



L-2017-028
February 22, 2017

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

Re: Turkey Point Unit 3
Docket Nos. 50-250
Special Report - Containment Tendon Corrosion Protection Medium Volume Reduction

The attached Special Report is provided in accordance with Turkey Point Units 3 and 4 Technical Specifications 6.9.2 and 3.6.1.6, Action c.

Should there be any questions regarding this information, please contact Mr. Mitch Guth, Licensing Manager at (305) 246-6698.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Summers", with a long horizontal line extending to the right.

Thomas Summers
Regional Vice President - Southern Region

Attachment

cc: Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

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SPECIAL REPORT

Purpose:

Florida Power and Light Company (FPL) submits this special report in accordance with Turkey Point Technical Specification (TS) 3.6.1.6, Action c., Containment Structural Integrity. Unit 3 entered Action c. on February 8, 2017 and on February 10, 2017, because the acceptance criterion in Surveillance Requirement (SR) 4.6.1.6.1.e.2 for corrosion protection medium (grease) volume in six containment tendons was not met.

Event and Action Taken:

The Turkey Point Unit 3 containment structure is a post-tensioned reinforced concrete structure. The post tensioning feature of the structure is achieved by a system of vertical, dome and hoop tendons that are preloaded in accordance with structural requirements to attain a certain level of pre-stress to keep the concrete in compression. Each individual tendon consists of ninety 1/4 inch diameter steel wires encapsulated inside a tendon sheathing that in turn is filled with corrosion preventing grease.

Turkey Point TS Section 3/4.6.1.6 establishes Limiting Conditions for Operation and Surveillance Requirements (SRs) for the containment structural integrity, including corrosion protection medium (grease) leakage (SR 4.6.1.6.1.e). The SRs state that structural integrity of the containment buildings shall be demonstrated in accordance with ASME Code Section XI, Subsection IWL. The Tendon Surveillance IWL Inspection Program represents a systematic approach for assessing the continued operability and structural integrity of the containment post-tensioning system and concrete structure. During each tendon surveillance period, as part of the scope of the inspection program, all accessible tendon caps are visually inspected for grease leakage and cap deformation.

On February 8, 2017, during the 45th year containment tendon surveillance for Turkey Point Unit 3, the absolute difference between the amount of grease removed from Unit 3 vertical tendons 12V22, 34V23, and 61V13 and the amount of grease replaced exceeded 10% of the net duct volume. Additionally, on February 10, 2017, a similar condition was identified for vertical tendons 12V11, 56V28, and 61V20. The specific data for each tendon is tabulated below:

Tendon	Total Grease Volume Removed/Lost (gal)	Total Grease Volume Replaced (gal)	Net Duct Grease Volume (gal)	% of Net Duct Volume
12V22	11.25	30.09	89.15	21.1
34V23	12	27.32	88.53	17.3
61V13	8	31.86	89.01	26.8
12V11	7.50	37.61	88.39	34.06
56V28	0	23.89	88.81	26.9
61V20	0	9.73	88.94	10.93

The results of the examination indicated that the absolute difference between the amount removed and the amount replaced exceeded 10% of the tendon net duct volume, and as such the acceptance criterion of TS SR 4.6.1.6.1.e.2 was not met. The grease was replenished with the required grease volumes as part of the inspection activities. As such, upon replenishment of the grease volume, these tendons were restored to an acceptable condition, an engineering evaluation was performed in accordance with the pertinent articles of IWL, and a special report is submitted herein in accordance with the requirements of TS 6.9.2, Special Report.

Article IWL-3221.4, Corrosion Protection Medium, states that "The absolute difference between the amount removed and the amount replaced shall not exceed 10% of the tendon net duct volume." Article IWL-3222, Acceptance by Evaluation, states that items with examination results that do not meet the acceptance standards of IWL-3221, Acceptance by Examination, shall be evaluated as required by Article IWL-3300, Evaluation.

In accordance with the requirements of IWL-3300, FPL has performed the acceptance evaluation in Condition Report 2184466. The subject tendons were identified as leaking from the gasket at the bottom end, located inside the tendon gallery. There was no evidence of unusual grease stains on the exterior containment surface. Corrosion was not observed on any of the tendon components due to the grease loss. In each case, the reported grease volume reduction did not introduce any concerns pertaining to the operability or structural integrity of the subject tendon nor did it affect the integrity of the Unit 3 containment structure.

Cause:

The most probable cause of the differences in grease volume for tendons 12V22, 34V23, 61V13, 12V11, 56V28, and 61V20 was leakage from the bottom end tendon caps due to leaking cap gaskets.

Schedule for Restoration:

The end cap gaskets for tendons 12V22, 34V23, 61V13, 12V11, 56V28, and 61V20 were replaced. The grease was replenished with the required grease volumes as part of the inspection activities. As such, upon replenishment of the grease volume, these tendons were restored to an acceptable condition, and thus in compliance with the requirements of the TS.