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July 29, 2024
GO2-24-070

10 CFR 50.55a

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

Subject: **COLUMBIA GENERATING STATION, DOCKET NO. 50-397
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
REGARDING FIFTH INTERVAL INSERVICE TESTING PROGRAM**

- References:
1. Letter from Energy Northwest to NRC, "Relief Requests for the Columbia Generating Station Fifth Ten-Year Interval Inservice Testing," dated January 29, 2024 (ADAMS Accession Number ML24029A071)
 2. Letter from NRC to Energy Northwest, "Request for Additional Information – Alternative Requests 5IST-01 (RP01), 5IST-02 (RP02), and 5IST-03 (RP03) – Fifth Interval Inservice Testing Program – Columbia Generating Station – Energy Northwest – Docket No. 50-397 – EPID L-2024-LLR-0007, 0009, and 0010," dated June 14, 2024 (ADAMS Accession Number ML24169A040)
 3. Letter from NRC to Energy Northwest, "Request for Confirmation of Information and Request for Additional Information – Alternative Requests 5IST-04 (RV01), 5IST-05 (RV02), 5IST-06 (RV03), and 5IST-07 (RV04) – Fifth Interval Inservice Testing Program – Columbia Generating Station – Energy Northwest – Docket No. 50-397 – EPID L-2024-LLR-0008, 0011, 0012, and 0013," dated June 14, 2024 (ADAMS Accession Number ML24169A040)
 4. Letter from Energy Northwest to NRC, "Notification of Extension to Columbia's Fourth 10-Year Interval Inservice Testing Program Plan," dated July 15, 2024 (ADAMS Accession Number ML24197A223)

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Dear Sir or Madam:

By Reference 1, Energy Northwest submitted relief requests pertaining to the fifth 10-year interval of the Columbia Generating Station Inservice Testing Program. By References 2 and 3, the Nuclear Regulatory Commission requested additional information and confirmation of information related to the Energy Northwest submittal.

Enclosure 1 to this letter contains the information requested in Reference 2. Enclosure 2 to this letter contains the information requested in Reference 3.

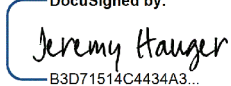
In addition to the responses to Reference 2 and Reference 3, Energy Northwest is including supplemental information to the relief requests submitted on January 29, 2024. Attachment 1 to this letter contains the supplemental information.

There are no regulatory commitments made in this submittal.

If you have any questions or require additional information, please contact Mr. R. M. Garcia at 509-377-8463.

Executed this 29th day of July, 2024.

Respectfully,

DocuSigned by:

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Jeremy S. Hauger

Vice President, Engineering

Enclosure 1: Response to Request for Additional Information Pertaining to 5IST-01, 5IST-02, and 5IST-03

Enclosure 2: Response to Request for Confirmation of Information and Request for Additional Information Pertaining to 5IST-04, 5IST-05, 5IST-06, and 5IST-07

Attachment 1: Supplement to Relief Requests for the Columbia Generating Station Fifth Ten-Year Interval Inservice Testing

cc: NRC RIV Regional Administrator
NRC NRR Project Manager
NRC Senior Resident Inspector/988C
CD Sonoda – BPA/1399
EFSECutc.wa.gov – EFSEC
E Fordham – WDOH
R Brice – WDOH
L Albin – WDOH

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Response to Request for Additional Information Pertaining to 5IST-01, 5IST-02, and 5IST-03

Background

By letter dated January 29, 2024 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML24029A071), Energy Northwest submitted Alternative Requests 5IST-01 (RP01), 5IST-02 (RP02), and 5IST-03 (RP03), to the U.S. Nuclear Regulatory Commission (NRC) proposing the use of an alternative to specific pump testing requirements in the 2020 Edition of the American Society of Mechanical Engineers (ASME) *Operation and Maintenance of Nuclear Power Plants*, Division 1, OM Code: Section IST (OM Code) at Columbia Generating Station (Columbia) associated with the Fifth Interval Inservice Testing (IST) Program in accordance with 10 CFR 50.55a, paragraph (z).

Regulatory Requirements

The NRC regulations in 10 CFR 50.55a(f)(4), *Inservice testing standards requirement for operating plants*, state, in part, that 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 10 CFR 50.55a(f)(2) and (3) and that are incorporated by reference in paragraph 10 CFR 50.55a(a)(1)(iv), to the extent practical within the limitations of design, geometry, and materials of construction of the components.

The NRC regulations in 10 CFR 50.55a(z), *Alternatives to codes and standards requirements*, state:

Alternatives to the requirements of paragraphs (b) through (h) of this section 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:

- (1) *Acceptable level of quality and safety*. The proposed alternative would provide an acceptable level of quality and safety; or
- (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.

NRC Request EMIB-RAI-5IST-01/02/03-General

In Alternative Requests 5IST-01 (RP01 / 5IST-02 (RP02) / 5IST-03 (RP03), Section 7, "Precedent," the licensee references the previous Alternative Requests RP01, RP02,

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RP03 for the Fourth 10-Year Interval IST Program, which applied to various applicable pumps. The referenced precedent provided details regarding quality/safety impact and the discharge pressure for the proposed alternative.

The licensee is requested to discuss the quality/safety impact to support Alternative Request 5IST-01 (RP01) / 5IST-02 (RP02) / 5IST-03 (RP03) for various applicable pumps for the Fifth 10-Year Interval IST Program at Columbia.

Energy Northwest Response to EMIB-RAI-5IST-01/02/03-General

5IST-01: The effect of setting the acceptance criteria on discharge pressure rather than differential pressure, as specified in the ASME OM Code, provides a more conservative test methodology. The very small suction pressure variations noted in Section 5.3 of Alternative Request 5IST-01 (RP01) are insignificant and do not adversely impact Energy Northwest's ability to monitor pump degradation. Therefore, the proposed alternative provides an acceptable level of quality and safety.

5IST-02: As discussed in Sections 5.2 and 5.3 of Alternative Request 5IST-02 (RP02), the data obtained from the Transient Data Acquisition System (TDAS) is of higher accuracy than required by ASME OM Code, which helps ensure that the pumps listed in Alternative Request 5IST-02 (RP02) are performing at the flow and pressure conditions required to fulfill their design function. TDAS data is sufficiently accurate for evaluating pump condition and in detecting pump degradation. Therefore, the proposed alternative provides an acceptable level of quality and safety.

5IST-03: As discussed in Section 5 of Alternative Request 5IST-03 (RP03), the pump flow rate calculation methodology meets the accuracy requirements of ASME OM Code, Table ISTB-3510-1, *Required Instrument Accuracy*. The test methodology, which includes running the pumps for a minimum time to ensure that ASME OM Code required accuracy for flow rate measurement of $\pm 2\%$ is satisfied, provides adequate assurance of acceptable pump performance. Calculation methods are specified in the surveillance procedures for the pumps listed in Alternative Request 5IST-03 (RP03) and meet the quality assurance requirements for Columbia. Therefore, the proposed alternative provides an acceptable level of quality and safety.

NRC Request EMIB-RAI-5IST-01-01

In Alternative Request 5IST-01 (RP01), Section 7, "Precedent," the previous Alternative Request RP01 for the Fourth 10-Year Interval IST Program was related to Preservice, Group A, and Comprehensive tests for pumps SW-P-1A, SW-P-1B, and HPCS-P-2 at Columbia. Alternative Request 5IST-01 (RP01) for the Fifth Interval IST Program at Columbia is based on ASME OM Code 2020 Edition, as incorporated by reference in 10 CFR 50.55a. Alternative Request 5IST-01 (RP01), Section 3, "Applicable Code

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Requirements,” references ASME OM Code, Subsection ISTB, Paragraphs ISTB-5210, “Baseline Testing,” and ISTB-5221, “Group A Test Procedure,” as applicable to this request.

The licensee is requested to specify its plans to meet the ASME OM Code, Subsection ISTB, Paragraph ISTB-5223, “Comprehensive Test Procedure,” requirements during the Fifth Interval IST Program for the applicable pumps at Columbia.

Energy Northwest Response to EMIB-RAI-5IST-01-01

Alternative Request 5IST-01 (RP01) was intended to be used as an alternative to all paragraphs under ASME OM Code, Subsection ISTB-5220, *Inservice Testing*, which includes ISTB-5223, *Comprehensive Test Procedure*. The provisions in Alternative Request 5IST-01 (RP01) will be applied to the comprehensive test procedures for the pumps listed in Alternative Request 5IST-01 (RP01) during the Fifth 10-Year Interval IST Program. Pump discharge pressure will be recorded during the testing of these pumps in lieu of the differential pressure requirement of ASME OM Code, Subsection ISTB, Paragraph ISTB-5223(b).

NRC Request EMIB-RAI-5IST-01-02

Alternative Request 5IST-01 (RP01) applies to pumps SW-P-1A, SW-P-1B, and HPCS-P-2 at Columbia. These pumps are vertical line shaft centrifugal pumps. The ASME OM Code, 2020 Edition, Subsection ISTB, includes requirements in Paragraph ISTB-5224, “Periodic Verification Test,” for this pump type.

The licensee is requested to specify its plans to meet the ASME OM Code, Subsection ISTB, Paragraph ISTB-5224, requirements for pumps SW-P-1A, SW-P-1B, and HPCS-P-2 at Columbia.

Energy Northwest Response to EMIB-RAI-5IST-01-02

Alternative Request 5IST-01 (RP01) was intended to be used as an alternative to all paragraphs under ASME OM Code, Subsection ISTB-5220, which includes ISTB-5224, *Periodic Verification Test*. The provisions in Alternative Request 5IST-01 (RP01) will be applied to the periodic verification test procedures for the pumps listed in Alternative Request 5IST-01 during the Fifth 10-Year Interval IST Program. Pump discharge pressure will be recorded during the testing of these pumps in lieu of the differential pressure requirement of ASME OM Code, Subsection ISTB, Paragraph ISTB-5224.

NRC Request EMIB-RAI-5IST-02-01

Alternative Request 5IST-02 (RP02), Section 4, “Reason for Request,” in the last sentence states that “Temporary test gauges meeting the [ASME] OM Code requirements shall be used for comprehensive and preservice tests.”

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ASME OM Code, 2020 Edition, Subsection ISTB, does not refer to “preservice tests.” Further, Subsection ISTB contains Paragraphs ISTB-5210, “Baseline Testing,” and ISTB-5224, “Periodic Verification Test.”

The licensee is requested to (1) clarify these differences between the submittal and the ASME OM Code, and (2) specify its plans to meet the requirements in Paragraphs ISTB-5210 and ISTB-5224 for pumps RHR-P-2A/2B/2C and HPCS-P-1 listed in the Alternative Request 5IST-02 (RP02).

Energy Northwest Response to EMIB-RAI-5IST-02-01

- (1) Energy Northwest inadvertently used the term “preservice tests” rather than “baseline tests” in Alternative Request 5IST-02 (RP02). The intent of the last sentence of Section 4, Reason for Request, in Alternative Request 5IST-02 (RP02) was to apply to comprehensive, baseline, and periodic verification tests.
- (2) Temporary test gauges meeting the ASME OM Code requirements shall be used to meet the requirements in ISTB-5210, *Baseline Testing*, and ISTB-5224, for pumps RHR-P-2A, RHR-P-2B, RHR-P-2C, and HPCS-P-1 listed in Alternative Request 5IST-02 (RP02).

NRC Request EMIB-RAI-5IST-02-02

Alternative Request 5IST-02 (RP02), Section 5, “Proposed Alternative and Basis for Use,” in the table in Subsection 5.2 in the Reference Value column for pump HPCS-P-1 specifies 448.2 pounds per square inch gauge (psig) (differential pressure dP) and corresponding “Instrument Loop Accuracy,” column shows instrument loop accuracy of ± 15 psig.

The licensee is requested to explain the basis and acceptability of instrument loop accuracy of ± 15 for the reference value to 448.2 psig (dP).

Energy Northwest Response to EMIB-RAI-5IST-02-02

An accuracy of ± 15 psig over a calibrated range of 0 to 1,500 psig provides a loop accuracy of $\pm 1\%$, with an equivalent ASME OM Code accuracy of 1.11%, which exceeds the requirement in Table ISTB-3510-1 of $\pm 2\%$ for Group A and Group B tests. The range of the pressure transmitters used for the pumps listed in Alternative Request 5IST-02 (RP02) were selected to bound the expected pump discharge pressure range during all normal and emergency operating conditions, which is 1,400 psig for the HPCS pump.

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NRC Request EMIB-RAI-5IST-02-03

Alternative Request 5IST-02 (RP02) in the table in Subsection 5.2 in the Equivalent Code Accuracy column for pump RHR-P-2A apparently should be 1.40 percent rather than 1.47 percent.

Please verify the calculation error.

Energy Northwest Response to EMIB-RAI-5IST-02-03

Energy Northwest has verified this calculation error. The Equivalent Code Accuracy field for pump RHR-P-2A in the table under Section 5.2 should be 1.40 percent, rather than 1.47 percent.

NRC Request EMIB-RAI-5IST-03-01

Alternative Request 5IST-03 (RP03), Section 3, "Applicable Code Requirements," in the last sentence states that "Relief is required for Group B, and comprehensive and preservice tests." ASME OM Code, 2020 Edition, Subsection ISTB, does not refer to "preservice tests." Further, Subsection ISTB contains Paragraphs ISTB-5210, "Baseline Testing," and ISTB-5224, "Periodic Verification Test."

The licensee is requested to (1) clarify these differences between the submittal and the ASME OM Code, and (2) specify its plans to meet the requirements in Paragraphs ISTB-5210 and ISTB-5224 for pumps SLC-P-1A and SLC-P-1B listed in Alternative Request 5IST-03 (RP03).

Energy Northwest Response to EMIB-RAI-5IST-03-01

- (1) Energy Northwest inadvertently used the term "preservice tests" rather than "baseline tests" in Alternative Request 5IST-03 (RP03). The intent of the last sentence of Section 3, Applicable Code Requirements, in Alternative Request 5IST-03 (RP03) was to apply to Group B comprehensive, baseline, and periodic verification tests.
- (2) Paragraphs ISTB-5210 and ISTB-5224 are only applicable to vertical line shaft centrifugal pumps. The Standby Liquid Control pumps at Columbia are positive displacement pumps, which are tested in accordance with ISTB-5300, *Positive Displacement Pumps*.

Alternative Request 5IST-03 (RP03) was intended to be used as an alternative to ASME OM Code, Subsection ISTB-5310, *Baseline Testing*, and ISTB-5324, *Periodic Verification Test*. The provisions in Alternative Request 5IST-03 (RP03) will be applied to the baseline and periodic verification test procedures for the pumps listed in Alternative Request 5IST-03 (RP03) during the Fifth 10-Year Interval IST Program. Pump flow rate will be recorded per the test tank

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methodology, as discussed in NUREG-1482, *Inservice Testing of Pumps and Valves and Inservice Examination and Testing of Dynamic Restraints (Snubbers) at Nuclear Power Plants*, Revision 3, Section 5.5.2, and without the use of the required two-minute hold time during ISTB-5310 and ISTB-5324 testing.

NRC Request EMIB-RAI-5IST-03-02

Alternative Request 5IST-03 (RP03), Section 5, "Proposed Alternative and Basis for Use," second paragraph, in the first two sentences, states:

Pump flow rate will be determined by measuring the volume of fluid pumped and dividing by the corresponding pump run time. The volume of fluid pumped will be determined by the difference in fluid level in the test tank at the beginning and end of the pump run (test tank fluid level corresponds to volume of fluid in the tank).

However, the title of Alternative Request 5IST-03 (RP03) is "RP03: Elimination of Two-Minute Hold Time."

The licensee is requested to (1) clarify the difference between the title and the discussion in Section 5, and (2) explain the reason that the alternative applies to the 2-minute hold time and not for the use of the test tank, as discussed in NUREG-1482, Revision 3, Section 5.5.2.

Energy Northwest Response to EMIB-RAI-5IST-03-02

- (1) In Alternative Request 5IST-03 (RP03), Energy Northwest is requesting relief from the ISTB-3550, *Flow Rate*, requirement of an installed rate or quantity meter. The two-minute hold time pertaining to running the pump to ensure pump conditions are stable, would not be necessary with the use of the alternative. Although the title of Alternative Request 5IST-03 (RP03) addresses a portion of the request, a more suitable title should have addressed the entirety of the request. A title such as "Alternative for Standby Liquid Control Pump Flow Determination" may have been more appropriate.
- (2) Alternative Request 5IST-03 (RP03) applies to the use of the test tank in lieu of the required ISTB-3550 installed rate or quantity meter, as discussed in Section 5.5.2 of NUREG-1482, Revision 3. With the use of this alternative, the requirement to maintain a two-minute hold time after stabilization of the system is burdensome, unnecessary and provides no additional increase in the ability of determining pump condition. Therefore, Energy Northwest is requesting elimination of the two-minute hold time.

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Response to Request for Confirmation of Information and Request for Additional Information Pertaining to 5IST-04, 5IST-05, 5IST-06, and 5IST-07

Background

By letter dated January 29, 2024 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML24029A071), Energy Northwest submitted Alternative Requests 5IST-04 (RV01), 5IST-05 (RV02), 5IST-06 (RV03), and 5IST-07 (RV04), to the U.S. Nuclear Regulatory Commission (NRC) proposing the use of an alternative to specific requirements in the 2020 Edition of the American Society of Mechanical Engineers (ASME) *Operation and Maintenance of Nuclear Power Plants*, Division 1, OM Code: Section IST (OM Code) at Columbia Generating Station (Columbia) associated with the Fifth Interval Inservice Testing (IST) Program in accordance with 10 CFR 50.55a, paragraph (z)(1) or (f)(5).

Regulatory Requirements

The NRC regulations in 10 CFR 50.55a(f)(4), *Inservice testing standards requirement for operating plants*, state, in part, that 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 10 CFR 50.55a(f)(2) and (3) and that are incorporated by reference in paragraph 10 CFR 50.55a(a)(1)(iv), to the extent practical within the limitations of design, geometry, and materials of construction of the components.

The NRC regulations in 10 CFR 50.55a(z), *Alternatives to codes and standards requirements*, state:

Alternatives to the requirements of paragraphs (b) through (h) of this section 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:

- (1) *Acceptable level of quality and safety*. The proposed alternative would provide an acceptable level of quality and safety; or
- (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.

The NRC regulations in 10 CFR 50.55a(f)(5)(iii) require that, if a licensee has determined that conformance with certain Code requirements is impractical for its facility, the licensee shall notify the Commission and submit information to support the determination.

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The NRC regulations in 10 CFR 50.55a(f)(6)(i) state, in part, that the Commission will evaluate determinations, under paragraph 10 CFR 50.55a(f)(5), that Code requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines are authorized by law, will not endanger life or property or the common defense and security, and are otherwise in the public interest, giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

NRC Request EMIB-RCI-5IST-04-01

Alternative Request 5IST-04 (RV01), Section 5, "Proposed Alternative and Basis for Use," first paragraph, states that "these valves will be leak tested in accordance with CGS [Columbia] TS [Technical Specification] SR [Surveillance Requirement] 3.6.1.1.2, SR 3.6.1.1.3, and SR 3.6.1.1.4 during refueling outages." Section 5 of the alternative request then summarizes the specific test frequencies required by these TS SRs. The NRC staff notes that the current Columbia TS SR 3.6.1.1.2, SR 3.6.1.1.3, and SR 3.6.1.1.4, require a leak test frequency in accordance with the Surveillance Frequency Control Program (SFCP).

The licensee is requested to confirm that these valves shall be leak tested in accordance with the authorized Alternative Request 5IST-04 (RV-01) in lieu of the SFCP frequency.

Energy Northwest Response to EMIB-RCI-5IST-04-01

The valves listed in Alternative Request 5IST-04 (RV01) shall be leak tested in accordance with the authorized Alternative Request 5IST-04 (RV01).

NRC Request EMIB-RCI-5IST-04-02

Alternative Request 5IST-04 (RV01), Section 5, last paragraph states: "These valves are also verified-closed by position indicators (per TS SR 3.6.1.7.1, ISTC-3700, and I-3370(a)), exercised (per TS SR 3.6.1.7.2, ISTC-3520, and I-3770(a)), and tested in the open direction per TS SR 3.6.1.7.3, ISTC-5221(b), and I-3770(a). In accordance with station procedures, the valves are visually inspected each refueling outage.

The staff notes that the current Columbia TS SR 3.6.1.7.1, SR 3.6.1.7.2, and SR 3.6.1.7.3 require that the valves be verified-closed by position indication, exercised, and tested in open direction at a frequency in accordance with the SFCP.

The licensee is requested to confirm that these valves shall be tested in accordance with the Alternative Request 5IST-04 (RV01) in lieu of the SFCP frequency.

Energy Northwest Response to EMIB-RCI-5IST-04-02

Test frequencies for valves may be adjusted as part of the Surveillance Frequency Control Program (SFCP) process, however, the controls built into the change process

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ensure that IST requirements are met when establishing acceptable frequencies. As such, valve test frequencies will meet or exceed applicable ASME OM Code requirements.

NRC Request EMIB-RCI-5IST-04-03

The staff notes that the Columbia Fourth 10-Year Interval IST Program Plan (ML15113A503), IST Table, Remark Column for Valves CVB-V-1AB, CD, EF, GH, JK, LM, NP, QR, ST, references "TV03." The description of the Technical Position TV03 (printed page 135 of 188) provides the following SRs for vacuum breakers:

1. SR 3.6.1.7.1: verify each vacuum breaker is closed every 14 days.
2. SR 3.6.1.7.2: perform a functional test of each required vacuum breaker every 31 days and within 12 hours after any discharge of steam to the suppression chamber from the safety/relief valves.
3. SR 3.6.1.7.3: verify the full open setpoint of each required vacuum breaker is less than or equal to 0.5 psid every 24 months.

The IST Program Plan then states that position indicators are verified operable during performance of the above surveillances.

The licensee is requested to confirm that the valves will satisfy the test frequency proposed in Alternative Request 5IST-04 (RV01), and whether any adjustments will be needed to the current TS SRs, and TV03 of the Columbia Fifth 10-Year Interval IST Program.

Energy Northwest Response to EMIB-RCI-5IST-04-03

The valves listed in Alternative Request 5IST-04 (RV01) will satisfy the test frequency proposed.

No adjustments will be needed to the current Technical Specification (TS) Surveillance Requirements (SR) or Technical Position TV03 in the Fifth 10-Year Interval IST Program. A frequency change from 14 days to 31 days was processed in 2020 for SR 3.6.1.7.1 using Columbia's surveillance frequency change process. Implementation of this change included revising the Fourth 10-Year Interval IST Program Plan, including a change to TV03, which updated the version cited in Item 1 above, to reflect the new frequency of 31 days.

NRC Request EMIB-RAI-5IST-04/05/06/07-01

Alternative Requests 5IST-04/05/06/07, Section 7, "Precedent," references the previous similar Alternative Requests RV01/RV02/RV03/RV04 for the Fourth 10-Year Interval IST Program, which described the quality/safety impact for that alternative request. The

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Proposed Alternative Requests 5IST-04/05/06/07 for the Fifth 10-Year Interval IST Program do not describe the quality/safety impact of this alternative request.

The licensee is requested to discuss the quality/safety impact to support Alternative Requests 5IST-04/05/06/07, as described in the Precedent of Section 7 of the submittal.

Energy Northwest Response to EMIB-RAI-5IST-04/05/06/07-01

5IST-04: The leakage criteria and required actions specified in Columbia TS SR 3.6.1.1.2, SR 3.6.1.1.3, and SR 3.6.1.1.4, combined with visual examination of valve seats every refueling outage provides adequate assurance of the relief valve assembly's ability to remain leak-tight and to prevent a suppression pool bypass. Thus, the proposed alternative provides adequate assurance of material quality and public safety.

5IST-05: The proposed alternate testing will verify that the valves respond in a timely manner and provide information for monitoring signs of material degradation. This provides adequate assurance of material quality and public safety.

5IST-06: Due to different maintenance and test cycles of valves and accessories, and due to methods used for testing and maintenance, it is impractical to meet the ASME OM Code testing requirements without subjecting the valves to unnecessary challenges and increased risk of seat degradation. The requirement for testing actuators and accessories in a specific sequence does not enhance system or component operability, or in any way improve nuclear safety. The proposed alternative testing adequately evaluates the operational readiness of these valves commensurate with their safety function. This will help reduce the number of challenges and failures of safety relief valves and still provide timely information regarding operability and degradation, while continuing to provide adequate assurance of material quality and public safety.

5IST-07: In the Safety Evaluation for amended TS SR 3.6.1.3.8 via a letter dated February 20, 2001 (ADAMS Accession Number ML010590279), the NRC staff concluded that the increase in risk associated with the relaxation of excess flow check valve (EFCV) testing is sufficiently low and acceptable. The staff also concluded that the performance evaluation criteria are in conformance with the NRC staff-approved guidance in General Electric Licensing Topical Report, NEDO-32977-A, *Excess Flow Check Valve Testing Relaxation*, dated November 1998 (Letter BWROG-00069) which would ensure a high degree of valve reliability and operability. Therefore, the proposed alternative to the required exercise frequency and valve indication verification frequency for EFCVs provide an acceptable level of quality and safety.

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NRC Request EMIB-RAI-5IST-05-01

Alternative Request 5IST-05 (RV02), Section 3, "Applicable Code Requirements," lists ASME OM Code, Subsection ISTC, Paragraph ISTC-5150, "Solenoid-Operated Valves," as applicable to the scope of this alternative request.

The licensee is requested to address whether ASME OM Code, Paragraph ISTC-3700, "Position Verification Testing," as supplemented by 10 CFR 50.55a(b)(3)(xi), "OM condition: Valve Position Indication," is included within the scope of this Alternative Request.

Energy Northwest Response to EMIB-RAI-5IST-05-01

ASME OM Code, Paragraph ISTC-3700, *Position Verification Testing*, as supplemented by 10 CFR 50.55a(b)(xi), *OM condition: Valve Position Indication*, is not included within the scope of this alternative request. The scope of this request is limited to valve stroke testing as described in Subsection ISTC-5151(c).

NRC Request EMIB-RAI-5IST-07-01

Alternative Request 5IST-07 (RV04), Section 5, "Proposed Alternative and Basis for Use," includes three paragraphs. The second paragraph in Section 5 references an approved license amendment dated February 20, 2001, which allows EFCV testing frequencies as 24 months per approved TS SR 3.6.1.3.8. The NRC staff notes that the 24-month frequency for EFCV testing, which was approved for TS SR 3.6.1.3.8 via a letter dated February 26, 2001, has been deleted and replaced with the SFCP in the current Columbia TS.

TS Section 5.5, "Program and Manuals," TS Section 5.5.15, "Surveillance Frequency Control Program," Paragraph b, states that changes to the frequencies listed in the SFCP shall be made in accordance with NEI 04-01, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.

- a. The licensee is requested to clarify the relationship between the EFCV testing frequency requirements and the provisions of Alternative Request 5IST-07 (RV04).
- b. The licensee is requested to clarify the relationship between the SFCP for the EFCV testing frequencies and the provisions in Alternative Request 5IST-07 (RV04).
- c. Based on the information in the third paragraph, the licensee is requested to describe whether this information regarding the SFCP, NEI 04-01, FSAR, and license amendment request dated February 26, 2001, will affect the provisions in Alternative Request 5IST-07 (RV04).

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- d. The third paragraph states, in part, that “there have only been three EFCV failures within the CGS EFCV population since 1985.” However, the precedent section in Columbia Alternative Request RV04 for the Fourth IST Program (page 39 of 40) (ML14101A365) refers to 15 years of testing (up to the year 2000) with only one failure, and no failures since the year 2000.

The submitted Alternative Request 5IST-07 states three failures since 1985 vs. Alternative Request RV04 for Fourth 10-Year IST Program states only one failure since the year 2000. The licensee is requested to provide valve failure history provided in the current Alternative Requests.

Energy Northwest Response to EMIB-RAI-5IST-07-01

- a. The 24-month frequency of SR 3.6.1.3.8 matches the stated frequency in Alternative Request 5IST-07 (RV04). SR 3.6.1.3.8 requires verification every 24 months that a representative sample of reactor instrument line EFCVs actuate to the isolation position on an actual or simulated instrument line break signal. The representative sample consists of an approximately equal number of EFCVs such that each EFCV is tested at least once every 10 years.
- b. The 24-month frequency in Columbia’s SFCP for the valves matches the stated frequency in Alternative Request 5IST-07 (RV04). The SFCP change process requires the IST Program Owner approval for any testing frequency changes that impact an IST component.
- c. The SFCP was developed using guidance from NEI-04-10, *Risk-Informed Technical Specifications Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies*, Revision 1. Neither the SFCP nor the NEI guidance will affect the provisions in this Alternative Request. The SRs within this request are aligned with those documented in Columbia’s SFCP and any proposed SR frequency changes require an IST Program Owner approval prior to implementation. Similarly, changes to information in Columbia’s Final Safety Analysis Report regarding EFCVs also requires an IST Program Owner approval prior to SR frequency changes.
- d. Alternative Request RV04 for the Fourth 10-Year IST Program states “Based on 15 years of testing (up to the year 2000), with only one (1) failure,” meaning one failure prior to the year 2000, and no failures between the year 2000 and the submittal of Fourth 10-Year Interval IST Program Plan in 2014. There were no failures from the year 2000 until May 2023. Therefore, the difference between the Fourth 10-Year submittal and the Fifth 10-Year submittal are the two failures outlined below, which equates to a total of three failures when including the single failure prior to the year 2000.

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Enclosure 2

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Prior to year 2000: one failure as discussed in RV04 of the Fourth 10-Year Interval IST Program submittal. Details on this historical information regarding the valve failure are not obtainable.

May 17, 2023: PI-EFC-X61C failed to check during testing (documented in Energy Northwest's Corrective Action Program Condition Report 445329).

May 17, 2023: PI-EFC-X62B failed to check during testing (documented in Energy Northwest's Corrective Action Program Condition Report 445329).

Note: the above failures from 2023 are for passive valves and are not part of the population of the EFCVs in this Alternative Request, or the Fourth 10-Year Interval IST Program submittal.

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Attachment 1
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**Supplement to Relief Requests for the Columbia Generating Station
Fifth Ten-Year Interval Inservice Testing Program**

By Reference 1, Energy Northwest submitted requests to the NRC proposing the use of alternatives to specific requirements in the 2020 Edition of the American Society of Mechanical Engineers Operation and Maintenance of Nuclear Power Plants, Division 1, Code at Columbia associated with the Fifth 10-Year Interval IST Program Plan.

By Reference 4, Energy Northwest notified the NRC of the intent to extend the current fourth 10-year interval of the Columbia IST Program past its planned end date of December 12, 2024, by one year. With this extension, the beginning of the fifth 10-year interval will start on December 13, 2025, rather than December 13, 2024, as stated in the relief requests.

This supplement affects the end date of the interval shown on the following pages of Reference 1:

- Cover letter, page 1
- Attachment 2, page 4
- Attachment 3, page 3
- Attachment 4, page 2
- Attachment 5, page 2
- Attachment 6, page 2
- Attachment 7, page 4
- Attachment 8, page 4.