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LR-N11-0036

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington DC 20555-001

Salem Nuclear Generating Station Unit 1
Facility Operating License No. DPR-70
NRC Docket No. 50-272

Subject: Response to Salem Nuclear Generating Station, Unit No. 1, Draft Request for Additional Information (TAC No. ME4923)

Reference: 1. Salem Nuclear Generating Station, Unit No. 1, Draft Request for Additional Information (TAC No. ME4923), dated December 28, 2010

2. LR-N10-0365, Steam Generator Tube Inspection Report- Twentieth Refueling Outage (1R20), dated October 21, 2010 (ML102980089)

On December 28, 2010, the Nuclear Regulatory Commission (NRC) provided to Mr. Jeff Keenan of PSEG Nuclear LLC (PSEG) a draft request for additional information (Reference 1). This information was provided to facilitate a teleconference between PSEG and NRC personnel on January 13, 2011. This teleconference was held to clarify the results of the steam generator tube inspections performed at Salem Nuclear Generating Station, Unit No. 1, during refueling outage 1R20 (Reference 2).

PSEG hereby formally documents its response to the request for additional information as discussed on January 13, 2011. Attachment 1 contains the NRC's questions followed by PSEG's response. There are no commitments contained in this letter.

Should you have any questions regarding this submittal, please contact Mr. E. Villar at (856) 339-5456.

Sincerely,

Carl J. Fricker
Site Vice President – Salem

Attachment (1)

A001
NRR

cc Mr. W. Dean, Administrator - Region I
Mr. R. Ennis, Licensing Project Manager - Salem
USNRC Senior Resident Inspector - Salem (X24)
Mr. P. Mulligan, Manager IV
Mr. H. Berrick, Salem Commitment Tracking Coordinator
Mr. L. Marabella, Corporate Commitment Tracking Coordinator

DRAFT REQUEST FOR ADDITIONAL INFORMATION

REGARDING STEAM GENERATOR TUBE INSPECTION REPORT

FOR REFUELING OUTAGE 1R20

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

DOCKET NO. 50-272

By letter dated October 21, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML102980089), PSEG Nuclear LLC (the licensee) submitted the results of the steam generator (SG) tube inspections performed at Salem Nuclear Generating Station (Salem), Unit No. 1, during refueling outage 1R20 (spring 2010). This report was submitted in accordance with the requirements in Salem Unit 1 Technical Specification (TS) 6.9.1.10.

The Nuclear Regulatory Commission (NRC) staff has reviewed the information provided by the licensee and would like to discuss the following issues to clarify the submittal.

1. Please clarify the number of tubes with overexpansions (designated as OXP) and with hydraulic underexpansions (ETL). Please provide the maximum distance that any of the bottom of the tube expansion transition locations are from the top of the tubesheet.

PSEG Response

Amendment No. 294 of Facility Operating License No. DPR-70 for Salem Nuclear Generating Station Unit 1 required a commitment for a one time verification of all the expansion transition locations. PSEG measured all the hot leg (HL) and cold leg (CL) Bottom of Hydraulic Expansion Transition (BHT), using historical eddy current data from 1R16 outage (tubes plugged prior to 1R16 were not included). The BHT (sometimes also referred to as BET, for Bottom of Expansion Transition) is essentially the lower most part of the expansion transition relative to the top of the tubesheet as seen by the eddy current analyst. Top of the tubesheet (TTS) is the secondary face of the tubesheet.

Variations in the expansion transition location have typically been referred to as an Expansion Transition Location (ETL) and Over Expansion (OXP). An ETL is when the expansion transition is located approximately 0.5 inches or more below the TTS. An OXP is when the expansion transition is located approximately 0.5 inches or more above the TTS. Using the comprehensive review for measurement of all the BHT that supported PSEG commitment CM-U1-2009-618 for a one time verification of all the expansion transition locations, the largest deviation observed below the TTS was 0.53 inch (SG 12 Row 37 Column 105 on the HL) and the largest deviation observed above the TTS was 0.63 inch (SG 11 Row 13 Column 36 on the CL).

Review of the BHT information also shows that the only other BHT located equal to or more than 0.5 inches from the TTS (below or above) is in SG 11 Row 9 Column 73 on the CL, with a BHT 0.51 inch above the TTS. A review of the tubes plugged since 1R16 provides that the three tubes mentioned above are currently in-service after outage 1R20.

2. Please confirm that no degradation was observed during examination of previously installed tube plugs.

PSEG Response

Visual inspections during outage 1R20 of all previously installed tube plugs did not detect degradation or conditions adverse to quality.

3. Please discuss the extent to which any new dents/dings were observed during 1R20.

PSEG Response

A small percentage of dents and dings (relative to each SG's total population) were observed during 1R20 in each SG, which were not called in previous outage. However, these new dents and dings were not actually new, but a result of analyst and technique variability with low voltage signals near calling threshold (i.e. - 2 volts) and/or the signals are actually representative of geometry or support structure influence and have not changed appreciably over previous outages and since first in-service inspection.

4. In addition to the tube in Row 54, Column 35 in steam generator 13, which other tubes were preventively plugged for wear at the anti-vibration bars in that steam generator?

PSEG Response

In addition to the tube in Row 54 Column 35 in SG 13; tubes in Row 54 Column 75 and Row 55 Column 82 in SG 13 were also preventatively plugged for wear at the anti-vibration bars during outage 1R20.