

November 4, 2016

Dr. Dennis C. Bley, Chairman  
Advisory Committee on Reactor Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

SUBJECT: REPORT ON THE SAFETY ASPECTS OF THE FLORIDA POWER & LIGHT  
COMPANY'S COMBINED LICENSE APPLICATION FOR TURKEY POINT  
UNITS 6 AND 7

Dear Dr. Bley:

I am writing in response to your letter of September 16, 2016 (Agencywide Documents Access and Management System Accession No. ML16257A535), in which the Advisory Committee on Reactor Safeguards (ACRS or the Committee) reported on its review of the staff's advanced safety evaluation report for the Florida Power & Light Company (FPL or the applicant) combined license application (COLA) for Turkey Point Units 6 and 7. This COLA incorporates by reference Westinghouse Electric Company's AP1000 certified design.

The staff of the U.S. Nuclear Regulatory Commission (NRC) responds as follows to the Committee's conclusions and recommendations:

**ACRS Conclusions and Recommendation 1**

There is reasonable assurance that Turkey Point Units 6 and 7 can be built and operated without undue risk to the health and safety of the public. The FPL COLA for these units should be approved.

**Staff Response to Conclusion and Recommendation 1**

The staff agrees with this conclusion and recommendation.

**ACRS Conclusions and Recommendation 2**

The following proposed site-specific departures from the AP1000 design control document should be approved:

- a. Consolidation of the Technical Support Center (TSC) to provide support to Turkey Point Units 3, 4, 6, and 7.
- b. Meteorological exceedances for the operating basis wind speed and for the maximum safety and maximum normal wet bulb air temperatures.
- c. Exclusion area boundary minimum distance.

## **Staff Response to Conclusions and Recommendation 2**

The staff agrees with the Committee's recommendation. The staff will document its evaluation of these departures in the final safety evaluation report for the combined license for Turkey Point Units 6 and 7.

## **ACRS Conclusions and Recommendation 3**

Staff should consider if existing guidance for estimating future sea level rise and guidance for location of the TSC should be updated to reflect changing circumstances.

### *Additional ACRS Discussion on Sea Level Rise*

We expect that the Turkey Point Units 6 and 7 licensing basis will be explicit concerning the assumed sea level rise of 1 foot, and that the licensee will remain aware of recorded sea level rise so as to recognize the potential exceedance during the plant life.

Regarding forecasts of potential sea level rise acceleration, including those made by government agencies, the staff should review regulatory guidance generically to determine if such forecasts should be addressed in establishing an antecedent sea level for siting purposes, or whether continued reliance on extrapolation of historical data remains sufficient.

### *Additional ACRS Discussion on TSC Location*

Guidance concerning location of the TSC is included in NUREG-0696. Among other things, the guidance suggests a walking time from the TSC to the control room of [2] minutes. The standard review plan allows improvement in communication technology to increase this walking time significantly, as has been reflected in several licensing actions recently. The benefits of a consolidated TSC at a multi-unit site, using current communication technology appear to warrant updating NUREG-0696, and we recommend that the staff consider doing so.

## **Staff Response to Conclusions and Recommendation 3 on Sea Level Rise**

Regarding the licensing basis for Turkey Point Units 6 and 7, Section 2.4.5.2.2.1 of the final safety analysis report dated August 26, 2016, states that "a nominal long-term sea level adjustment of 1 foot is applied" to the determination of the antecedent water level used for other analyses.

The staff agrees that, as the science and data for forecasting potential sea level rise acceleration becomes more broadly understood and accepted, the NRC should consider updating its guidance in this area. Currently, the Office of Nuclear Regulatory Research has an ongoing program to collect and evaluate climate change information, which the staff routinely assesses. At this time, reliance on the extrapolation of historical data

remains sufficient, given the uncertainty in sea level projections and range of significant conservatisms built into the NRC's guidance for assessing flooding from storm surge and tsunami at nuclear power plant sites.

While sea level rise is one parameter considered in establishing the flood level resulting from a storm surge or tsunami, other factors are significantly more dominant. When considering the amalgamation of conservative assumptions used in these analyses, the staff is confident that the design-basis probable maximum storm surge and tsunami analyses appropriately account for the uncertainty in all factors, including sea level projections. The NRC staff will continue to monitor evolving advances in external hazards science, including climate change, and will update regulatory guidance, as needed.

### **Staff Response to Conclusions and Recommendation 3 on TSC location**

The guidance on TSC location in NUREG-0696, "Functional Criteria for Emergency Response Facilities," issued February 1981 states in part that "[t]he walking time from the TSC to the control room shall not exceed 2 minutes." Section 14.3.10, "Emergency Planning—Inspections, Tests, Analyses, and Acceptance Criteria [ITAAC]," of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," issued March 2007 currently supplements this guidance, specifically in ITAAC acceptance criterion 8.1.2 of Table 14.3.10 (emergency planning generic ITAAC). The acceptance criterion states in part that "[a]dvanced communications capabilities may be used to satisfy the two minute travel time." The various safety evaluation reports prepared by the NRC staff in support of new reactor licensing provide details on how the staff applied this guidance. The staff will consider supplementing its guidance in this area, including updating NUREG-0696, in the future as resources permit.

Dr. D. Bley

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The Committee also discussed the population density siting criterion, the external flooding evaluations, deep well injection of liquid radioactive effluents, and the minimum exclusion area boundary distance, and found the analysis of these subjects acceptable. The staff appreciates the Committee's efforts and suggestions. We thank the ACRS for its time and its valuable input, and we look forward to working with the Committee in the future.

Sincerely,

*/RA/*

Victor M. McCree  
Executive Director  
for Operations

Docket Nos.: 52-040 and 52-041

cc: Chairman Burns  
Commissioner Svinicki  
Commissioner Baran  
SECY

Dr. D. Bley

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