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

June 8, 2026

Mr. Barry N. Blair
Vistra Operations Company LLC
Beaver Valley Power Station
Mail Stop P-BV-SSB
P.O. Box 4, Route 168
Shippingport, PA 15077-0004

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NO. 2 - SUMMARY OF CONFERENCE CALL REGARDING THE SPRING 2026 STEAM GENERATOR TUBE INSPECTIONS (EPID L-2026-NFO-0005)

Dear Mr. Blair:

On April 20, 2026, the staff of the Corrosion and Steam Generator Branch (NCSG) of the Division of New and Renewed Licenses participated in a conference call with Vistra Operations Company LLC. (the licensee), regarding the ongoing steam generator (SG) tube inspection activities at Beaver Valley Power Station, Unit No. 2 during refueling outage 25. The summary of the conference call is attached as Enclosure 1 to this letter. Preliminary inspection results that were provided by the licensee in advance of the call are provided in Enclosure 2 to this letter.

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review and concludes that the licensee provided the information as required. No additional follow-up is required at this time. The results of the NRC staff's review are enclosed.

If you have any questions, please contact me -via email at v.sreenivas@nrc.gov.

Sincerely,

/RA/

Dr. V. Sreenivas, Project Manager
Plant Licensing Branch I
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosures:
1. Summary of Conference Call
2. Preliminary Inspection Results

cc: Listserv

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SUMMARY OF CONFERENCE CALL

BEAVER VALLEY POWER STATION, UNIT 2

SPRING 2026 STEAM GENERATOR TUBE INSPECTIONS

DOCKET NO. 50-412

On April 20, 2026, the U.S. Nuclear Regulatory Commission (NRC) staff participated in a conference call with Vistra Operations Company LLC. (the licensee), regarding the ongoing steam generator (SG) tube inspection activities at Beaver Valley Power Station, Unit No. 2 (Beaver Valley, Unit 2) during refueling outage 25 (2R25). Preliminary inspection results provided by the licensee in advance of the call are provided as Enclosure 2.

Beaver Valley, Unit 2 is a three-loop plant with Westinghouse Model 51M SGs. Each SG contains 3,376 mill-annealed alloy 600 tubes with a nominal outside diameter of 0.875 inches and a nominal wall thickness of 0.050 inches. The tubes are supported by carbon steel tube support plates (TSPs) and alloy 600 anti-vibration bars (AVBs). The tubes were roll expanded for the full depth of the tubesheet. The entire length of tube interior within the tubesheet was shot-peened on both the hot-leg and cold-leg side of the SG prior to operation. The U-bend region of the small radius tubes was in-situ stress-relieved prior to operation.

In addition to the depth-based tube repair criteria, the licensee is also authorized to apply the Generic Letter 95-05 voltage-based tube alternate repair criteria for predominantly axially oriented outside diameter stress corrosion cracking (ODSCC) within the TSPs (Agencywide Documents Access Management System Accession No. ML031070113). The licensee is also authorized to leave flaws within the tubesheet region in service, provided they satisfy the F* repair criterion (ML12143A445).

Highlights from the April 20, 2026, conference call along with items that were not included in the information provided by the licensee are summarized below:

- At the time of the call, SG A, SG B, and SG C were approximately 98, 97, and 100 percent complete, respectively, for the base scope eddy current data acquisition and analysis. In SG A, eddy current will be followed by SG plug removal and tube sleeving. No plugs will be removed in SG B and tube sleeving will follow eddy current inspection. Tube sleeving is complete in SG C and post-sleeve eddy current testing remains.

- The eddy current base scope and special interest inspections are identified in Enclosure 2. The 2R25 inspection scope is almost identical to the 2R24 inspection scope. The 2R25 scope did not include a 0.700 bobbin probe between the upper tube support plates in Rows 3 and 4 since the licensee considers this data to be redundant to the +Point probe inspection in the same region of these tubes.

- A total of 1,490 axial ODSCC distorted support plate indications (DSI) were reported as of the call. All indication amplitudes are below the Generic Letter 95-05 repair limit of 2.0 volts.

- All detected stress corrosion cracking indications at the time of the call met condition monitoring so there are no in situ pressure tests planned.

- The licensee stated that no service-related indications have been detected in the Alloy 800 nickel banded mechanical tubesheet sleeves. The licensee also confirmed that no tube support plate sleeves have been installed in the SGs. In addition, no cold leg top-of-tubesheet indications were detected in deplugged tubes at the time of the call.

- Tube recovery efforts continue this outage by installing tubesheet sleeves in tubes previously plugged due to axial or circumferential cracks at the tubesheet expansion transition. Deplugged tubes are inspected full length with eddy current probes to ensure the tube can be safely returned to service by sleeving.

- The licensee clarified that they have 18 PIPs installed in 9 tubes. A PIP is a plug-in-a-plug.

The NRC staff did not identify any issues that require follow-up action at this time.

STEAM GENERATOR TUBE INSPECTION DISCUSSION POINTS

The following discussion points have been prepared to facilitate the conference call arranged with the licensee to discuss the results of the steam generator tube inspections to be conducted during the ongoing spring 2026, Unit No. 2 refueling outage (2R25). This conference call is scheduled to occur towards the end of the planned SG tube inspections (about 70 percent complete), but before the unit completes the inspections and repairs.

The NRC staff plans to document a publicly available summary of the conference call, as well as any material that is provided in support of the call.

1. Discuss any trends in the amount of primary-to-secondary leakage observed during the recently completed cycle.

There was no primary to secondary leakage reported during the last operating cycle (Cycle 25).

2. Discuss whether any secondary side pressure tests were performed during the outage and the associated results.

There were no secondary pressure tests performed during the outage.

3. Discuss any exceptions taken to the industry guidelines?

There are no exceptions taken to the industry guidelines.

4. For each steam generator, provide a description of the inspections performed including the areas examined and the probes used (e.g., dents/dings, sleeves, expansion-transition, U-bends with a rotating probe), the scope of the inspection (e.g., 100 percent of dents/dings greater than 5 volts and a 20 percent sample between 2 and 5 volts), and the expansion criteria.

<u>Base Scope Programs:</u>

- 100 percent full length 0.720-inch bobbin inspection in Rows 5 and higher (non-sleeved tubes)
- 0.720-inch bobbin inspection in Row 5 and higher in all sleeved tubes from TEC to STH
- 100 percent 0.720-inch bobbin inspection in Rows 1 through 4 HL and CL straight legs (non-sleeved HL tubes)
- 0.630 inch Wide Groove Bobbin in all sleeved tubes in Rows 2 through 4 from STH to 08H
- 100 percent hot leg TTS +POINT probe inspection from 6 inches above to 3 inches below TTS in non-sleeved tubes

- 100 percent +POINT probe inspection of BLG and EXP bobbin reports in hot leg tubesheet below F* distance but above tubesheet neutral axis plus 100 percent +POINT probe inspection of cold leg BLG and EXP bobbin reports above the TTS

- 100 percent +POINT probe inspection of cold leg TTS region from +6 to -3 inches in all inservice cold leg tubes and all previously de-plugged tubes (current and historical) in all SGs.

- 100 percent gimbaled +POINT probe full length from SBH -4 to STH +3 inches in sleeved tubes

- 100 percent Ghent Version 2 probe of sleeve nickel band region in lower tubesheet sleeve joints (exam extent is SBH -2 to SBH +3)

- 100 percent Row 1 and Row 2 small radius U-bend +POINT probe inspection in each SG using mid-range +POINT coil

- 100 percent +POINT probe inspection at all dented (hot and cold leg) TSP intersections ≥5 volts

- 100 percent +POINT probe inspection at all dented hot leg TSP intersections with bobbin voltage of 2 ≤ V < 5 (TSP's 01H through 08H)

- 100 percent +POINT probe inspection of all TSP DSI/DNI signals ≥2V

- 100 percent +POINT probe inspection of all freespan dings (all reported voltages)

- 100 percent +POINT probe inspection of Row 3 through Row 10 U-bends in all SGs (top TSP to top TSP)

    - +POINT probe inspection of hot leg and cold leg tubes that contain Tubesheet Lower BRT Tubes. Testing extent to be from 6 inches above the tubesheet to 5 inches below

- <u>Special Interest +POINT Probe (Mid-Range unless otherwise noted) Inspections:</u>

- 100 percent inspection of bobbin special interest I-codes, such as freespan differential signals meeting change criteria

- 100 percent inspection at TSP DSI signals >1V (Proactive examination, not required per GL 95-05)

- 100 percent inspection of <2V DSI locations previously confirmed by the +POINT probe to contain axial outside diameter stress corrosion cracking (ODSCC) (Proactive examination, IQDA recommendation).

- 25 percent inspection of all bobbin TSP mix residuals >1.5V but <2V plus 100 percent of ≥2V mix residuals (ODSCC concern). TSP mix residuals have bobbin phase angles >55 degrees.

- 100 percent inspection of all TSP residuals with bobbin phase angle ≤55 degrees and ≥1.25V on the bobbin P1 mix Channel (PWSCC concern – reported as bobbin DNI)

- 100 percent of DSI signals regardless of voltage size at TSP 01H/01C and TSP 02C/03C locations.

- High frequency +POINT probe testing of Row 1 U-bends with noise values of 0.65 Vvm and greater

- High frequency +POINT probe confirmatory testing of all U-bend PWSCC indications reported with the mid-range +POINT coil.

- 100 percent inspection of all dents at AVB sites (+/- 1 inch of AVB)

- 100 percent inspection of all newly reported signals at AVBs plus any atypical growth (>6 percent TW growth for Cycle 25) AVB wear indications

- 100 percent inspection of all freespan signals not resolved as MBH/FSH or without historical review

- 100 percent inspection of newly reported PLP signals (includes 2-tube box) plus locations adjacent to tubes plugged in prior outages for PLP interaction (2 tube box), plus one tube box around SG-A 01C PLP signals from 2R24.

- +POINT probe inspection of tubes with newly identified FOs that have the potential to cause tube wear that are identified from secondary side visual inspections at the applicable elevation (includes 1 tube box)

- Additional special interest examinations in accordance with the Vistra controlled BVPS 2R25 SG decision tree logic charts.

Visual Inspections:

- Tube plug video inspection, including PIP repaired plugs and PIP tack welds

- Primary channel head visual inspections per Nuclear Safety Advisory Letter NSAL-12-1,

Revision 1, which includes:

- Divider plate-to-channel head weld
- Divider plate-to-stub runner weld
- Tubesheet-to-channel head Z-seam area
- Entire inside surface of the channel head bowl cladding
- Tubesheet cladding
- Targeted visual inspection of the potential cladding anomaly identified in SG A cold leg channel head during 2R20 and irregularity identified in SG B cold leg channel head during 2R24.

SG secondary side Foreign Object Search and Retrieval (FOSAR) of annulus, tube lane, and selected in-bundle locations with FOSAR of in-bundle PLP reports from eddy current testing in each SG.

Visual inspection of the blowdown pipe support bracket-to-tubesheet weld and blowdown pipe elbow welds in each SG.

Visual inspection of all tube lane flow blocking devices and front/side/back plates in each SG to identify any material degradation, weld degradation/cracking, and/or missing welds.

Plugged tubes that are targeted for tube recovery during 2R25 require visual exam of the tube ID surface (region coinciding with the expanded portion of the previously installed plug) be performed upon plug removal per field services procedure MRS 2.3.2 GEN-14. Indications observed that exceed the sealing capacity of the tube for mechanical plugging require disposition by engineering or installation of an elevated plug.

5. For each area examined (e.g., tube supports, dent/dings, sleeves, etc.), provide the following:

a) A summary of the number of indications identified to date for each degradation mode (e.g., number of circumferential primary water stress corrosion cracking indications at the expansion transition).

b) For the most significant indications in each area, provide an estimate of the severity of the indication (e.g., voltage, depth, and length of the indication), including whether tube integrity (structural and accident induced leakage integrity) was maintained during the previous operating cycle. In addition, discuss any analyses performed specifically for the most significant indications to demonstrate tube integrity, if any indications were close to the condition monitoring limit.

c) Discuss whether any location exhibited a degradation mode that had not previously been observed at this location at this unit (e.g., observed circumferential primary water stress corrosion cracking at the expansion transition for the first time at this unit).

Data as of 12:00 4/19/2026.

AVB wear:

A total of 171 indications of AVB wear were reported in 98 tubes in all three SGs, with the majority in SG A and SG B. Only 11 indications in 7 tubes have been reported in SG C.

No indications exceeded the Tech Spec 40 percent TW repair limit. The largest indications were measured at 37 percent TW in two tubes. One of these tubes was preventatively plugged due to 2 consecutive inspections of higher growth after initial detection (12 percent TW/24 precent TW/37 percent TW). All AVB wear indications satisfy the condition monitoring limit of 62 percent TW.

TSP/FDB Wear:

Two indications of FDB/TSP wear were reported in SG C and were historical in nature. Both indications have been depth sized. The wear indications were measured as 27 percentTW and 20 percent TW. The TSP wear condition monitoring limit is 57 percent TW.

Volumetric/Foreign Object Indications:

There are 14 indications in 13 tubes reported with volumetric indications in the freespan. All Indications were historical in nature and are monitored each inspection. The depths of the volumetric flaws ranged from 9 percent TW to 31 percent TW and were consistent with the sizes at the prior outage. There are no foreign objects remaining for these historical indications. The axial extents of the volumetric flaws were short and ranged from 0.1 inch to 0.35” and the circumferential extents ranged from 0.19 inch to 0.41 inch. All volumetric flaws satisfied the condition monitoring limit by a wide margin.

Axial Outside Diameter Stress Corrosion Cracking. (ODSCC) Indications at TSPs (GL 95-05):

A total of 1490 axial ODSCC indications (DSI’s) are currently reported from all SGs. This includes DSIs in tubes returned to service in SG-C but does not include any that may be returned to service in SG-A as the de-plugging and baseline exams have not been performed yet. There were 1458 DSI’s reported in the prior outage at 2R24. The NRC GL 95-05 voltage-based repair criteria is applicable to these indications. The largest bobbin coil voltage of a DSI measured in all SGs is 1.44 volts (the largest DSI observed in the last outage was also 1.44V). The GL 95-05 voltage repair limit is 2.0-volts. All indications are below the repair limits.

Axial and Circumferential ODSCC/PWSCC at Expansion Transitions:

A total of 75 tubes contained indications of circumferential ODSCC reported at the hot leg expansion transition region: 17 in SG A, 44 in SG B, and 14 in SG C. The +POINT probe 300 kHz voltages range from 0.03 volts to 0.22 volts. All indications are below the in situ pressure test initial voltage screening criteria of 0.5v for burst testing and 1.0v for leak testing. Line-by-line depth profiling was completed for a selected sample of 21 indications based on voltage, depth, PDA, and length to bound the largest sized flaws for all parameters. It should also be noted that phase-based depth assessment of small voltage signals can be oversized due to the expansion transition geometry and deposit influence. The measured circumferential crack arc lengths range from 36 degrees to 318 degrees, including non-degraded ligaments between multiple indications at the same elevation. The limiting flaw had a calculated PDA of 37.7 based on depth profiling which is lower than the CM limit of 47 PDA.

A total of 2 axial ODSCC indications in 2 individual tubes were reported at the hot leg expansion transition region. The largest flaw was measured with a maximum +POINT probe 300 kHz voltage of 0.51 volts. This is slightly larger than the in situ pressure test voltage screening criteria of 0.5V, however the flaws are both significantly shorter than the limiting axial crack length that satisfies the structural performance criteria regardless of depth, which is 0.4 inch. Line-by-line sizing and depth profiling of both flaws was performed. The average depth of the limiting flaw after depth profiling was calculated to be 53 percent TW with an effective length of 0.11 inch. The flaw has a calculated burst pressure of 5927 per square inch (psi), so the performance criteria of 4525 psi is satisfied and CM is met.

Circumferential ODSCC at Freespan Dings:

Two indications of circumferential ODSCC at freespan dings were detected by the +POINT probe during the 100 percent ding inspection program. These include one indication in SG-2A at a ding between the 6th and 7th TSPs, and another in SG-2B at a ding between the 2nd and 3rd TSPs. The largest of these two flaws had a +PT voltage of 0.74V and a measured maximum depth of 76 percent TW with circumferential extent of 25 degrees. This results in a simple PDA of 5.3. The flaws screen out of in situ pressure testing due to limited circumferential extent and screens out of leak testing due to voltage less than screening criteria of 1.0V.

Cold Leg Thinning:

Cold leg thinning was first reported at BVPS-2 during inspection in 2R21 when one indication was detected. One other cold leg thinning indication was reported in the 2R22 inspection. Both indications have been confirmed in 2R25 and were measured at 11 percent and 26 percent TW. These are both less than the 52 percentTW condition monitoring limit.

6. Describe repair/plugging plans.

The following number of repairs of in-service tubes are planned in each SG at the conclusion of 2R25 eddy current inspection scope: 19 in SG-A, 46 in SG-B and 15 in SG-C. 21 tubes were de-plugged and are being returned to service in SG-C with tubesheet sleeves and 1 tube was de-plugged and being returned to service through GL95-05. 52 tubes that are planned to be returned to service from SG-A, which is currently an operation in process.

All tubes with detected degradation are being repaired with tubesheet sleeves except for the tubes with circumferential ODSCC at freespan dings, one tube with aggressive AVB wear growth and tubes outside the sleeving boundary which are being plugged and stabilized (if warranted based on form of degradation).

7. Describe in-situ pressure test and tube pull plans and results (as applicable and if available).

No in situ testing is required based on the 2R25 ECT results. All detected degradation screened out for in situ proof and leak testing. There are no planned tube pulls.

8. Discuss the following regarding loose parts:

a) The inspections performed to detect loose parts?

Primary side eddy current (100 percent full-length bobbin, 100 percent MRPC of Hot Leg and Cold tubesheet); Secondary side visual inspections of the tubesheet annulus, tube lane, and select in-bundle locations) following sludge lancing. FOSAR have been completed in all SGs

b) A description of any loose parts detected and their location within the SG (including the source or nature of the loose part, if known).

There were 10 foreign objects found during the FOSAR inspections (2 in SG A, 5 in SG B and 3 in SG C).

In SG A there was one 18-inch x 0.25” metallic rod and a small piece of hard scale. The rod was historical in nature and was first reported in 2R22 and has resulted in no tube wear.

In SG B, there was one historical weld slag, one small area where there were multiple bristle wires fixed within hard scale, and 3 sludge rocks/scale. These objects were found in-bundle on the tubesheet.

In SG C, there were 2 sludge rocks/scale found within the bundle and one small wire bristle located in the tubesheet annulus.

A specific evaluation had been completed for the metallic rod to remain in the SG for 1-cycle of operation following inspections where no wear is found. All other objects remaining in the SGs are smaller than the object size limit for their type for at least 1-cycle of operation.

c) If the loose parts were removed from the SG?

There were no objects removed from the SGs. All objects found during the secondary side visual inspection have been evaluated to remain in the SGs for at least 1-cycle of operation until the next inspection.

d) Indications of tube damage associated with the loose parts
There was no tube damage associated with any of these parts.

9. Discuss the scope and results of any secondary side inspection and maintenance activities (e.g., in-bundle visual inspections, feed ring inspections, sludge lancing, assessing deposit loading, etc.).

Secondary side visual inspections at the tubesheet elevation included the annulus, blown down lane & selected in-bundle tube locations. Visual inspections have been completed in all SGs.

The SGs are relatively clean without significant deposit. Minor erosion was noted on the first of the five tube lane blocking devices on each side of the tube lane in all SGs. The blocking devices conditions were similar to the prior outage inspection results. This condition has been reported in prior outages and is monitored during each outage.

Sludge lancing is complete in all SGs. The total amount of sludge removed from all SGs was 69.49 lbs. The sludge removal totals by SG are 22.33 lbs from SG A, 27.33 lbs from SG B, and 19.83 lbs from SG C.

10. Discuss any unexpected or unusual results.

There are no unexpected or unusual resulted encountered.

11. Provide the schedule for steam generator-related activities during the remainder of the current outage.

Complete primary and secondary inspection programs, remediate tubes as required (plug or sleeve), and install manway/inspection port covers.

A tube recovery program was implemented with this outage. Tubes that were previously plugged for axial and circumferential cracks at the tubesheet expansion transition were de-plugged with a tubesheet sleeve installed to return the tubes to service. Following plug removal and prior to sleeving, a baseline eddy current inspection of the entire tube will be performed using qualified techniques for the applicable existing and potential degradation mechanisms. The de-plugged tubes will be sleeved, as required, upon acceptable eddy current results of the entire tube. Tubes with TSP degradation may be de-plugged, inspected, or returned to service under GL 95-05.

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NO. 2 - SUMMARY OF CONFERENCE CALL REGARDING THE SPRING 2026 STEAM GENERATOR TUBE INSPECTIONS (EPID L-2026-NFO-0005) DATED JUNE 8, 2026

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