

NRR-PMDAPEm Resource

From: Mozafari, Brenda
Sent: Thursday, July 21, 2011 11:57 AM
To: Rogalski, Rich
Subject: RAI-Robinson ISI Steam Generator Inspection RFO 26 (ME5411)

Rich,

Below are questions that the staff would need to complete the review of the 2010 Steam Generator inspection report. After you have a chance to read these, we will schedule a call with the NRC staff to discuss the request for additional information. I discussed this with you on June 21, 2010, and expect a response by August 22, 2010.

REQUEST FOR ADDITIONAL INFORMATION
REGARDING ROBINSON STEAM ELECTRIC PLANT UNIT 2
STEAM GENERATOR TUBE INSERVICE INSPECTION REPORT
DOCKET NO. 50-261

1. Provide the cumulative effective full power years that the current steam generators (SG) had operated at the time refueling outages 25 and 26 commenced.
2. On page 12 of 14 of your letter dated January 13, 2011, a table provides the depth of wear indications at the antivibration bar. Discuss why the two different techniques (Z-22899 and Z-8652) provide significantly different sizing estimates. Identify which analysis is the analysis of record.
3. During the 2007 SG tube inspections, a pin-hole was found in one of the structures that hold the moisture separators in place. It was uncertain if the pinhole was due to fabrication or erosion. Discuss whether this area was inspected during RFO 26. If so, discuss the results of this inspection and any other secondary side inspections.
4. It appears that two tubes had the bottom of the expansion transition located greater than 1.0 inch from the top of the tubesheet. Clarify the location of the bottom of the expansion transition for these two tubes. It is the staff's understanding that most plants with thermally treated Alloy 600 tube material have plugged such tubes since the current H* analysis only supports a tube with a bottom of the expansion transition located approximately 1.0 inch from the top of the tubesheet and since the tube-to-tubesheet weld is potentially susceptible to cracking and no qualified examination exists for inspecting these welds. Clarify whether these tubes were plugged. If not plugged, discuss any plans to plug these tubes in a future outage.
5. Confirm that the bottom of the expansion transition for the tube in SG A at row 20, column 35 and the tube in SG B in row 11, column 70 are located between 0.96 and 1.0 inch from the top of the tubesheet. If the bottom of the expansion transition is located greater than 1.0 inch from the top of the tubesheet, address the previous question for these two tubes.
6. clarify the following statement: "HBRSEP inspected the tube ends (16 total) not fully expanded with the tubesheet to at least 0.5 inches from the top of the tubesheet." Is this statement implying that there are only 16 tubes in which the bottom of the expansion transition is located greater than 0.5 inches from the top of the tubesheet?

7. The table on page 4 and the discussion on page 13 of your letter dated January 13, 2011, implies that only 32 tubes have been plugged in your SGs at the commencement of refueling outage 26. The NRC staff was under the impression that 60 tubes had been plugged in your SGs (which includes 28 tubes plugged prior to the SGs being placed in operation). Confirm the total number of tubes plugged. If 60 tubes have been plugged, recalculate the plugging percentage for the SGs.

8. It was indicated that seven tubes were plugged in steam generator (SG) B and five tubes were plugged in SG C during RFO 26. In reviewing the information on pages 9 through 12 of your letter dated January 13, 2011, the NRC staff only identified six tubes in SG B that were plugged (five stabilized and plugged and one plugged) and four tubes in SG C that were plugged (two stabilized and plugged and two plugged). Identify the additional tubes plugged and provide the reason for plugging those tubes.
9. The number of tubes with bulges, overexpansions, or dents in the tubesheet region that were inspected to a depth of 17.28 inches below the top of tubesheet was provided in the table on page 4. Discuss what percentage of the total population of these indications were inspected (e.g., 50% of all bulges, overexpansions, or dents within the hot-leg tubesheet region were inspected from 4-inches above to 17.28 inches below the top of the tubesheet with a rotating probe).
10. Discuss whether the tube in row 1, column 67 in SG B (with an "indication not recordable" at the sixth cold leg tube support plate) was inspected with a rotating probe to confirm the absence of degradation. Provide any insights on why an indication detected since 2002 was no longer present during the refueling outage 26 (2010) inspection.

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