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

November 15, 2022

Mr. Ken J. Peters
Senior Vice President and
Chief Nuclear Officer
Attention: Regulatory Affairs
Vistra Operations Company LLC
Comanche Peak Nuclear Power Plant
6322 N FM 56
P.O. Box 1002
Glen Rose, TX 76043

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT, UNIT NO. 2 – REVIEW OF THE FALL 2021 STEAM GENERATOR TUBE INSPECTION REPORT (EPID L-2022-LRO-0065)

Dear Mr. Peters:

By letter dated May 5, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22125A267), as supplemented by letter dated September 14, 2022 (ML22258A234), Vistra Operations Company LLC (Vistra OpCo, the licensee) submitted information summarizing the results of the fall 2021 steam generator inspections performed at Comanche Peak Nuclear Power Plant, Unit No. 2 (Comanche Peak, Unit 2). The inspections were performed during refueling outage 19. The information was submitted in accordance with Comanche Peak Technical Specification (TS) 5.6.9, “Steam Generator Tube Inspection Report.”

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of the information provided by Vistra OpCo and concludes that the licensee provided the information required by Comanche Peak TS 5.6.9 and that no follow-up is required at this time. A summary of the NRC staff’s review is enclosed.

If you have any questions, please contact me at 301-415-6256 or via e-mail at Dennis.Galvin@nrc.gov.

Sincerely,

/RA/

Dennis J. Galvin, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-446

Enclosure:
Review of the Fall 2021 Steam Generator
Tube Inspection Report

cc: Listserv

REVIEW OF THE FALL 2021 STEAM GENERATOR TUBE INSPECTION REPORT

COMANCHE PEAK POWER COMPANY LLC

AND VISTRA OPERATIONS COMPANY LLC

COMANCHE PEAK NUCLEAR POWER PLANT, UNIT NO. 2

DOCKET NO. 50-446

By letter dated May 5, 2022 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML22125A267), as supplemented by letter dated September 14, 2022 (ML22258A234), Vistra Operations Company LLC (the licensee) submitted information summarizing the results of the fall 2021 steam generator (SG) inspections performed at Comanche Peak Nuclear Power Plant, Unit No. 2 (Comanche Peak, Unit 2). The inspections were performed during refueling outage (RFO) 19. In addition, the U.S. Nuclear Regulatory Commission (NRC) staff held a conference call with the licensee on November 4, 2021, regarding the ongoing SG inspection activities at Comanche Peak, Unit 2 (ML22020A178). The information was submitted in accordance with Comanche Peak Technical Specification 5.6.9, "Steam Generator Tube Inspection Report."

Comanche Peak Unit 2 has four Westinghouse Model D5 SGs, each containing 4,570 thermally treated Alloy 600 tubes. Each tube has a nominal outside diameter of 0.750 inch and a nominal wall thickness of 0.043 inch. During SG fabrication, the tube ends were hydraulically expanded over the full depth of the tubesheet. The vertical sections of the tubes are supported on the hot-leg (HL) and cold-leg (CL) sides by horizonal stainless steel tube support plates (TSPs) with quatrefoil holes. The CL side also has a stainless steel flow distribution baffle and stainless steel preheater baffle plates, all with drilled holes. Some of the tubes in each SG were hydraulically expanded at selected preheater baffle plates to reduce tube vibration. Two sets of chrome-plated Alloy 600 anti-vibration bars support the U-bend section of the tubes. Following RFO 19 there were 62 remaining tubes identified as having potentially high manufacturing residual stress in the U-bend region, all in row 10 or higher.

The licensee provided the scope, extent, methods, and results of the SG tube inspections in the letter dated May 5, 2022, as supplemented. In addition, the licensee described corrective actions (e.g., tube plugging), if any were taken in response to the inspection findings.

Based on the review of the information provided, the NRC staff has the following observations:

- A new degradation mechanism for Comanche Peak, Unit 2, axial outside diameter stress corrosion cracking (SCC) at a free span ding, was detected in one tube, in SG 1, row 1, column 69 (R1C69). The indication was located on the HL, approximately 18 inches above the third HL TSP in the tubing free span. The maximum depth and length of the indication were sized at 62 percent through-wall (TW) and 0.19 inches long, respectively. Based on the screening criteria in industry guidelines, in situ pressure testing was not required. This was the only indication of SCC in this inspection.

- Two tubes were stabilized and plugged in SG 3 due to a foreign object that caused wear on both tubes at the second CL TSP and could not be removed (R40C48 and R40C49). Another tube in SG 3 (R6C79) was plugged due a wear indication in the U-bend region

with a depth of 43 percent TW. The wear on tube R6C79 was attributed to a foreign object based on examination with a rotating probe, but the presence of an object could not be visually confirmed due to the inaccessible location. In the case of R6C79, the licensee explained in a clarification call on September 27, 2022, that no additional tubes were plugged because the other potentially affected tube (R6C80), which is adjacent to the wear on R6C79, was already plugged. The NRC staff confirmed that R6C80 was plugged during the spring 2002 outage, as documented in the SG tube inspection report dated June 5, 2002 (ML021640618), due to a single volumetric indication in the U-bend region.

- Two tubes in SG 2 were plugged because they were previously identified as having potentially high manufacturing residual stress in the U-bend region (R1C55 and R1C95). These were the last potentially high-stress tubes identified in rows 1-9 that were still in service.

Based on a review of the information provided, the NRC staff concludes that the licensee provided the information required by the Comanche Peak technical specifications. In addition, the NRC staff concludes that there are no technical issues that warrant additional follow-up 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: COMANCHE PEAK NUCLEAR POWER PLANT, UNIT NO. 2 – REVIEW OF THE FALL 2021 STEAM GENERATOR TUBE INSPECTION REPORT (EPID L-2022-LRO-0065) DATED NOVEMBER 15, 2022

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