

**Request for Additional Information
Turkey Point Units 6 & 7
Florida Power & Light Company
Docket Nos. 52-040 and 52-041**

The following staff request for additional information relates to the technical review of Final Safety Evaluation Report (FSAR) Sections 2.4, 2.5, 3.7, and 3.8 of the Florida Power and Light Company's (FPL's) application, including the application supplement of August 07, 2009, L-2009-185, Attachment 1. The staff considers the requested information to be necessary before it can develop a detailed review schedule.

- Geology and Seismology (Sections 2.5.1 – 2.5.3)

The staff requests additional information to allow the staff to begin its technical review of FSAR Sections 2.5.1 and 2.5.2 regarding the geologic and tectonic characteristics of the 200 mile radius surrounding the proposed site. Applications are required by Title 10 of the *Code of Federal Regulations* (10 CFR) Part 100, Section 23 to include a description of the regional geology, including a detailed description of each potential seismic source.

Major seismic sources in the region, such as the Cuba and Gulf of Mexico seismic sources and the geologic history and tectonic evolution of these seismic sources are only very briefly discussed in FSAR Sections 2.5.1 and 2.5.2. Other significant geologic and tectonic provinces of the site region are also only very briefly discussed, specifically, northern Cuba, the Bahamas Banks, and the Gulf of Mexico/West Florida platform.

Please provide the following additional information. Note that the staff has provided Regulatory Guide (RG) references in parentheses that identify applicable guidance. The staff considers the requested information to be necessary before it can develop a detailed technical review.

1. A detailed characterization of the underlying geology and tectonics of the Cuba and Gulf of Mexico seismic sources (RG 1.208, Appendix C to RG 1.208, Page C-3).
2. A detailed characterization of the tectonic evolution of the Florida peninsula with respect to fundamental crustal and/or tectonic province transitions or boundaries between the peninsula and the Gulf of Mexico, Cuba, the Bahamas and the relationship to the Appalachian origin to the north (RG 1.206: C.I.2.5.1.1 Regional Geology, page C.I.2-26 and RG 1.208, C, Section 1.2.).
3. A detailed characterization of geologic history, tectonic structures and tectonic evolution of Cuba, with special emphasis on northern Cuba but not limited to it (RG 1.206: C.I.2.5.1.1 Regional Geology, page C.I.2-26).

Please justify any associated conclusions in the application in light of this information.

Enclosure 1

- Geotechnical (Section 2.5.4)

FSAR Section 2.5.4.2.3.16 mentions that seven Resonant Column Torsional Shear (RCTS) tests were performed on intact samples from Stratum 5 and Stratum 6. Each of these intact samples came from a single boring, B-630, under Unit 6.

Please provide specific evaluations to justify why additional RCTS tests are not needed to characterize these soils, including the uncertainties in their dynamic properties. If additional tests are planned, please provide the schedule for submittal of that information.

- Hydrology (Section 2.4.12)

With respect to Section 2.4.12, the application relies on the regional hydrogeologic characteristics to support the feasibility of the proposed deep well injection system and to describe the onsite characteristics of the Floridan Aquifer system. Please provide a description of the types of exploratory well data you plan on submitting to the NRC and an estimate of when these data and corresponding analyses will be provided to the staff. The availability of this information will affect the staff's ability to set its detailed review schedule.

- Structural Engineering (Section 3.7 and 3.8)

The Turbine Building is currently classified as a Seismic Category II. Please provide your estimate of when the Soil-Structure Interaction analysis to assess the effects on the neighboring nuclear island structure will be made available to the staff.

Because the applicant must integrate the design with respect to the piles, lean concrete, and the base mat, review of this integration may add to the uncertainty in the review schedule. Please provide an estimate of when this integrated design will be provided to the staff.