



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

March 8, 2021
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ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

South Texas Project
Unit 1

Docket No. STN 50-498

STPNOC Response to Request for Additional Information Regarding
1RE22 Inspection Summary Report for Steam Generator Tubing (EPID: L 2020-LRO-0062)

References:

1. Letter from C. Georgeson, STP Nuclear Operating Company, to NRC Document Control Desk; "1RE22 Inspection Summary Report for Steam Generator Tubing;" October 7, 2020; NOC-AE-20003764; ML20281A854.
2. Email from D. Galvin, NRC, to W. Brost, STP Nuclear Operating Company; "Request for Additional Information 1RE22 Inspection Summary Report for Steam Generator Tubing STP Nuclear Operating Company South Texas Project Unit 1 Dockets 50-498 (EPID: L 2020-LRO-0062);" February 8, 2021; ML21039A890.

On October 7, 2020, STP Nuclear Operating Company (STPNOC) submitted the STP Unit 1 steam generator tube inspection report (Reference 1) to the NRC for its review. The summary report satisfied the reporting requirements of Section 6.9.1.7 of the STP Technical Specifications (TS). The report also provided the information required by TS 6.8.3.o for maintaining steam generator tube integrity. By email on February 8, 2021 (Reference 2), the NRC requested additional information related to the steam generator tube inspection report. The attachment provides the STPNOC response to the Request for Additional Information (RAI).

There are no commitments in this letter.

If there are any questions regarding this letter, please contact Zachary Dibbern at (361) 972-4336 or me at (361) 972-7806.


Christopher Georgeson
General Manager, Engineering

ZD

Attachment: Response to Request for Additional Information 1RE22 Inspection Summary Report for Steam Generator Tubing

cc:
Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
1600 E. Lamar Boulevard
Arlington, TX 76011-4511

SOUTH TEXAS PROJECT UNIT 1
DOCKET NUMBER 50-498
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION 1RE22 INSPECTION
SUMMARY REPORT FOR STEAM GENERATOR TUBING

By letter dated October 7, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20281A854), the STP Nuclear Operating Company (STPNOC) submitted information summarizing the results of the spring 2020 steam generator (SG) inspections performed at South Texas Project Electric Generating Station, Unit 1 (South Texas Unit 1). The inspections were performed during refueling outage 22 (1RE22).

In Appendix A of Part 50 of Title 10 of the Code of Federal Regulations (10 CFR), General Design Criteria 14, 15, 30, 31, and 32 define requirements for the structural and leakage integrity of the reactor coolant pressure boundary (RCPB). As part of the RCPB, the SG tubes must also meet the requirements of 10 CFR 50.55a with respect to inspection and repair requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code. All pressurized water reactors have Technical Specifications (TS) according to 10 CFR 50.36 that include a SG Program with specific criteria for the structural and leakage integrity, repair, and inspection of SG tubes. South Texas Unit 1 TS Section 6.9.1.7 requires that a report be submitted within 180 days after the initial entry into hot shutdown (MODE 4) following completion of an inspection of the SGs performed in accordance with TS Section 6.8.3.o, which requires that a SG Program be established and implemented to ensure SG tube integrity is maintained.

To complete its review, the NRC staff requested the following additional information. STPNOC is providing responses to the Request for Additional Information (RAI) below.

RAI 1: As required by South Texas Unit 1 TS Sections 6.9.1.7.e and f, provide the following:

(a) Number of tubes plugged during 1RE22 for each degradation mechanism.

Response:

The South Texas Project (STP) 1RE22 Inspection Summary Report for Steam Generator Tubing (ML20281A854) under section titled "Tube Repair Summary" on page 9 of the report: "no tubes were repaired as a result of the 1RE22 steam generator eddy current inspection."

To clarify, STP does not repair tubes. If a tube were not to meet the criteria to satisfy its function, the tube would be plugged. STP uses the industry term "repair", however, the intent was to indicate no tube plugging occurred.

There were no plugged tubes in 1RE22 for any type of degradation mechanism.

(b) Number and percentage of tubes plugged to date, and the effective plugging percentage in each SG.

Response:

Each of the STP Delta 94 Replacement Steam Generators have 7585 tubes.

SG1A plugged tubes = 33; $33/7585=0.435\%$

SG1B plugged tubes = 41; $41/7585=0.541\%$

SG1C plugged tubes = 26; $26/7585=0.343\%$

SG1D plugged tubes = 14; $14/7585=0.185\%$

Total plugged tubes = 114. Total # of tubes = 30,340; $114/30,340=0.376\%$

RAI 2: The NRC staff have the following questions regarding Table 1 of the spring 2020 SG tube inspection report (SGTIR).

- (a)** During 1RE22, 811 (209 in SG-A, 175 in SG-B, 201 in SG-C, and 226 in SG-D) total manufacturing burnish marks (MBMs) were reported. However, a total of 1036 (247 in SG-A, 226 in SG-B, 260 in SG-C, and 303 in SG-D) MBMs were reported in the fall 2015 SGTIR (1RE19) (ADAMS Accession No. ML16125A248). Please discuss the difference in the number of MBMs between the two reports.

Response:

South Texas Project bobbin inspection scope is 50% of the tube population each inspection. Identical numbers are not expected because a different population was inspected.

- (b)** A total of 40 (20 in SG-A, 8 in SG-B, 4 in SG-C, and 8 in SG D) tube-to-tube proximity (PRO) indications were reported during 1RE22. However, a total of 27 (16 in SG-A, 7 in SG-B, 4 in SG-C, and 0 in SG-D) PRO indications were reported during 1RE19. Please discuss the difference in the number of PRO indications between the two reports. In addition, if new PRO indications were identified during 1RE22, please discuss any insight you may have with regards to the cause of the PRO indications.

Response:

During 1RE19, 50% of the tubes were inspected with the reported PRO indication results. During 1RE22, there was a re-look at the 1RE19 PRO locations plus the additional PRO locations found while inspecting the second 50% population of tubes. Both the 1RE19 and 1RE22 inspections were first time PRO inspections for each of the 50% populations.

- (c)** During 1RE22, 11 (0 in SG-A, 1 in SG-B, 3 in SG-C, and 7 in SG-D) total volumetric (VOL) indications were reported. However, a total of 13 (1 in SG-A, 1 in SG-B, 3 in SG-C, and 8 in SG-D) VOL indications were reported during 1RE19. The NRC staff understands that tube Row 30, Column 78 in SG-D was plugged during 1RE19. Please discuss why the VOL indication reported in SG-A during 1RE19 was not reported during 1RE22.

Response:

The SG-A (tube R126 C88) 1RE19 VOL was reported in 1RE22. It was categorized as a mechanical Wear (WAR) indication at a support structure. Prior to 1RE22, VOL was used for all non-pluggable volumetric indications including wear. The eddy current Code WAR was used to differentiate between volumetric indications and wear caused by a tube support structure.