

## **NRR-PMDAPEm Resource**

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**From:** Klett, Audrey  
**Sent:** Thursday, February 12, 2015 1:11 PM  
**To:** Mitch.Guth@fpl.com; 'Hanek, Olga' (Olga.Hanek@fpl.com); 'Mihalakea, Stavroula' (Stavroula.Mihalakea@fpl.com)  
**Subject:** Turkey Point 3 and 4 - Request for Additional Information (TACs MF1485 and MF1486)

Hi Mitch, Olga, Stavy,

By letter dated December 14, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12363A103), as supplemented by letters dated October 30, 2013, January 29, 2014, and December 29, 2014 (ADAMS Accession Nos. ML13325A973, ML14069A084, and ML15029A295, respectively), Florida Power & Light Company (FPL, the licensee) submitted its License Renewal Reactor Vessel Internals (RVI) Commitment Implementation Report and Inspection Plan that credits the implementation of Materials Reliability Program (MRP)-227-A at Turkey Point Nuclear Generating Unit Nos. 3 and 4 (i.e., Turkey Point 3 and 4) for U.S. Nuclear Regulatory Commission (NRC) staff review.

The NRC staff reviewed the information provided by the licensee and determined that it needs additional information to complete the review. This request for additional information (RAI) is numbered sequentially from the RAIs that the NRC previously sent by electronic mail on September 27, 2013, and January 22, 2014 (ADAMS Accession Nos. ML13274A144 and ML14022A189, respectively).

As discussed with Ms. Stavroula Mihalakea of the licensee's staff on February 5, 2015, the NRC is requesting a response to the RAI by May 29, 2015. The licensee should contact NRC's Project Manager for Turkey Point 3 and 4 if it needs additional time to respond to the RAI.

### **RAI-8:**

Applicant/Licensee Action Item 7 from MRP-227A requires that applicants/licensees of Westinghouse reactors develop plant-specific analyses to be applied for their facilities to demonstrate that cast austenitic stainless steel lower support column bodies will maintain their functionality during the period of extended operation, and states that these analyses should also consider the possible loss of fracture toughness in these components caused by thermal embrittlement (TE) and irradiation embrittlement (IE). This requirement applies to Turkey Point 3 and 4 based on the design of the RVI at Turkey Point 3 and 4.

By letters dated December 14, 2012, and January 29, 2014, the licensee provided plant-specific information on the ferrite content and susceptibility to TE for the Turkey Point 3 and 4 lower support column bodies. Based on its evaluation of the plant-specific information, the licensee concluded that the Turkey Point 3 and 4 lower support column bodies are not susceptible to TE.

The licensee's conclusion related to TE notwithstanding, the lower support column bodies remain susceptible to IE. The NRC staff is concerned that the linked Primary component for the lower support column bodies - the control rod guide tube (CRGT) assembly lower flange welds - is not a good predictor of IE for the lower support column bodies because the CRGT lower flange welds receive substantially lower neutron fluence than the lower support column bodies based on the estimated neutron fluence tabulated in MRP-191 for the two components. Irradiation assisted stress corrosion cracking (IASCC) is the only mechanism of cracking that is screened for the lower support column bodies. The CRGT lower flange welds are also not a good predictor for IASCC of the lower support column bodies, because the lower flange welds are susceptible to stress corrosion cracking (SCC) and fatigue cracking, but not IASCC.

The NRC staff, therefore, requests that the licensee modify its RVI Inspection Plan to provide a link to a Primary component or components that is an appropriate predictor of IE and IASCC of the lower support column bodies.

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