



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 18, 2010

Mr. Mano Nazar
Senior Vice President, Nuclear and
Chief Nuclear Officer
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

SUBJECT: TURKEY POINT NUCLEAR GENERATING UNIT NO. 4 – REQUEST FOR
ADDITIONAL INFORMATION REGARDING GL 2004-02, “POTENTIAL IMPACT
OF DEBRIS BLOCKAGE ON EMERGENCY RECIRCULATION DURING
DESIGN BASIS ACCIDENTS AT PRESSURIZED-WATER REACTORS” (TAC
NO. MC4726)

Dear Mr. Nazar:

By letter dated March 19, 2009, Florida Power & Light Company (FPL, the licensee), provided responses to the Nuclear Regulatory Commission’s (NRC) request for additional information (RAI) regarding Generic Letter (GL) 2004-02, “Potential Impact of debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors.” On August 6, 2009, FPL and the NRC held a public teleconference to discuss the March 19th licensee responses. As a result of the August 6th teleconference, the NRC drafted additional clarifying RAIs for Turkey Point Unit 4 Questions 11 and 21.

On February 3, 2010, FPL and the NRC held a public teleconference to discuss open items regarding GL 2004-02 and the licensee’s responses to Questions 11 and 21. As a result of the meeting, the NRC staff finds that the additional information contained in the enclosed RAI is needed before we can complete the review.

If you have any questions, please contact me at (301) 415-5888.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Paige", written over a white background.

Jason C. Paige, Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-251

Enclosure: Request for Additional Information

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REQUEST FOR ADDITIONAL INFORMATION

GENERIC LETTER 2004-02

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT NUCLEAR GENERATING UNIT NO. 4

DOCKET NUMBER 50-251

Regarding the licensee's response, as discussed during the February 3, 2010, public teleconference, to request for additional information (RAI) 11s, the Nuclear Regulatory Commission staff has identified certain inadequacies regarding the structural analysis performed to demonstrate the structural adequacy of the debris interceptors:

1. The licensee indicated that "The method of qualification of the structural adequacy of Debris Interceptors (DIs) for the deadweight, seismic, and hydrodynamic load case is outlined" Are the deadweight, seismic, and hydrodynamic loads combined to formulate the bounding load combination for the DIs? If this is not the bounding load combination, the licensee should indicate what the bounding load combination is for this structure.
2. The licensee described the hydrodynamic load as the "maximum differential pressure" across the DIs. It does not appear that the hydrodynamic loading effects of sloshing during a seismic event were incorporated into the licensee's structural analyses of the DI structures. The licensee should provide the basis for neglecting the effects of loading from sloshing during a seismic event. Additionally, justification should be provided for why this load would not be included in a bounding load combination.
3. The licensee incorporated the use of the momentum function, as it applies to open channel flow, to derive the hydraulic loading on the DIs. Based on the licensee's description of the flow through the DIs in their August 11, 2008, supplemental response, it is difficult to decipher whether a water height gradient exists across the DI boundary. Based on the licensee's use of the momentum function from Henderson's *Open Channel Flow*, the hydraulic load would be a zero value with no height differential. The licensee should provide a range of parameters that would be used to compute this hydraulic load (q , y_1 , y_2), using the function outlined.
4. The licensee should provide a justification for not considering live loads induced by post-LOCA debris, which may impact the DIs.
5. RAI 11s requested the licensee to provide the results of their structural analysis. No results were provided. The licensee should provide a tabulated data set showing, at a minimum, the maximum and allowable stresses for all of the DIs components structurally analyzed, including structural members, panels, brackets, bolts, anchors, and all other components. Applicable design margins or interaction ratios based on the aforementioned code allowable values should also be included to provide staff with reasonable assurance of the structural integrity of the DIs.

Enclosure

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/RA/

Jason C. Paige, Project Manager
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