

August 17, 2012
L-2012-330

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

Re: Turkey Point Unit 4
Docket No. 50-251
Relief Request No. 7
Response to Request for Additional Information Questions

References:

- 1) FPL letter L-2012-193 to the USNRC, dated June 5, 2012, Concrete Containment Inservice Inspection Program Exempt Tendon Inspection Relief Request 7
- 2) Email from Farideh E. Saba (NRC) to R. J. Tomonto (FPL), "Draft RAIs: Turkey Point - Unit 4 RR No. 7 Exempt tendon inspection)," dated July 17, 2012

On June 5, 2012 Florida Power and Light Company (FPL) submitted letter L-2012-193, (Reference 1), requesting relief from the requirement to perform examinations at the inaccessible end of the designated exempt tendons during the Turkey Point Unit 4 2012 refueling outage.

By electronic mail from the Nuclear Regulatory Commission (NRC) Project Manager (PM) dated July 17, 2012, the NRC requested Florida Power & Light Company (FPL) to discuss the draft request for additional information (RAI) questions (Reference 2).

On July 26, 2012 FPL and NRC Staff during a teleconference discussed the draft RAIs to determine need for further clarification. Following the discussion, NRC requested FPL to reply to the RAI questions as provided in Reference 2.

Attachment 1 contains both the NRC RAI questions, and the FPL responses to RAI questions.

The information provided herein does not change the conclusions stated in Reference 1 and, does not create any new commitments.

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L-2012-330

Page 2

Should there be any questions, please contact Mr. Robert J. Tomonto, Licensing Manager at 305 246-7327.

Very truly yours,

A handwritten signature in black ink, appearing to read "Michael Kiley", with a stylized flourish at the end.

Michael Kiley
Vice President
Turkey Point Nuclear Plant

Attachment
Enclosure

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

NRC RAI Questions and FPL Responses

RAI Question 1:

Provide details on any anomalies that have been detected/observed during the previous inspections with respect to corrosion of the tendon wires

FPL Response to RAI Question 1:

The following anomalies described herein are equal to or greater than Level 3 corrosion (pitting between 0.000" and 0.003"):

During the 20th Year inspections Level 3 corrosion was identified on the edges of the bearing plate at both ends of Tendon 42H83. These defects were caused either by incomplete coating touch-up after the original stressing operations, or incomplete coating coverage on the plate edges. These areas of light corrosion did not indicate progressive degradation. At that time, action was taken to clean and touch-up the defects with coating material.

During the 30th year inspection rust scale and pitting of Level 5 corrosion ($0.006" < \text{Pitting} \leq 0.010"$) was found on the cap and outside of the gasket area on a bearing plate. The Turkey Point Unit 4, Tendon 51H01 is a horizontal tendon and located in the tendon inspection pit at buttress #5. The tendon is the lowest tendon in the pit and the pit might have been flooded and cap might have been exposed to standing water in the past. As expected, the inspection showed that the cap and the outside area of the tendon assembly were corroded. At that time, action was taken to replace the cap and replace any grease lost due to corroded tendon cap.

During the 35th year inspection Level 5 corrosion ($0.006" < \text{Pitting} \leq 0.010"$) was found on a bearing plate on an area that is outside of the gasket seating area. The corroded area is not a load transfer area and is located outside of the grease protected area of the tendon assembly. It was determined that based on the location of the detected corrosion, the condition did not have an effect on the design function of tendon 51H01. New gasket, tendon cap hardware and grease were installed at that time.

The preliminary inspection results of the 40th year for Turkey Point Unit 4 tendon surveillance have no conditions with corrosion greater than or equal to Level 3 corrosion.

RAI Question 2:

Provide list of the tendons that were found:

- a. The lift-off forced was below the acceptance criteria?
- b. The lift- off forced was above the acceptance criteria?
- c. Failed with any other reason?

FPL Response to Question 2:

- a. The lift-off force was below the acceptance criteria?

During the 15th year inspection, Turkey Point Unit 4 hoop tendon 13H51 was reported (in FPL letter L-88-336) to have a measured lift-off force of 0.3 percent variance below the lower bound predicted value. Re-evaluation of the 15th year surveillance results utilizing the proper normalizing factors for calculating the predicted upper and lower limits for lift-off force measurements concluded that the 15th year surveillance results were found acceptable. Due to low tendon lift-off forces observed during the 20th year surveillance, a containment re-analysis was performed (and approved by the NRC) in 1994, resulting in revised tendon lift-off requirements for future surveillances. Subsequently, the results of the 25th, 30th, and 35th Year Tendon inspections were found acceptable regarding the lift-off forces.

Preliminary results of the 40th Tendon surveillance are within acceptable lift-off force criteria.

- b. The lift-off force was above the acceptance criteria?

None.

- c. Failed with any other reason?

None.

RAI Question 3:

When was the last time that tendon number: 1D20, 1D23, 2D20, and 51H40 inspected or tested? What are your plans for inspecting them in future?

FPL Response to RAI Question 3:

The Unit 4 Tendons 1D20, 1D23, 2D20, and 51H40 were part of a general inspection performed during the 40th year surveillance. Additionally, for the dome tendons 1D20, 1D23 a visual inspection was performed on the accessible South East end only. For dome tendon 2D20, a visual inspection was performed on the accessible East end only. For hoop tendon 51H40, a visual was performed on the accessible Buttress #1 only.

Visual tendon surveillance consists of sheathing filler inspection and testing, inspection for water, anchorage inspection, concrete inspection around tendons, and replacement of grease after completion of all inspections. The preliminary results of the 40th year inspection found no abnormalities related to the visual inspections performed at the accessible ends of these tendons

The tendon selection for each inspection is on a random basis. At this time, there are no definitive plans to inspect these tendons in subsequent tendon inspections.

RAI Question 4:

Please justify for your “request due to hardship” to perform the required examinations of end of the tendon anchorages during the plant outage.

FPL Response to RAI Question 4:

Relief Request 7, Reference 1 was submitted pursuant to 10 CFR 50.55a (a)(3)i, as an alternative to the Code requirements of IWL-2521.1(c) for the exempt tendons. As described in Reference 1, the proposed alternate examinations provide more stringent requirements than IWL requirements by providing examination of additional tendon anchorages exposed to a similar environment in close proximity to the randomly selected tendons that are considered exempted due to safety concerns.