



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

July 22, 2026

Mr. Rob Craven
Vistra Operations Company LLC
c/o Davis-Besse Nuclear Power Station
Mail Stop P-DB-3080
5501 N. State Route 2
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1 – PROPOSED
ALTERNATIVE REQUEST RG-1 REGARDING DEFERRAL OF INSERVICE
TESTING OF SPECIFIC PUMPS AND VALVES (EPID L-2026-LLR-0043)

Dear Mr. Craven:

By letter dated July 6, 2026, as supplemented by letter dated July 14, 2026, Vistra Operations Company LLC (Vistra) submitted Alternative Request RG-1 to the U.S. Nuclear Regulatory Commission (NRC) to defer the Inservice Testing (IST) Program activities required by the American Society of Mechanical Engineers (ASME) *Operation and Maintenance of Nuclear Power Plants*, Division 1, OM Code: Section IST (OM Code) as incorporated by reference in Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a, "Codes and standards," for specific pumps and valves in the component cooling water and service water systems at the Davis-Besse Nuclear Power Station, Unit No. 1 (Davis-Besse).

Specifically, pursuant to 10 CFR 50.55a(z)(2), Vistra requested to implement the proposed alternative on the basis that complying with the specified requirements at this time would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

The NRC staff has reviewed the subject request and concludes, as set forth in the enclosed safety evaluation, that Vistra has justified that compliance with the specified ASME OM Code requirements would represent a hardship or unusual difficulty without a compensating increase in the level of quality and safety. Further, the NRC staff determined that the performance information for the components within the revised scope of the request provides reasonable assurance of their operational readiness during the extension of the IST Program testing intervals. Accordingly, the NRC staff concludes that the licensee has adequately addressed all the regulatory requirements set forth in 10 CFR 50.55a(z)(2). Therefore, the NRC staff authorizes Alternative Request RG-1, as supplemented, until the next entry into MODE 5 at Davis-Besse, but no later than October 30, 2026.

All other ASME OM Code requirements for which relief and an alternative were not specifically requested and granted or authorized (as appropriate) remain applicable.

If you have any questions, please contact the Project Manager, Robert Kuntz, at 301-415-3733 or via email at robert.kuntz@nrc.gov.

Sincerely,

Ilka Berrios, Chief
Operating Reactor Licensing Branch 3
Division of Plant Licensing 1
Office of Nuclear Reactor Regulation

Docket No. 50-346

Enclosure:
Safety Evaluation

cc: Listserv

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

ALTERNATIVE REQUEST RG-1

INSERVICE TESTING OF CERTAIN PUMPS AND VALVES

VISTRA OPERATIONS COMPANY LLC

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

1.0 INTRODUCTION

By letter dated July 7, 2026 (Agencywide Documents Access and Management System Accession No. ML26187A197), as supplemented by letter dated July 14, 2026 (ML26195A324), Vistra Operations Company LLC (the licensee) submitted Alternative Request RG-1 to the U.S. Nuclear Regulatory Commission (NRC). In its submittal, the licensee requested authorization to defer inservice testing (IST) activities required by the American Society of Mechanical Engineers (ASME) *Operation and Maintenance of Nuclear Power Plants*, Division 1, OM Code: Section IST (OM Code), as incorporated by reference in Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a, "Codes and standards," for certain components at Davis-Besse Nuclear Power Station, Unit No. 1 (Davis-Besse).

Pursuant to 10 CFR 50.55a(z)(2), the licensee requested the proposed alternative on the basis that compliance with the specified ASME OM Code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

2.0 REGULATORY EVALUATION

The following NRC regulatory requirements apply to this alternative request:

The NRC regulations at 10 CFR 50.55a(f)(4) "Inservice testing standards requirement for operating plants," state in part:

Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, pumps and valves that are within the scope of the ASME OM Code must meet the inservice test requirements (except design and access provisions) set forth in the ASME OM Code and addenda that become effective subsequent to editions and addenda specified in paragraphs (f)(2) and (3) of this section [10 CFR 50.55a] and that are incorporated by reference in paragraph (a)(1)(iv) of this section [10 CFR 50.55a], to the extent practical within the limitations of design, geometry, and materials of construction of the components.

The NRC regulations at 10 CFR 50.55a(z) state in part:

Alternatives to the requirements of paragraphs (b) through (h) of this section [10 CFR 50.55a] or portions thereof may be used when authorized by the Director, Office of Nuclear Reactor Regulation. A proposed alternative must be submitted and authorized prior to implementation. The applicant or licensee must demonstrate that:

Enclosure

(2) Hardship without a compensating increase in quality and safety. Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

3.0 TECHNICAL EVALUATION

3.1 Licensee's Applicable ASME OM Code Edition and Addenda

The current IST Code of Record is the 2017 Edition of the ASME OM Code, as incorporated by reference in 10 CFR 50.55a, for the Fifth Interval IST Program at Davis-Besse.

3.2 ASME OM Code Components Affected

The components within the scope of Alternative Request RG-1 are identified in the licensee's supplement dated July 14, 2026, and consist of pumps and valves in the component cooling water (CCW) and service water (SW) systems.

3.3 Applicable ASME OM Code Requirements

The following IST requirements in ASME OM Code (2017 Edition), as incorporated by reference in 10 CFR 50.55a, are applicable to RG-1:

Subsection ISTB, "Inservice Testing of Pumps in Light-Water Reactor Nuclear Power Plants"

- Paragraph ISTB-3400, "Frequency of Inservice Tests"

Subsection ISTC, "Inservice Testing of Valves in Light-Water Reactor Nuclear Power Plants"

- Paragraph ISTC-3500, "Valve Testing Requirements"
- Table ISTC-3500-1, "Inservice Test Requirements"
- Paragraph ISTC-3510, "Exercising Test Frequency"
- Paragraph ISTC-3520, "Exercising Requirements"
- Paragraph ISTC-3560, "Fail-Safe Valves"
- Paragraph ISTC-5120, "Motor-Operated Valves"
- Paragraph ISTC-5130, "Pneumatically Operated Valves"

Mandatory Appendix III, "Preservice and Inservice Testing of Active Electric Motor-Operated Valve Assemblies in Water-Cooled Reactor Nuclear Power Plants"

- Paragraph III-3721, "HSSC MOVs [Motor Operated Valves]"

Mandatory Appendix IV, "Preservice and Inservice Testing of Active Pneumatically Operated Valve Assemblies in Nuclear Reactor Power Plants"

- Paragraph IV-3420, "Stroke Testing"
- Paragraph IV-3430, "Fail Safe Test"

3.4 Licensee's Proposed Alternative, Basis for Use, and Reason for Alternative

In accordance with 10 CFR 50.55a(z)(2), the licensee requested NRC authorization of Alternative Request RG-1 to defer IST activities for certain pumps and valves at Davis-Besse, within the revised scope of Alternative Request RG-1. The licensee provided performance information for the applicable components in its July 7, 2026, submittal and July 14, 2026, supplement. The licensee requested the deferrals because of concerns regarding degradation of the Reactor Coolant Pump (RCP) seals.

Details about the request are contained in the licensee's submittal as supplemented.

3.5 NRC Staff Evaluation

As described by the licensee, the RCP 1-2 and 2-1 seal pressures at Davis-Besse are degrading toward their operational limits. The licensee's engineering analysis indicates that the RCP seals are more stable at warmer containment and seal injection temperatures. Therefore, the licensee submitted Alternative Request RG-1, as supplemented, to propose an extension of the ASME OM Code required tests for certain components in the CCW and SW systems. The licensee requested NRC authorization of the proposed alternative by July 23, 2026, because the first required test date for some components within the scope of the request is July 26, 2026, which includes the test frequency grace allowed by ASME OM Code, Subsection ISTA, "General Requirements," paragraph ISTA-3170, "Inservice Examination and Testing Frequency Grace." In the supplement dated July 14, 2026, the licensee updated Alternative Request RG-1 to propose that the duration of the request be until October 30, 2026.

In its supplement dated July 14, 2026, the licensee provided information on specific tests that would be deferred under Alternative Request RG-1. In particular, the licensee provided the following information regarding the requested test deferral:

- The quarterly Group A Test for pumps P3-2, P3-3, P43-1, and P43-2 would be performed at the next entry into MODE 5.
- The quarterly exercise testing of check valves CC127, CC128, CC256, CC263, CC532, and CC533 would be performed at the next entry into MODE 5.
- The quarterly exercise testing of MOVs SW1395 and SW1399 would be performed at the next entry into MODE 5.
- The quarterly exercise and fail-safe testing of AOVs [air-operated valves] CC1460, CC1469, CC1495, SW1356, SW1357, SW1358, SW1424, and SW1429 would be performed at the next entry into MODE 5.

As part of its review, the NRC staff evaluated the justification for the hardship asserted by the licensee resulting from IST testing of the applicable components at this time. In particular, the licensee reported that conducting the quarterly pump and valve tests requires valve alignments, train swaps, and pump cycling, which would introduce cooler water and might cause further RCP seal degradation. Failure of the RCP seal would result in an unscheduled plant shutdown, challenge safety systems, and increase personnel radiological exposure.

In its supplement dated July 14, 2026, the licensee stated that upsetting the equilibrium of cooling water temperatures and flows has been shown to negatively impact RCP seal performance. The licensee noted the following hardship associated with testing of specific components:

- Exercise testing of check valves CC127, CC128, CC256, CC263, CC532, and CC533 requires manipulation of CCW system alignment.
- Exercise testing and fail-safe testing of AOVs CC1460, CC1469, and CC1495, require interruption of in-service CCW flows supporting RCP seal injection and seal cooling.
- Quarterly Group A testing of pumps P3-2, P3-3, P43-1, and P43-2 requires changes in system operating alignments for the SW and CCW systems that support RCP seal injection and seal cooling.
- Exercise testing and fail-safe testing of AOVs SW1356, SW1357, and SW1358 impact the RCP seal operating environment from interruption of containment air cooler (CAC) fan operations and SW cooling to the CAC system.
- Exercise testing of MOVs SW1399 and SW1395 changes the SW cooling to the in-service CCW that supports RCP seal injection and seal cooling.
- Exercise testing and fail-safe testing of AOVs SW1424 and SW1429 interrupt the in-service CCW flows supporting RCP seal injection and seal cooling.

Based on its follow-up review of the potential hardship associated with component testing, the licensee reported in its supplement dated July 14, 2026, that certain components identified in the initial submittal can be tested without a change to system alignments as follows:

- In-service SW Pump aligned to non-essential loads (P3-1 SW Pump 1)
- In-service CCW Pump (P43-3 CCW Pump 3)
- Decay Heat Cooler CCW Outlet Isolation Valve aligned to standby CCW Loop (CC1467 for Decay Heat Cooler 1)
- Spare CCW Heat Exchanger SW Outlet Line Temperature Control Valve (SW1434 for CCW Heat Exchanger 2)

As a result, the licensee provided a revised table of "ASME Code Component(s) Affected" to remove these four components from the scope of Alternative Request RG-1.

From its review of the justification provided by the licensee, the NRC staff agrees that performance of the OM Code required testing at this time for the components within the revised scope of Alternative Request RG-1 would represent a hardship in light of the potential degradation of the RCP seals.

As part of its review, the NRC staff evaluated the performance history of the components within the revised scope of Alternative Request RG-1 to determine the justification for deferral of the IST activities for the duration of the request.

With respect to valves, the performance data provided by the licensee for the past 2 years indicate that the valves within the revised scope of Alternative Request RG-1 demonstrated

acceptable performance with one exception. In particular, AOV SW1356, Containment Air Cooler 1 SW Return Line Isolation Valve, did not meet the acceptance criteria during the supplemental closed-direction position-indication test required by 10 CFR 50.55a(b)(3)(xi). In response, the licensee addressed this issue as part of the Corrective Action Program and successfully retested SW1356. All check valves within the revised scope of Alternative Request RG-1 have been exercised at the ASME OM Code-required frequency with no evidence of degradation or abnormal behavior. The licensee stated that no significant maintenance of the applicable valves has been necessary. With the proposed deferral of valve testing, no additional degradation in valve performance is anticipated over the duration of the request. Any operation of the valves based on plant conditions that indicates unanticipated degradation is required to be addressed in accordance with the corrective action provisions in the ASME OM Code, as incorporated by reference in 10 CFR 50.55a.

With respect to pumps, the licensee described its plans for increased vibration monitoring and control room instrumentation checks of applicable pumps. For example, the licensee stated that the running SW and CCW pumps will be monitored from the Control Room and in the field. Further, the licensee will perform increased vibration monitoring of SW and CCW pumps that are in operation as a means to identify unexpected degradation. The licensee will evaluate any step change in pump vibration that could indicate abnormal performance characteristics for the bearings or impellers of the associated pumps. The licensee indicated that any corrective actions will include post-maintenance testing required to return the pump to service. The performance data provided by the licensee for the last 2 years indicate that the pumps within the revised scope of Alternative Request RG-1 have performed within the ASME OM Code limits. The NRC staff identified no significant adverse trends that might indicate short-term degraded performance of the pumps. The NRC staff determined that the data over the last 2 years provide reasonable assurance of the operational readiness of the SW and CCW pumps for the duration of the request.

Based on its review of the licensee's submittal as supplemented, the NRC staff has determined that performance of the specified ASME OM Code testing at this time for the components within the revised scope of Alternative Request RG-1 would represent a hardship or unusual difficulty without a compensating increase in the level of quality and safety. Further, the staff has determined that the submitted performance information provides reasonable assurance of the operational readiness of the applicable components for the duration of the alternative request. Therefore, the NRC staff finds that Alternative Request RG-1 may be authorized for Davis-Besse in accordance with 10 CFR 50.55a(z)(2).

4.0 ENVIRONMENTAL REVIEW

This alternative request is an action under 10 CFR 50.55a. Accordingly, this action meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(a)(16). Pursuant to 10 CFR 51.22, no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this action.

5.0 CONCLUSION

Based on the above, the NRC staff determined that the licensee has justified that compliance with the specified ASME OM Code requirements would represent a hardship or unusual difficulty without a compensating increase in the level of quality and safety. Further, the NRC staff determined that the performance information for the components within the revised scope of the request provides reasonable assurance of their operational readiness during the

extension of the IST Program testing intervals. Accordingly, the NRC staff concludes that the licensee has adequately addressed all the regulatory requirements set forth in 10 CFR 50.55a(z)(2). Therefore, the NRC staff authorizes Alternative Request RG-1, as supplemented, until the next entry into MODE 5 at Davis-Besse, but no later than October 30, 2026.

All other ASME OM Code requirements for which relief and an alternative were not specifically requested and granted or authorized (as appropriate) remain applicable.

Date: July 22, 2026

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DATED JULY 22, 2026

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