



L-2011-378  
10 CFR 52.3

September 13, 2011

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

Re: Florida Power & Light Company  
Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
Response to NRC Environmental Request for Additional Information Letter  
1104071 (RAI 5588) Environmental Standard Review Plan  
Section 9.3.1 – Alternative Site Selection Process

Reference:

1. NRC Letter to FPL dated April 6, 2011, Environmental Request for Additional Information Letter 1104071 Related to ESRP Section 9.3.1, Alternative Site Selection Process, for the Combined License Application Review for Turkey Point Units 6 and 7
2. FPL Letter L-2011-259 to NRC dated July 11, 2011, Revised Schedule for the Responses to NRC Environmental Request for Additional Information Letter 1104071 (RAI 5588) Environmental Standard Review Plan Section 9.3.1 – Alternative Site Selection Process

Florida Power & Light Company (FPL) provides, as an attachment to this letter, its response to the Nuclear Regulatory Commission's (NRC) Environmental Request for Additional Information (RAI) RAI 9.3.1-12 and 9.3.1-14 provided in Reference 1. FPL informed the NRC of the revised schedule for this response in Reference 2. The attachment identifies changes that will be made in a future revision of the Turkey Point Units 6 and 7 Combined License Application (if applicable).

If you have any questions, or need additional information, please contact me at 561-691-7490.

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

Executed on September 13, 2011.

Sincerely,



William Maher  
Senior Licensing Director – New Nuclear Projects

WDM/RFO

Attachment 1: FPL Response to NRC RAI No. 9.3.1-12 (RAI 5588)

Attachment 2: FPL Response to NRC RAI No. 9.3.1-14 (RAI 5588)

cc:

PTN 6 & 7 Project Manager, AP1000 Projects Branch 1, USNRC DNRL/NRO  
Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, Turkey Point Plant 3 & 4

**NRC RAI Letter No. 1104071 Dated April 6, 2011**

**SRP Section: EIS 9.3.1 – Alternative Site Selection Process**

Question from Environmental Technical Support Branch

**NRC RAI Number: EIS 9.3.1-12 (RAI 5588)**

Provide the basis for the 3,000 acres used in the screening process as the Desired Owner Buffer Area when only 491 acres would be disturbed (ER p 9.3-17 & Siting Report p 13). Some sites included in screening and proposed as alternatives do not have 3,000 acres (e.g. St. Lucie). Additionally, estimate the total acreage impacted along with the characterization of that affected environment in order to assess total impacts across all resource areas and thus compare alternatives.

**FPL RESPONSE:**

The lower bound of the Desired Owner Buffer Area (3,000 acres) was identified by FPL as the basis for comparing sites according to the need for acquisition of additional land and the associated land costs. This provided a consistent basis for comparison of potential sites – particularly sites that FPL did not currently own (i.e., greenfield sites) – during the site screening process. It was intended as a general guideline for determining land sufficiency for greenfield sites; however, it did not apply to existing nuclear power plant sites (St. Lucie and Turkey Point) where land sufficiency is already known, based on detailed licensing and operational knowledge.

The disturbed area of 491 acres was originally developed as a best estimate of the total amount of actual land disturbance expected at each alternative site as a result of construction activities; this estimate was prepared as part of the evaluation and comparison of alternative sites with the proposed site in ER Section 9.3.3. The estimated amount of potential land disturbance at each alternative site has been updated based on assumed conceptual plant layouts developed for each alternative site. FPL has provided figures of the assumed conceptual site layouts, GIS shapefiles (with FLUCCS Level III land use data), and summary tables estimating the potentially affected area of each land cover type for each alternative site in its response to EIS 9.3-1 (RAI 5563) (Reference 1) submitted on September 2, 2011. The updated estimates for the total potentially affected area for each of the four alternative sites are provided below; totals are based on the acreages provided in response to EIS 9.3-1 (RAI 5563) (Reference 1).

Glades:	9,287 acres
Martin:	4,674 acres
Okeechobee 2:	6,568 acres
St. Lucie:	2,828 acres

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These estimates include an assumed cooling water reservoir at the three greenfield sites and offsite linear features not previously included. With respect to the offsite linear features, the assumed corridor widths may exceed the area that would actually be disturbed during project construction and operation; however, they will provide the basis for an updated environmental comparison of alternative sites.

This response is PLANT SPECIFIC.

**References:**

Reference 1: FPL Letter to NRC L-2011-335 dated September 2, 2011, Response to Environmental Request for Additional Information Letter 1103094 (RAI 5563) Environmental Standard Review Plan Section 9.3 – Alternative Sites.

**ASSOCIATED COLA REVISIONS:**

The updated and site-specific information contained in the response will be reflected in a future COLA revision.

**ASSOCIATED ENCLOSURES:**

None

**NRC RAI Letter No. 1104071 Dated April 6, 2011**

**SRP Section: EIS 9.3.1 – Alternative Site Selection Process**

Question from Environmental Technical Support Branch

**NRC RAI Number: EIS 9.3.1-14 (RAI 5588)**

Provide the results of the application of the region-to-area screening process mentioned in the ER Rev. 2 and the Siting Report. Specifically discuss how the St. Lucie site met the exclusionary criteria of 300 ppsm. The guidance in ESRP 9.3 anticipates a region-to-candidate area screening step. Per the Siting Report (p C-33), "All sites meet population density exclusion criteria since population density was a criterion in the regional screening process." Address how this exclusionary population criterion was defined and when it was applied, as such criterion is not identified in ER Population Criterion P3 and no "regional screening" is indicated in the ER. Explain whether the regional screening process mentioned in the Siting Report is the GIS based process referenced in the ER at p 9.3-6 using 300 ppsm as exclusionary among other criteria. If so, explain how St Lucie at 336.3 ppsm (Siting Report p C-35) meets this exclusionary criterion (or Turkey Point at 1,157.9). Additionally, the ER states (ER p 9.3-101) that "The land area within 20 miles of the St. Lucie site is 553.1 square miles, and based on 2000 census data, the population of this area was 326,647. This yields a population density of 590.57 people per square mile." Explain why the St. Lucie site was not eliminated in the regional screening.

**FPL RESPONSE:**

The regional screening process mentioned in the ER is superseded by a regional screening/candidate area identification process documented in the Augmentation Report (Reference 1), Section 3.0. Section 3.1 provides a description of criteria used in regional screening. Results of regional screening are described in Section 3.2 and Appendix A, along with the rationale for identifying more suitable portions of the ROI and identifying candidate areas. Appendix A includes figures showing maps of results from individual screening criteria.

The population criterion used in the updated regional screening process excluded census block groups with a population density greater than 300 persons per square mile (ppsm), based on Census data for the year 2000. Siting outside of these areas would more likely result in a population density less than the NRC guideline of 500 ppsm within a 20-mile radius of the site.

The population density figures cited above (336.3 ppsm for St. Lucie and 1,157.9 ppsm for Turkey Point) are actually the population density of the host counties (St. Lucie County and Miami-Dade County respectively) for Census Year 2000, and are not applicable to the regional screening process.

The population density calculation at a given point is based on total area within a 20-mile radius of the site, not land area alone. The total area within 20 miles of the St. Lucie site is 1,256.6 square miles, and using the total population of 326,647 cited above, a population density of 259.9 ppsm results.

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Finally, the St. Lucie site was not eliminated in the regional screening process because the site is not located within a census block group with a population density greater than 300 ppsm.

This response is PLANT SPECIFIC.

**References:**

Reference 1: Florida Power & Light Company, Turkey Point 6 & 7, *New Nuclear Power Generation (Formerly Project Bluegrass) Augmented Site Selection Study Report*, August 2011. Enclosed with FPL Letter to NRC L-2011-336 dated September 1, 2011, Response to NRC Environmental Request for Additional Information Letter 1104071 (RAI 5588) Environmental Standard Review Plan Section 9.3.1 – Alternative Site Selection Process.

**ASSOCIATED COLA REVISIONS:**

Results of site evaluation and screening, as documented in the Augmentation Report, will be reflected in a future COLA revision.

**ASSOCIATED ENCLOSURES:**

None