2.1.2 Bottom Sediment Disruption Effects	General area information – unchanged from Levy 2 evaluation	2
2.2.1 Disruption of Important Terrestrial Species/Habitats and Wetlands	<p>Terrestrial Species/Habitat Component – General area information (county-level) – unchanged from Levy 2 evaluation (sub-rating = 3)</p> <p>Wetlands Component – Total acreage approximately 2,160 acres, total forested (high-quality) acreage approximately 2,080 acres, little to no flexibility to avoid wetlands (sub-rating = 1)</p>	2
2.2.2 Dewatering Effects on Adjacent Wetlands	<p>Wetlands Component – Total acreage approximately 2,160 acres (sub-rating = 1), total forested (high-quality) acreage approximately 2,080 acres (sub-rating = 1)</p> <p>Depth to Groundwater Component – General area information – unchanged from Levy 2 (sub-rating = 3)</p>	2
2.3.1 Thermal Discharge Effects	General area information from aquatic ecology and source water criteria evaluations – unchanged from Levy 2 evaluation	2
2.3.2 Entrainment/ Impingement Effects	General area information – unchanged from Levy 2 evaluation	3
2.3.3 Dredging/Disposal Effects	General area information – unchanged from Levy 2 evaluation	2
2.4.1 Drift Effects on Surrounding Areas	General area information from aquatic ecology, terrestrial species/habitat, and source water criteria evaluations – unchanged from Levy 2 evaluation	2
3.1.1 Socioeconomics – Construction-Related Effects	General area information (county-level) – unchanged from Levy 2 evaluation	4
3.3.1 Environmental Justice	General area information (county-level) – unchanged from Levy 2 evaluation	5
3.4.1 Land Use	General area information – unchanged from Levy 2 evaluation	2
4.1.1 Water Supply	General area information – unchanged from Levy 2 evaluation	4
4.1.2 Pumping Distance	Pumping distance from the Cross Florida Barge Canal is slightly longer than that for Levy 2, but the general area evaluation is consistent with the Levy 2 evaluation.	3
4.1.3 Flooding	The site is located on the border of the 100-year floodplain. Therefore, construction of flood protection structures is likely to be necessary.	3
4.1.5 Civil Works	General area information – unchanged from Levy 2 evaluation	3
4.2.1 Railroad Access	Seaboard Coast RR located to East ~ 10.1 miles.	4

**TABLE 2**

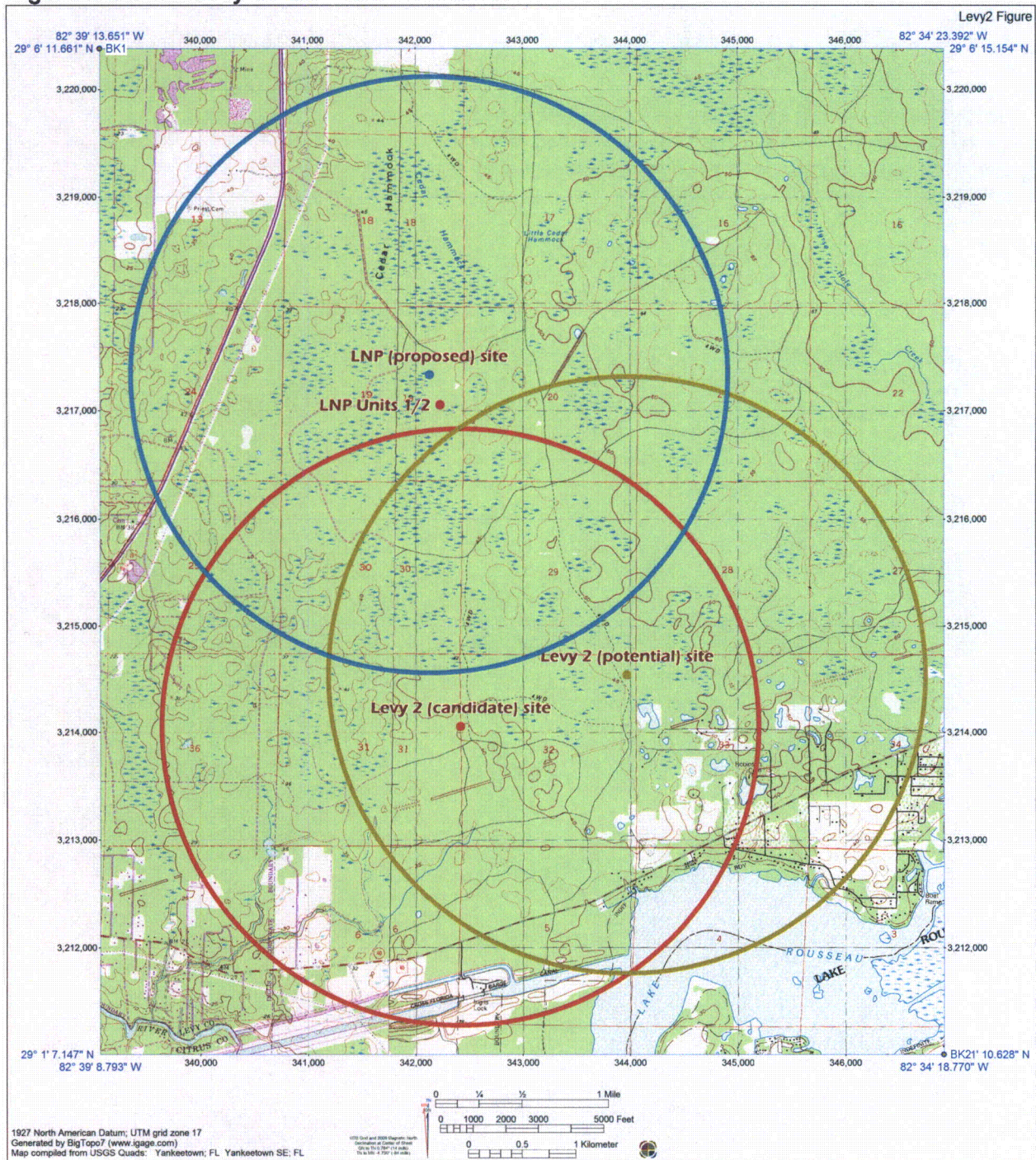
**General Siting Criteria Evaluations for LNP Site**

Criteria	Evaluation	Rating
	<p>Seaboard Coast RR located to Southeast ~ 7.5 miles, but would require major surface water crossing (Lake Rousseau).</p> <p>Seaboard Coast RR located to Northeast ~ 4.9 miles (abandoned).</p> <p>The rail line formerly known as the Perry Cut-off (running from Perry, FL southeast to Dunnellon, FL) was abandoned in the late 1970s. The rails/ties have been removed from the entire stretch. Aerial photography shows that the right-of-way appears to be intact from Chiefland, FL, southeast to Dunnellon, FL. However, one source shows the right-of-way segment located closest to the active rail line as part of the Marjorie Harris Carr Cross Florida Greenway. The right-of-way in this area may no longer be available, and construction of other access routes to the active rail line may be required.</p>	
4.2.2 Highway Access	U.S. Highway 19/98 is located ~ 1 mile west of the site and provides main access to the area. Construction of local access from U.S. Highway 19/98 would be required, but should be minimal. State Highway 40 is located ~ 3 miles south of the site.	5
4.2.3 Barge Access	General area information – unchanged from Levy 2 evaluation	2
4.2.4 Transmission Access	General area information – unchanged from Levy 2 evaluation	5
4.3.1 Topography	General area information – unchanged from Levy 2 evaluation	5
4.3.2 Land Rights	General area information – unchanged from Levy 2 evaluation	2
4.3.3 Labor Rates	General area information – unchanged from Levy 2 evaluation	5

**Summary Results of General Site Criteria Evaluations for LNP Site**

The above ratings for the general site criteria evaluations for the LNP site, when applied with the weight factors developed, arrive at a composite rating for the LNP site of 324; 11 points less than that for the Levy 2 site (using the revised wetlands data, see Attachment A). While the information for the evaluations that are point-specific changed, the evaluation only resulted in criteria ratings changes for the two flooding-related criteria. These changes result in the LNP site being scored 4th highest of the candidate sites, whereas the Levy 2 site was scored 3rd highest. Had the LNP site been evaluated in lieu of the Levy 2 site, the LNP site would have been selected as one of the final five sites for further evaluation and ultimate selection of a proposed site.

Figure 9.3-7-1 – Levy 2 / LNP Site Locations



**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.



**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-8

**Text of NRC RAI:** Was a uniform wetlands metric used to account for size variations between candidate/alternative sites in the "Disruption of Important Species/Habitats and Wetlands" criterion?

Were generalized 6,000-acre circles used once the screening process identified the 5 best alternative sites (the "alternate" sites) or was a more refined, site-specific evaluation used to compare the best alternative sites?

**PGN RAI ID #:** L-0568

**PGN Response to NRC RAI:**

All sites were evaluated on the basis of 6,000-acre circles for this criterion, as reported in the EFS; accordingly, there was no need to account for any size variations between sites. As part of the process reported in the EFS relating to wetlands, no additional refined, site-specific evaluation was conducted to compare the best alternative sites. The Least Environmentally Damaging Practicable Alternative (LEDPA) analysis described in response to RAI USACE-14 uses site-specific evaluations of impacts for the five finalist sites identified in the EFS including consideration of sensitive species, their habitat, and wetland distribution.

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-9

**Text of NRC RAI:** Describe how the overall site rating for wetlands was reached for the "Disruption of Important Species/Habitats and Wetlands" criterion.

Describe how the overall site rating for wetlands was reached for the "Disruption of Important Species/Habitats and Wetlands" criterion (see EFS page 187). The wetlands component includes a total wetlands area element, a wetlands quality element, and a "flexibility to avoid wetland during construction" element. Define each element, explain the basis for the scoring, and identify the ratings scale used (rating scale appears to be the same as defined in P6 of ER Table 9.302, page 9-89 and EFS Table 5-1, page 59). Clarify how the wetland area discrepancies, identified in 9.3-6 above for the alternative sites, affect the wetland ratings of this component.

**PGN RAI ID #:** L-0569

**PGN Response to NRC RAI:**

The rating for wetlands in the Disruption of Important Species/Habitats and Wetland criterion was based on an average rating of three sub-criteria: (1) total wetland acreage/percentage (same as that used for potential sites at the screening stage); (2) acreage/percentage of high quality wetlands; and (3) siting flexibility. The basis for assigning ratings for each sub-criterion is described below. Once a rating was assigned to each sub-criterion, the three sub-ratings were averaged to calculate the overall site rating for wetlands, and then rounded to the nearest whole number. In the event the average score ended in 0.5, the rating was conservatively rounded down to the nearest whole number.

**Total wetland acreage/percentage:** The acreage and percentage of wetlands within the 6,000-acre site area was determined from the NWI maps, the same rating scale was used as for the screening of potential sites (EFS Table 5-1).

**Acreage/percentage of high quality wetlands:** The acreage and percentage of high quality wetlands within 6,000-acre site area, was determined from the NWI maps. High quality is associated with the NWI map codes denoted as "Freshwater forested/shrub wetland." The rating metric for high quality wetlands is as follows:

- 5 = 0 high quality wetlands (0%)
- 4 = < 60 acres (<1%)
- 3 = < 120 acres (<2%)
- 2 = < 300 acres (<5%)
- 1 = > 300 acres (>5%)

**Siting flexibility:** This includes a qualitative evaluation relating to the extent, type, and distribution of wetlands found within the 6,000-acre site area, and the ability to avoid them during construction (based on distribution around the site area).

Note that the wetlands component of this criterion has been re-evaluated for the eight candidate sites using corrected acreages; these ratings are provided in Attachment 9.3.6-1A,

and the detailed rationale supporting the flexibility sub-rating for each site is provided in Table A-6 of Attachment 9.3-6-1A.

**Associated LNP COL Application Revisions:**

The following ER subsections and tables will be updated with corrected wetland information:

Tables: 9.3-4, 9.3-7, 9.3-8, and 9.3-9 as described in RAI 9.3-6 (L-566) response

Subsections: 9.3.2.1.6, 9.3.3.1.4, 9.3.3.2.4, 9.3.3.3.4, and 9.3.3.4.4 as described in RAI 9.3-6 (L-566) response

**Attachments/Enclosures:**

None.



**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-10

**Text of NRC RAI:** Explain how candidate/alternative sites were compared with respect to potential dewatering impacts on wetlands.

The "Dewatering Effects on Adjacent Wetlands" criterion presented in EFS Tables 3 and 4 (page 25 and 29, respectively) and ER Tables 9.3-8 and 9.3-9 (pages 9-99 and 9-102, respectively) is subject to many of the same questions noted in 9.3-7 and 9.3-8 above. Referring specifically to the evaluation process detailed on EFS page 188, this includes the issue of 6,000 acre candidate/alternative sites, as well as a wetlands quality element represented by forested wetlands. The EFS (page 187) states that high quality wetlands are denoted by forested and scrub-shrub wetlands; however, only forested wetlands are listed as a component of the Dewatering Effects on Adjacent Wetlands criterion. Clarify how the wetland area discrepancies, identified in 9.3-6 above for the alternative sites, affect the ratings for this component.

**PGN RAI ID #:** L-0570

**PGN Response to NRC RAI:**

The NWI mapper codes denoting forested/shrub wetlands ("freshwater forested/shrub wetland") were used as the basis for defining high quality wetlands. The same set of data was used in evaluating the high quality wetlands sub-component of the "Dewatering Effects on Adjacent Wetlands" criterion as used in the high quality wetlands sub-component of the "Disruption of Important Species/Habitats and Wetlands" criterion. This ensured consistency and resulted in the same set of ratings for both criteria sub-components. Note that this criterion has also been subject to re-analysis to include corrected/updated wetlands data for total acreage and total high quality wetland acreage. The revised results for this criterion are presented in Attachment 9.3-6-1A.

**Associated LNP COL Application Revisions:**

The following ER subsections and tables will be updated with corrected wetland information:

Tables: 9.3-4, 9.3-7, 9.3-8, and 9.3-9 as described in RAI 9.3-6 (L-566) response

Subsections: 9.3.2.1.6, 9.3.3.1.4, 9.3.3.2.4, 9.3.3.3.4, and 9.3.3.4.4 as described in RAI 9.3-6 (L-566) response

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-11

**Text of NRC RAI:** Provide an estimate of the wetlands and other sensitive terrestrial ecological resources potentially affected by the construction of reservoirs required for certain alternative sites.

The need for a reservoir to provide a supplemental water source figured into the evaluation of the alternative sites and the selection of the preferred alternative (see ER Section 9.3.3, Summary Results of the Alternative Sites and Environmental Impact Evaluation, pages 9-61 to 9-81; EFS Section 4.1.1 Water Supply, page 213). Provide (at a minimum) a general estimate of wetlands and other sensitive terrestrial ecological resources (e.g., threatened and endangered species, floodplains) that would be impacted if the construction of reservoirs were required.

**PGN RAI ID #:** L-0571

**PGN Response to NRC RAI:**

Design layouts for each candidate site (including potential reservoir locations) were not completed in the EFS as this information is beyond the level of reconnaissance information required for evaluation of alternative sites. It was assumed that the potential reservoirs would be wholly contained in 1,291 acres at each site; wetlands and other sensitive terrestrial ecological resources have been evaluated for the 6,000-acre area for each site in the EFS.

Revised wetland information is contained in Attachment 9.3-6-1A. Impacts to ecological resources related to reservoirs can be found in response to RAI USACE-14 (L-0581).

**Associated LNP COL Application Revisions:**

The following ER subsections and tables will be updated with corrected wetland information:

Tables: 9.3-4, 9.3-7, 9.3-8, and 9.3-9 as described in RAI 9.3-6 (L-566) response

Subsections: 9.3.2.1.6, 9.3.3.1.4, 9.3.3.2.4, 9.3.3.3.4, and 9.3.3.4.4 as described in RAI 9.3-6 (L-566) response

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-12

**Text of NRC RAI:** Why did the ecology screening criterion for threatened and endangered species not consider state listed species along with federal listed species?

The ecology screening criterion for potential sites (P5 in ER Table 9.3-2, page 9-89; and EFS Table 5-1 of Attachment IV, page 60), candidate sites ("Disruption of Important Species/Habitats and Wetlands" criterion in EFS Table 3, page 25; and ER Tables 9.3-7, pages 9-99) and alternative sites ("Disruption of Important Species/Habitats and Wetlands" criterion in EFS Table 4, page 30; and ER Table 9.3-8, pages 9-102) uses a utility function and analysis for threatened and endangered species that is based on the number of Federally listed aquatic and terrestrial species that may occur within the host county (Steps 3 and 4). Staff have several questions related to these analyses. The first question is presented in this RAI and the others are presented in RAIs 9.3-13 to 9.3-14.

Clarify why state listed species were not included in the analysis. NUREG-1555 states that the definition for important species includes both federal and state listed species, as well as other species that have economic value, are relied on by a valuable species, play an ecological role, or are ecologically sensitive.

**PGN RAI ID #:** L-0572

**PGN Response to NRC RAI:**

The evaluation of the ecology criterion relating to potential, primary, and candidate sites in the EFS was originally conducted in 2005–2006 before the updated NUREG 1555 guidance (July 2007) was published, specifying that state-listed species be considered as part of the site selection process. Because it was not part of the guidance at the time of the preparation of the EFS, this information was not included in the EFS or the ER.

The response to RAI USACE-14 (L-0581) contains information on state-listed species for the five finalist sites.

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-13

**Text of NRC RAI:** Clarify why FNAI occurrence data for Federal and state listed species were not used in the analysis of candidate and alternative sites.

Clarify why Florida Natural Areas Inventory (FNAI) occurrence data for Federal and state listed species were not used for the threatened and endangered species utility function and analysis of the candidate sites and alternative sites. Revise the ER and EFS with this information, if appropriate.

**PGN RAI ID #:** L-0573

**PGN Response to NRC RAI:**

Since the EFS evaluated only federally-protected species, it relied primarily on federal resources (that is, USFWS and NOAA – the federal agencies responsible for management of federally-protected species).

The response to RAI USACE-14 (L-0581) contains FNAI occurrence data on state-listed species for the sites.

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-14

**Text of NRC RAI:** Describe how the overall site rating for important terrestrial species/habitats was reached for the “Disruption of Important Species/Habitats and Wetlands” criterion.

The important terrestrial species/habitats component for the “Disruption of Important Species/Habitats and Wetlands” criterion (see EFS pages 182-187) includes two elements: habitat quantity/quality and flexibility to avoid protected species during construction. Define each element, explain the basis for the scoring, and identify the rating scale used (note – the rating scale appears to be based on a 6000-ac baseline site; see 9.3-4 and 9.3-8 above for questions regarding the use of 6000 ac as a baseline). Describe how the overall site rating for the important terrestrial species/habitats component was reached (EFS page 186).

**PGN RAI ID #:** L-0574

**PGN Response to NRC RAI:**

The overall rating for important terrestrial species/habitats consists of two sub-criteria—one relating to species and habitat, and one relating to wetlands—each of which has three sub-components. Description of the three wetlands subcomponents is described in response to RAI 9.3-9. Each element of the terrestrial species/habitat component is described below.

- **Species** – This metric is based on the total number of federally-listed species in the host county. Numbers were compared across sites to help derive the metric. Highlands had the most federally-listed species (30) and received a rating of 1; Lafayette had the least (three) and received a rating of 4. The remaining sites had between five and seven species and each received a rating of 3.
- **Habitat** – This is a professional judgment evaluation relating to the type and quality of terrestrial habitat that might be affected by plant development. The evaluation is based primarily on the presence of critical habitat, on existing land uses, and the extent to which the site area has previously been disturbed as observed during flyovers and using Google Earth imagery. If any site contained critical habitat, it would get a rating of 1. In the case of the sites addressed in the EFS, no critical habitat was found at any site; therefore, no sites received a rating of 1. A conservative approach was followed for the majority of species that correlated habitat ratings to the species ratings. The three exceptions were Highlands, which received a 2-point higher habitat (than species) rating of 3 given that the majority of the site has been cleared and is in agricultural use; and the Levy 3 and Taylor sites, which received a 1-point lower rating of 2 to reflect the extensive estuarine habitat between the sites and the coast that would be impacted from construction of the offsite cooling water intake and discharge pipelines. The Dixie, Levy 2, and Putnam 3 sites show evidence of timbering operations, and the Lafayette site is located within a heavily farmed area. In the case of Crystal River, it was assumed that the existing plant site could not accommodate two additional units and that additional land clearing would be required for the new plant at a nearby site area.

- **Flexibility** – This evaluation is a professional judgment, based on the degree of flexibility available for avoiding important species/habitat in plant development. In this instance, flexibility is determined by the extent to which the site may already be disturbed or cleared (with previously disturbed sites considered more suitable than less disturbed sites), as well as by proximity to other nearby physical constraints that may hinder development in one area of the site (for example, critical habitat, residence). In general, the ratings for flexibility were correlated to habitat and species. All sites received a flexibility rating identical to its habitat rating with the exception of Dixie, Levy 2, and Putnam 3 sites. These sites received slightly higher flexibility ratings because of the extent of past and ongoing land disturbing activities (that is, timbering) occurring at each site. Note that with flexibility, the focus was more on siting the actual plant footprint somewhere within the 6,000-acre area and, in the case of Levy 3 and Taylor, consideration of the offsite impacts associated with construction of extensive intake and discharge pipelines through estuarine habitat to connect each site to the Gulf of Mexico.

Once each element was assigned a sub-rating, the 3 elements were averaged to calculate the overall site rating for the terrestrial species component. The two major components—terrestrial species and wetlands (average of 3 sub-ratings)—were then averaged to calculate an overall site rating for this criterion; the same rounding convention was used as for wetlands, with any rating ending with a 0.5 being rounded down to provide the more conservative rating.

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-15

**Text of NRC RAI:** Explain why FEMA floodplain maps were not used as the technical basis for the flooding screening criterion for all 20 potential sites. Explain why the Levy 2 site was not evaluated for its location in a 100-year floodplain. Revise the ER and EFS as appropriate.

The initial Flooding screening criterion for potential sites (P2 in ER Table 9.3-2, page 9-88; and EFS Table 5-1 of Attachment IV, page 59) used a utility function and analysis based on the difference between mean site elevation and mean gauging station measurements. Optimal sites are described as relatively flat and above the 100-year floodplain, adjacent to streams showing topographic relief (ER page 9-50, ESF page 56). Candidate and alternative sites were screened further by examining the FEMA 100-year floodplain maps and using a refined rating scale (see EFS page 141). The Levy 2 site is described as not being located in the 100-year floodplain (EFS page 142, unredacted version; and page 217) and assigned a score of 5. However, FEMA floodplain maps show portions of the LNP site as lying within the 100-year floodplain. Confirm the flooding scores for all candidate/alternative sites. Explain why FEMA floodplain maps were not used as the flooding screening criterion for all 20 potential sites. Revise the ER and EFS as appropriate.

**PGN RAI ID #:** L-0575

**PGN Response to NRC RAI:**

A resource management approach to conducting site selection, as outlined in the EPRI Siting Guide, was used to conduct the PEF Siting Study. As more detailed information was obtained and used, the number of sites was reduced through the process. As such, the utility function and analysis referenced above was used for the Screening Evaluation phase of the process, and acquisition and analyses of FEMA Flood Insurance Rate Maps (FIRM) was reserved for the General Siting Criteria Evaluation phase of the process.

As described in the response to RAI 9.3-7, the Levy 2 site evaluated in the EFS is in the vicinity, but is not the same location, as the LNP site. The 6,000-acre area surrounding the Levy 2 site included ample space in the eastern portion of the area to locate a nuclear power plant outside of the 100-year floodplain, thereby resulting in a rating of 5. The response to RAI 9.3-7 includes an evaluation of the LNP site for all siting criteria, and the 6,000-acre area surrounding the LNP site is located in an area both within and outside of the 100-year floodplain; therefore, the LNP site was given a rating of 3 for the general siting criterion evaluation (site is on the border of the 100-year floodplain).

The FEMA FIRMs for the candidate and alternative sites have been reviewed and the ratings for the flooding criterion in the EFS have been confirmed.

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.



**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-16

**Text of NRC RAI:** Clarify why there is a similar level of detail and information in the Technical Evaluation for the candidate and alternative site analyses.

As part of the Technical Evaluation for the candidate sites and the alternative sites, each site was rated and scored for a set of 34 general criteria that included 40 parameters that spanned health and safety, environmental, socioeconomic and engineering factors (see ER Section 9.3.2.1.4 beginning on page 9-50 and ER Section 9.3.2.1.5 beginning on page 9-53). Clarify why the level of detail and information in the Technical Evaluations for ER Table 9.3-7 for candidate sites (page 9-98) and ER Table 9.3-8 for alternative sites (page 9-101) are so similar (i.e., why is there so little refinement between these steps?).

**PGN RAI ID #:** L-0576

**PGN Response to NRC RAI:**

As described in the ER and the EFS, eight candidate sites were selected for further evaluation. These candidate sites were subject to an evaluation of 34 general siting criteria, and the results of those evaluations are presented in ER Table 9.3-7. This evaluation resulted in a decision not to carry three candidate sites forward for further evaluation; the five remaining sites were designated as alternative sites and were subject to further technical evaluation as described in ER Rev. 1 Subsection 9.3.2.1.6 to confirm their viability. The additional activities included site reconnaissance and geotechnical evaluation. The general siting criteria evaluations were re-examined based on the information gained from the additional activities and modified where appropriate, resulting in ER Table 9.3-8. Changes in ratings were made only when the additional information indicated the previous ratings should be revised. Rather than indicating no additional information was collected, similar ratings in the two tables indicate that the original ratings were confirmed upon analysis of the additional information. Other information gained from the additional activities is provided in ER Table 9.3-9.

In addition, the response to RAI USACE-14 (L-0581) contains additional information on the alternative sites (such as FNAI data) that was used to further refine the alternative sites analysis.

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-17

**Text of NRC RAI:** Clarify how the on-ground inspections of the alternative sites were used to refine analyses for important terrestrial species/habitats.

On-ground inspections (e.g., foot, vehicle drive-overs) of the 5 alternative sites were conducted to further evaluate ecological resources (see ER page 9-56, EFS page 75). Clarify how these inspections were used to refine the ecological criteria from the Technical Evaluation, such as the "Disruption of important species/habitats and wetlands" criterion (see EFS pages 182-187) [Pages 181-186] or the "Dewatering Effects on Adjacent Wetlands" criterion (see EFS pages 187-188) [Pages 186-187].

**PGN RAI ID #:** L-0577

**PGN Response to NRC RAI:**

In addition to site flyovers of the eight primary sites and windshield surveys of the general site areas (for example, driving along existing roads to identify nearby towns, highways, cooling water source, and rail), on-ground inspections were conducted at each of the five candidate sites. Timing and location for on-ground inspections were coordinated based on landowners' requirements and overall access agreements for onsite investigations in a good faith attempt to identify any conditions that were not consistent with data gathered for the EFS (for example, existing land use, extent of ground disturbance) and used in site evaluations.

With respect to the ecological criteria, attention was focused on ground-truthing observations that were originally made using previously identified published data sources and on identifying unexpected conditions that might not have been captured in the earlier site evaluations (for example, surprises, anomalies), none of which were found.

Because the sites had already undergone a rigorous screening as part of the EFS, an additional feasibility/fatal flaw walkdown was not warranted at this stage. On-ground inspections were conducted from areas accessible from existing roads and, where applicable, access developed for the geotechnical drilling program. All site access was conducted in accordance with landowner agreements negotiated for the geotechnical drilling program and associated covenants regarding restrictions on site areas that could be visited.

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-18

**Text of NRC RAI:** Explain why transmission line impacts on ecological resources were rated MODERATE for Crystal River and SMALL for the LNP.

Explain why transmission line impacts on ecological resources were rated MODERATE for Crystal River (ER page 9-67) and SMALL for LNP (ER page for 9-81) when land commitments, construction impacts and operational impacts are generally expected to be similar.

**PGN RAI ID #:** L-0578

**PGN Response to NRC RAI:**

In ER Subsection 9.3.3, the transmission line discussion for each of the sites focused on impacts associated with the direct connection to the first substation at each site. As such, there was an error in describing the impact value for the Crystal River Site. The transmission line impacts for all five sites were re-examined to ensure consistency among impact descriptions. The transmission impacts for the Crystal River site should be "SMALL", the same determination as for the LNP site. The Crystal River site impacts are SMALL because there are two transmission lines connecting to the first substation and they could be largely co-located within existing rights-of-way (ROW) thereby reducing potential impacts. Subsection 9.3.3.1.10 will be revised by changing the impact value from "MODERATE" to "SMALL". The LNP site transmission line impacts remain SMALL due to the same rationale as the Crystal River site.

The transmission impacts for the Highland and Putnam 3 sites will be revised to reflect the impacts associated with direct connections from the sites to the first substation. ER Subsections 9.3.3.3.10 and 9.3.3.4.10 will be updated by changing the impact value from "LARGE" to "MODERATE" to be consistent with impacts to the first sub-station and being co-located with existing ROW. The Putnam 3 site has four transmission lines that will be used for direct connections and is outside the PEF service territory. Therefore, certain segments of transmission lines cannot be co-located with existing ROW. The Highland Site occurs in the southern portion of PEF service territory and requires eight new lines be constructed for direct connection. The Dixie 1 site transmission line impacts remain MODERATE since there are four transmission lines required for direct connection to the first sub-station. These lines can be co-located with exiting ROWs, but the additional impacts due to the extra lines cause the impact to be considered MODERATE.

The LEDPA analysis evaluated transmission line impacts associated with the direct connection to the first substation as well as impacts associated with the system reliability considerations needed beyond the first substation. Those transmission system impact values are identified in the LEDPA analysis -- see Attachment ER RAI USACE-14A (Levy Nuclear Units 1 and 2 [LNP] Section 404[b][1] Alternative Analysis, December 2009 --CH2M HILL). ER Subsections 4.1.2 and 9.3.3.1.10, 9.3.3.2.10, 9.3.3.3.10 and 9.3.3.4.10 will be updated by inserting a discussion on how the LEDPA analysis evaluation of transmission impacts differs from the ER evaluation of impacts.

**Associated LNP COL Application Revisions:**

The following ER subsections will be revised: 4.1.2, 9.3.3.1.10, 9.3.3.2.10, 9.3.3.3.10, 9.3.3.4.10, 9.3.3.5.10, and Table 9.3-19 as described below.

**4.1.2 TRANSMISSION CORRIDORS AND OFF-SITE AREAS**

This subsection assesses the direct impacts of construction on land use within all LNP corridors, including those within the site and vicinity, and all offsite areas; it builds on the information found in ER Subsection 2.2.2. Where necessary and appropriate, consideration that is given to alternative routing, location, or construction practices that would mitigate adverse environmental impacts are discussed. For the purposes of this subsection, transmission corridors include the south transmission line corridor leaving the site, as well as the individual 500-kV transmission line corridors as they exit the south transmission line corridor and connect with two high-voltage substations and a 500-kV switchyard east and south of the LNP site at the Crystal River Energy Complex (CREC). The transmission line discussion in the following paragraphs focuses on impacts associated with the direct connection to the first substation. By comparison, the LEDPA analysis evaluated transmission line impacts associated with the direct connection to the first substation as well as impacts associated with the system reliability considerations needed beyond the first substation. Offsite areas include the heavy haul road, barge slip access road, anticipated barge slip, makeup and blowdown pipeline corridor including the associated cooling water intake and discharge structures.

**9.3.3.1.10 Transmission Corridors**

**[Third Paragraph]**

The transmission line impacts associated with the direct connection to the first substation would be SMALL for ecological resources because there are two transmission lines connecting to the first substation that could be largely co-located within existing rights-of-way (ROWs) thereby reducing potential impacts. The LEDPA analysis evaluated transmission line impacts associated with the direct connection to the first substation as well as impacts associated with the system reliability considerations needed beyond the first substation.

**9.3.3.2.10 Transmission Corridors**

**[Second Paragraph]**

Transmission line impacts associated with the direct connection to the first substation would be MODERATE for ecological resources due to the commitment of land and construction impacts associated with the direct connection of four transmission lines to the first substation. The LEDPA analysis evaluated transmission line impacts associated with the direct connection to the first substation as well as impacts associated with the system reliability considerations needed beyond the first substation.

**9.3.3.3.10 Transmission Corridors**

**[Second Paragraph]**

The transmission line impacts associated with the direct connection to the first substation would be MODERATE for ecological resources due to the commitment of land and construction

impacts associated with the direct connection of eight new transmission lines to the first substation. The LEDPA analysis evaluated transmission line impacts associated with the direct connection to the first substation as well as impacts associated with the system reliability considerations needed beyond the first substation.

#### 9.3.3.4.10 Transmission Corridors

##### **[Second Paragraph]**

The transmission line impacts associated with the direct connection to the first substation would be MODERATE for ecological resources due to the commitment of land and construction impacts associated with the direct connection of four new transmission lines to the first substation. The LEDPA analysis evaluated transmission line impacts associated with the direct connection to the first substation as well as impacts associated with the system reliability considerations needed beyond the first substation.

#### 9.3.3.5.10 Transmission Corridors

##### **[Second Paragraph]**

The transmission line impacts associated with the direct connection to the first substation would be SMALL based on information contained in ER Subsections 4.4.3 and 5.8.3. The LEDPA analysis evaluated transmission line impacts associated with the direct connection to the first substation as well as impacts associated with the system reliability considerations needed beyond the first substation.

**Table 9.3-19**  
**Summary Comparison of Alternative Sites**

Location	LNP Site	Crystal River Site	Dixie Site	Highlands Site	Putnam Site
Land Use	SMALL	SMALL	SMALL	SMALL	SMALL
Air Quality	SMALL	SMALL	SMALL	SMALL	SMALL
Water	SMALL	SMALL	MODERATE to LARGE	MODERATE to LARGE	MODERATE to LARGE
Terrestrial Ecology	SMALL to MODERATE	SMALL	MODERATE to LARGE	MODERATE to LARGE	MODERATE to LARGE
Aquatic Ecology	SMALL	SMALL	SMALL	SMALL	SMALL
Socioeconomics	SMALL	SMALL	SMALL	SMALL	SMALL
Historic, Cultural, and Archeological Resources	SMALL	SMALL	SMALL	SMALL	SMALL
Environmental Justice	SMALL	SMALL	SMALL	SMALL	SMALL
Transmission Corridors	SMALL	SMALL	MODERATE	MODERATE	MODERATE
Transportation	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE
Is this Site a Candidate Site?	Yes	Yes	Yes	Yes	Yes
Is this Candidate Site a Good Alternative Site to the Proposed Site?	Yes	Yes	Yes	Yes	Yes
Is the Site Environmentally Preferable?	Preferred alternative	No	No	No	No
Is the Site Obviously Superior?	Preferred alternative	Not Evaluated	Not Evaluated	Not Evaluated	Not Evaluated

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-19

**Text of NRC RAI:** Explain why the Dixie site was carried forward for more detailed analysis as a candidate site when land acquisition was not feasible within a timeline that would meet PEF's business objectives.

Explain why the Dixie site was carried forward for more detailed analysis as a candidate site when land acquisition was not feasible within a timeline that would meet PEF's business objectives (see ER page 9-59). Clarify why the Dixie site was not initially screened out using a bounding assumption in the initial evaluation process (see ER page 9-45, EFS page 7).

**PGN RAI ID #:** L-0579

**PGN Response to NRC RAI:**

All sites listed among the final five candidates, including Dixie, were subjected to several levels of screening and analysis before deemed suitable for a nuclear power plant and elevated to the level of a candidate site. Only at this point in the process was enough known about the sites to enable a meaningful assessment (that is, direct contact with landowners) of whether land could be acquired within a timeline that would meet PEF's business objectives. Thus, Dixie was carried forward in the siting process and not initially screened out, because land availability could not be examined until late in the site selection process.

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.

**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** 9.3-20

**Text of NRC RAI:** Explain why the Crystal River site was carried forward for more detailed analysis as a candidate site when there were over-riding concerns about the strategic reliability of concentrating new PEF generating capacity at an existing site susceptible to a severe weather event.

Explain why the Crystal River site was carried forward as a candidate site for more detailed analysis when there were over-riding concerns about the strategic reliability of concentrating new PEF generating capacity at an existing site susceptible to a severe weather event, and where generation loss from such an event could result in a large scale impact to the PEF system (see ER page 9-59, EFS page 32 & 36). Clarify why the Crystal River site was not initially screened out using a bounding assumption in the initial evaluation process (see ER page 9-45, EFS page 7).

**PGN RAI ID #:** L-0580

**PGN Response to NRC RAI:**

All sites listed among the final five candidates, including Crystal River, were subjected to several levels of screening and analysis before deemed suitable for a nuclear power plant and elevated to the level of a candidate site. This process was conducted to identify viable alternatives as well as to provide a basis for comparing their relative suitability. Only after completing these evaluations was information available at an adequate level of detail to warrant a meaningful comparison (that is, detailed transmission analysis and reliability studies) of whether there is an issue with strategic reliability of concentrating new PEF generating capacity at Crystal River relative to other sites. Thus, Crystal River site was carried forward in the siting process and not initially screened out, because relative susceptibility to extreme weather events and the associated reliability considerations could not be examined until late in the site selection process, when the full spectrum of viable alternative sites was known and could be compared with Crystal River.

**Associated LNP COL Application Revisions:**

None.

**Attachments/Enclosures:**

None.



**NRC Letter No.:** ER-NRC

**NRC Letter Date:** September 25, 2009

**NRC Review of Environmental Report and LEDPA**

**NRC RAI #:** USACE-14

**Text of NRC RAI:** Submit an alternative sites analysis, which meets USACE requirements under the 404(b)(1) guidelines.

On August 28, 2009, USACE provided to PEF via email (and copied to NRC) a list of various concerns and comments in regard to the site selection process and the Least Environmentally Damaging Practicable Alternative (LEDPA) analysis (ADAMS Accession No. ML092680817).

This RAI incorporates that list by reference. The USACE strongly recommends that in consideration of the RAIs identified by the NRC and the USACE for the site selection process; and since additional information, details, and clarifications are required for PEF to demonstrate that the LEDPA has been identified; that a revised alternative sites analysis be submitted as a complete and stand alone document. The document should include all maps, tables and other information which describe and document the site selection process that was used to evaluate and determine the suite of alternative sites, and that the document reasonably evaluate, differentiate and compare the practicable alternatives on the overall environment, and the aquatic environment in particular. (Note: The USACE considers wetlands and their various ecological functions and values to be components of the aquatic environment.) Submit a single, complete document that addresses the USACE's comments in the mailed list dated August 28 to aid the review and evaluation of the alternative sites analysis.

**PGN RAI ID #:** L-0581

**PGN Response to NRC RAI:**

The Least Environmentally Damaging Practicable Alternative (LEDPA) analysis submitted as part of the June 26, 2009 response to RAI USACE-11 has been revised to address the comments received in the August 28, 2009 letter and in the RAI above. This revised analysis is included as Attachment USACE-14A to this RAI response. The document includes maps, tables, and other information that describe and document the site selection process that was used to evaluate and determine the suite of alternative sites. An evaluation is presented that differentiates and compares the practicable alternatives on the overall environment and, in particular, the aquatic environment.

**Associated LNP COL Application Revisions:**

The following paragraph will be added to ER Subsection 9.3.4 as the last paragraph of that section:

"A Least Environmentally Damaging Practicable Alternative (LEDPA) analysis was completed to quantitatively evaluate the five finalist sites: LNP, Crystal River, Dixie 1, Highlands and Putnam 3. This analysis used a typical site layout based on the LNP site-specific design and other site-specific factors to evaluate the environmental resources impacted by the proposed project. The LEDPA site was determined to be the LNP site based on the weighted rankings of the overall analysis (CH2M HILL 2009)".

The following reference will be added to ER Subsection 9.3.5:

CH2M HILL, Technical Memorandum: 338884-TMEM-102, Revision 3, *Levy Nuclear Units 1 and 2 (LNP) Section 404(b)(1) Alternatives Analysis*, December 2009

**Attachments/Enclosures:**

338884-TMEM-102, Revision 3, *Levy Nuclear Units 1 and 2 (LNP) Section 404(b)(1) Alternatives Analysis* in seven parts:

003 Attachment USACE-14A (Part 1 of 7).pdf

004 Attachment USACE-14A (Part 2 of 7).pdf

005 Attachment USACE-14A (Part 3 of 7).pdf

006 Attachment USACE-14A (Part 4 of 7).pdf

007 Attachment USACE-14A (Part 5 of 7).pdf

008 Attachment USACE-14A (Part 6 of 7).pdf

009 Attachment USACE-14A (Part 7 of 7).pdf

## Listing of Files Included on CD Provided with NPD-NRC-2009-242

<b><u>Filename</u></b>	<b><u>Description</u></b>
001 Attachment 5.2.2-4A.pdf	CH2M HILL Technical Memo 338884-TMEM-123, Revised Groundwater Model Evaluation of Simulated Drawdown Impacts, Levy Nuclear Plant
002 Attachment 9.3-6-1A.pdf	Attachment A, Supplemental Analysis, for New Nuclear Baseload Generation Addition Evaluation of Florida Sites (EFS) October 2007 Appendix IV – McCallum-Turner Siting Study
003 Attachment USACE-14A (Part 1 of 7).pdf	338884-TMEM-102, Revision 3, <i>Levy Nuclear Units 1 and 2 (LNP) Section 404(b)(1) Alternatives Analysis</i> (Part 1 of 7)
004 Attachment USACE-14A (Part 2 of 7).pdf	338884-TMEM-102, Revision 3, <i>Levy Nuclear Units 1 and 2 (LNP) Section 404(b)(1) Alternatives Analysis</i> (Part 2 of 7)
005 Attachment USACE-14A (Part 3 of 7).pdf	338884-TMEM-102, Revision 3, <i>Levy Nuclear Units 1 and 2 (LNP) Section 404(b)(1) Alternatives Analysis</i> (Part 3 of 7)
006 Attachment USACE-14A (Part 4 of 7).pdf	338884-TMEM-102, Revision 3, <i>Levy Nuclear Units 1 and 2 (LNP) Section 404(b)(1) Alternatives Analysis</i> (Part 4 of 7)
007 Attachment USACE-14A (Part 5 of 7).pdf	338884-TMEM-102, Revision 3, <i>Levy Nuclear Units 1 and 2 (LNP) Section 404(b)(1) Alternatives Analysis</i> (Part 5 of 7)
008 Attachment USACE-14A (Part 6 of 7).pdf	338884-TMEM-102, Revision 3, <i>Levy Nuclear Units 1 and 2 (LNP) Section 404(b)(1) Alternatives Analysis</i> (Part 6 of 7)
009 Attachment USACE-14A (Part 7 of 7).pdf	338884-TMEM-102, Revision 3, <i>Levy Nuclear Units 1 and 2 (LNP) Section 404(b)(1) Alternatives Analysis</i> (Part 7 of 7)

## LNP ER RAI 5.2.2-4, 9.3-6, USACE-14 12/09 SUBMITTAL PREFLIGHT REPORT

**LNP ER RAI 5.2.2-4, 9.3-6, USACE-14 12/09 SUBMITTAL PREFLIGHT REPORT**

This table serves as a pre-flight report for the LNP ER RAI 5.2.2-4, 9.3-6, USACE-14 12/09 submittal in support of the LNP COLA. The following files were checked for items related to pre-flight/electronic submittal acceptance. The results of the review are shown below. For files that do not pass pre-flight, the reason for the error is provided, however all files within this submittal are deemed compliant with the NRC electronic submittal checklist as noted below. For files that do not pass pre-flight the text is word searchable and clarity/legibility is of high quality. Most of the files that do not pass pre-flight either have photos embedded into the documents or have been rescanned and had OCR run.

Item #	File Name	Acceptance Review			Preflight Review		
		Word Searchable? (Y/N)	Fast Web View? (Y/N)	Fonts Embedded? (Y/N)	Preflight (Pass/Fail)	Failure Reason (<300 ppi or unembedded fonts)	Comments
1	001_Attachment_5.2.2-4A.pdf	Y	Y	Y	PASS	N/A	N/A
2	002_Attachment_9.3-6-1A.pdf	Y	Y	Y	PASS	N/A	N/A
3	003 Attachment USACE-14A (Part 1 of 7).pdf	Y	Y	Y	FAIL	<300 PPI	LOGO AT <300 PPI
4	004 Attachment USACE-14A (Part 2 of 7).pdf	Y	Y	Y	PASS	N/A	N/A
5	005 Attachment USACE-14A (Part 3 of 7).pdf	Y	Y	Y	PASS	N/A	N/A
6	006 Attachment USACE-14A (Part 4 of 7).pdf	Y	Y	Y	PASS	N/A	N/A
7	007 Attachment USACE-14A (Part 5 of 7).pdf	Y	Y	Y	PASS	N/A	N/A
8	008 Attachment USACE-14A (Part 6 of 7).pdf	Y	Y	Y	PASS	N/A	N/A
9	009 Attachment USACE-14A (Part 7 of 7).pdf	Y	Y	Y	PASS	N/A	N/A

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