



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 3, 2018

Mr. Robert S. Bement
Executive Vice President Nuclear/
Chief Nuclear Officer
Mail Station 7602
Arizona Public Service Company
P.O. Box 52034
Phoenix, AZ 85072-2034

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNIT 2 – REVIEW OF THE
2017 STEAM GENERATOR TUBE INSPECTIONS DURING REFUELING
OUTAGE 20 (EPID L-2017-LRQ-0000)

Dear Mr. Bement:

By letter dated September 26, 2017 (Agencywide Documents Access and Management System Accession No. ML17270A424), Arizona Public Service Company (the licensee) submitted information summarizing the results of the spring 2017 steam generator (SG) tube inspections performed at Palo Verde Nuclear Generating Station (PVNGS), Unit 2. These inspections were performed during spring 2017 Refueling Outage 20. The SG tube inspection report was submitted in accordance with Technical Specification (TS) 5.6.8, "Steam Generator Tube Inspection Report."

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of the submittal and concludes that the licensee provided the information required by PVNGS, Unit 2, TS 5.6.8. In addition, the NRC staff concludes that there are no technical issues that warrant followup actions at this time. A summary of the staff's review is enclosed.

If you have any questions, please contact me at (301) 415-1564 or via e-mail at Siva.Lingam@nrc.gov.

Sincerely,

A handwritten signature in cursive script that reads "Siva P. Lingam".

Siva P. Lingam, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. STN 50-529

Enclosure:
Review of SG Tube Inspection Report

cc: Listserv

REVIEW OF THE SPRING 2017 STEAM GENERATOR TUBE
INSERVICE INSPECTIONS PERFORMED DURING REFUELING OUTAGE 20
ARIZONA PUBLIC SERVICE COMPANY
PALO VERDE NUCLEAR GENERATING STATION, UNIT 2
DOCKET NO. STN 50-529

By letter dated September 26, 2017 (Agencywide Documents Access and Management Systems Accession No. ML17270A424), Arizona Public Service Company (the licensee) submitted information summarizing the results of the spring 2017 steam generator (SG) tube inspections performed at Palo Verde Nuclear Generating Station (PVNGS), Unit 2 during Refueling Outage (RFO) 20. The SG tube inspection report has been submitted in accordance with Technical Specification (TS) 5.6.8, "Steam Generator Tube Inspection Report."

Unit 2 of PVNGS has two replacement SGs designed by Combustion Engineering and fabricated by Ansaldo Energia. Each SG has 12,580 thermally treated Alloy 690 tubes with a nominal outside diameter of 0.750 inches and a nominal wall thickness of 0.042 inches. The tubes are arranged in a triangular pitch with 0.866-inch spacing. The tubes were hydraulically expanded at each end for the full depth of the tubesheet. The tubes are supported by horizontal lattice grid supports, batwing (diagonal) supports, and vertical straps. All tube supports are constructed from Type 409 stainless steel.

The licensee provided the scope, extent, methods, and results of its SG tube inspections in the letter dated September 26, 2017. In addition, the licensee described corrective actions (i.e., tube plugging) taken in response to the inspection findings.

After reviewing the information provided by the licensee, the U.S. Nuclear Regulatory Commission (NRC) staff has the following comment and observation:

- The licensee performed an inspection of the blowdown patch plate welds in SGs 21 and 22 that were found to be cracked during RFO 15. The inspections confirmed that the weld material in the vicinity of the cracked weld on all 4 patch plates is intact and a loose parts concern is not being created.

Based on a review of the information provided, the NRC staff concludes that the licensee provided the information required by PVNGS, Unit 2, TS 5.6.8. In addition, the staff concludes that there are no technical issues that warrant followup action at this time since the inspections appear to be consistent with the objective of detecting potential tube degradation and the inspection results appear to be consistent with industry operating experience at similarly designed and operated units.

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNIT 2 – REVIEW OF THE
2017 STEAM GENERATOR TUBE INSPECTIONS DURING REFUELING
OUTAGE 20 (EPID L-2017-LRQ-0000) DATED MAY 3, 2018

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*SE memorandum dated

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