



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

December 20, 2022

Mr. Robert Schuetz
Chief Executive Officer
Energy Northwest
76 North Power Plant Loop
P.O. Box 968 (Mail Drop 1023)
Richland, WA 99352

**SUBJECT: COLUMBIA GENERATING STATION – REGULATORY AUDIT SUMMARY IN
SUPPORT OF REVIEW FOR LICENSE AMENDMENT REQUEST TO REVISE
TECHNICAL SPECIFICATIONS TO ADOPT TSTF-505, REVISION 2
(EPID L-2022-LLA-0023)**

Dear Mr. Schuetz:

By letter dated February 3, 2022 (Agencywide Documents Access and Management System Accession No. ML22034A992), as supplemented by letters dated October 4, 2022, and November 28, 2022 (ML22277A603 and ML22332A516, respectively), Energy Northwest (the licensee) submitted a license amendment request for Columbia Generating Station (Columbia). The proposed amendment would change the Columbia Technical Specification requirements to permit the use of risk-informed completion times in accordance with Technical Specifications Task Force (TSTF) Traveler TSTF-505, "Provide Risk-Informed Extended Completion Times – RITSTF [Risk-Informed TSTF] Initiative 4b," Revision 2.

To support its review, the U.S. Nuclear Regulatory Commission staff conducted a remote regulatory audit on August 1-4, 2022. The NRC staff reviewed documents and held discussions with members of Energy Northwest and its contractors. The regulatory audit summary is enclosed with this letter.

If you have any questions, please contact me at (301) 415-8371 or Mahesh.Chawla@nrc.gov.

Sincerely,

/RA/

Mahesh L. Chawla, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-397

Enclosure:
Regulatory Audit Summary

cc: Listserv

OFFICE OF NUCLEAR REACTOR REGULATION
REGULATORY AUDIT SUMMARY FOR AUGUST 1-4, 2022
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
IN SUPPORT OF REVIEW OF THE LICENSE AMENDMENT REQUEST
TO ADOPT TSTF-505, REVISION 2
ENERGY NORTHWEST
COLUMBIA GENERATING STATION
DOCKET NO. 50-397

1.0 BACKGROUND

By application dated February 3, 2022 (Agencywide Documents Access and Management System Accession No. ML22034A992) as supplemented by letters dated October 4, 2022, and November 28, 2022 (ML22277A603 and ML22332A516, respectively), Energy Northwest (the licensee) submitted a license amendment request (LAR) for Columbia Generating Station (Columbia). The amendment would revise technical specification (TS) requirements to allow the use of risk-informed completion times for actions to be taken when limiting conditions for operation are not met. The proposed changes are based on Technical Specifications Task Force (TSTF) Traveler TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times – RITSTF [Risk-Informed TSTF] Initiative 4b," dated July 2, 2018 (ML18183A493). The U.S. Nuclear Regulatory Commission (NRC) issued a final model safety evaluation approving TSTF-505, Revision 2, on November 21, 2018 (ML18269A041).

An audit team consisting of NRC staff and an NRC contractor from the Pacific Northwest National Laboratory (PNNL), conducted a remote regulatory audit to support the review of the LAR on August 1–4, 2022. The purpose of the audit was to gain an understanding of the information needed to support the NRC staff's licensing decision regarding the LAR and to develop requests for additional information (RAIs).

The information submitted in support of the LAR is under final review, and any additional information needed to support the LAR review will be formally requested by the NRC staff using the RAI process in accordance with the Office of Nuclear Reactor Regulation Office Instruction LIC-101, Revision 6, "License Amendment Review Procedures" (ML19248C539).

The regulatory audit is a planned license or regulation-related activity that includes the examination and evaluation of primarily non-docketed information. The regulatory audit is conducted with the intent to gain understanding, to verify information, and/or to identify information that will require docketing to support the basis of a licensing or regulatory decision. Performing a regulatory audit of the licensee's information is expected to assist the NRC staff in efficiently conducting its review or gain insights on the licensee's processes or procedures. Information that the NRC staff relies upon to make the safety determination must be submitted on the docket. However, the NRC staff may review supporting information retained as records under Title 10 of the *Code of Federal Regulations* (10 CFR) 50.71, "Maintenance of records"

Enclosure

and/or 10 CFR 54.37, "Additional records and recordkeeping requirements," which, although not required to be submitted as part of the licensing action, would help the staff better understand the licensee's submitted information.

2.0 AUDIT ACTIVITIES

Attachment 1 of this summary provides the list of attendees from NRC, PNNL, Energy Northwest, and other participants.

The NRC audit team held an entrance meeting on Monday, August 1, 2022, with the licensee's staff and contractors. During the remainder of the audit, the NRC audit team participated in technical discussions with the licensee based on discipline according to the audit plan dated March 18, 2022, and agenda dated July 6, 2022 (ML22068A234 and ML22165A296, respectively). Technical discussions were focused on the following major areas: probabilistic risk assessment (PRA), external hazards, fire protection, TSs, electrical engineering, and instrumentation and controls. The NRC audit team participated in a meeting with the licensee on Thursday, August 4, 2022, where the NRC staff provided a brief conclusion of the team's goals, objectives, and technical discussions.

The NRC staff provided a brief conclusion of the audit objectives that were met and details on the path forward. A discussion of the licensee's seismic mean remained an open audit item and was a deviation from the audit plan. The licensee committed to providing a supplement to the application to address audit discussion points, including the seismic mean. Attachment 2 contains a list of documents reviewed by the team during the audit.

3.0 RESULTS OF THE AUDIT

The LAR supplement was provided to the NRC on October 4, 2022 (ML22277A603). A request for additional information was issued to the licensee on October 28, 2022 (ML22301A143). The licensee provided the response in a supplement dated November 28, 2022 (ML22332A516).

Attachments:

1. List of Participants
2. List of Documents Reviewed During Audit

List of Participants

U.S. Nuclear Regulatory Commission (NRC) Audit Team

NRC Staff	Role
Mahesh Chawla	Project Manager, NRR ¹ /DORL ² /LPL ⁴ ³
Kristy Bucholtz	Team Lead, Reviewer, DRA ⁴ /APLA ⁵
Robert Pascarelli	Branch Chief, DRA/APLA
Todd Hilsmeier	Reviewer, DRA/APLA
Naeem Iqbal	Reviewer, DRA/APLB ⁶
J. S. Hyslop	Reviewer, DRA/APLB
Keith Tetter	Reviewer, DRA/APLC ⁷
De Wu	Reviewer, DRA/APLC
Shilp Vasavada	Branch Chief (Acting), DRA/APLC
Andrea Russell	Reviewer, DSS ⁸ /STSB ⁹
Steve Wyman	Reviewer, DEX ¹⁰ /EEEE ¹¹
Edmund Kleeh	Reviewer, DEX/EEEE
Ming Li	Reviewer, DEX/EICB ¹²
William Roggenbrodt	Reviewer, DEX/EICB
Thomas Byrd	Observer, DORL
Elias Kokkinis	Observer, DRA/APLB

Pacific Northwest National Laboratory (PNNL) Team Member

Mark Wilk PRA Reviewer

Energy Northwest – Columbia Generating Station, (Columbia) Team

Rick Garcia	Licensing Supervisor
David Clymer	PRA Engineering Supervisor
Zach Dunham	Assistant Operations Manager, Work Control
Habib Shtaih	
Blake Smith	
Mark Rice	
David Dearing	
Kris Stauffer	
Al Maysam	

¹ Office of Nuclear Reactor Regulation (NRR)

² Division of Operating Reactor Licensing (DORL)

³ Plant Licensing Branch IV

⁴ Division of Risk Assessment

⁵ Probabilistic Risk Assessment (PRA) Licensing Branch A

⁶ PRA Licensing Branch B

⁷ PRA Licensing Branch C

⁸ Division of Safety Systems

⁹ Technical Specifications Branch

¹⁰ Division of Engineering and External Hazards

¹¹ Electrical Engineering Branch

¹² Instrumentation and Controls Branch

Enercon

Justin Wheat

Neil Johnson

Tim Sande

JensenHughes

Francisco Joglar

List of Documents Reviewed During the Audit

Columbia Generating Station, Documents Available for Review on the Energy Northwest Portal/Laptop

The licensee provided an extensive list of supporting documents (e.g., analyses, calculations, reports, drawings, and procedures) on the Columbia Generating Station document portal available during the week of the audit.

Application Specific Documents

- Energy Northwest Report ENGNW-00554-REPT-005, Revision 1, "Columbia Generating Station (CGS) – Risk Informed Completion Time (RICT) Quantifications for License Amendment Request."
- Energy Northwest Report ENGNW-00554-REPT-003, Revision 1, "Columbia Generating Station (CGS) – Risk Informed Completion Time (RICT) Review of Technical Specifications to PRA [Probabilistic] Model Capability."
- Energy Northwest Report ENGNW-00554-REPT-004, Revision 0, CGS Impact of Model Uncertainty to RICT process."

PRA Acceptability

- Energy Northwest Report SYS-4-34, Revision 11, "PSA [Probabilistic Safety Analysis] Configuration Control."
- Columbia Generating Station Unit 2, December 2009, "PRA Peer Review Report Using ASME [American Society of Mechanical Engineers] PRA Standard Requirements."
- Jensen Hughes, Letter Report 026014-RPT-01, Revision 1, "Determination of PRA "Maintenance" vs. "Upgrade" for Columbia Generating Station."
- Jensen Hughes, Letter Report 026022-RPT-01, Revision 0, "Columbia Generating Station PRA Finding Level Fact and Observation Independent Assessment & Focused-Scope Peer Review – Addendum 1."
- Jensen Hughes, Letter Report 026016-RPT-02, Revision 0, "Columbia Generating Station HRA [Human Reliability Analysis] Finding-Level Fact and Observation Independent Assessment."
- Jensen Hughes, Letter Report 026016-RPT-01, Revision 0, "Columbia Generating Station PRA Finding-Level Fact and Observation Independent Assessment & Focused-Scope Peer Review."
- Energy Northwest Report PSA-2-QU-0001, Revision 9, "Quantification."

Internal Events PRA

- Energy Northwest PSA Support Document, PSA-2-QU-0001, Revision 9, "Quantification."
- Energy Northwest PSA Support Document, PSA-02-HR-0001, Revision 5, "Human Reliability Assessment."
- Energy Northwest PSA Support Document, PSA-02-AS-0001, Revision 8, "Accident Sequence Evaluation."
- Energy Northwest Action Request Report 00431267

Fire PRA

- Columbia Generating Station, August 2021, "Fire PRA Facts and Observations Independent Assessment Report Using NEI [Nuclear Energy Institute] 17-07 Appendix E."
- Columbia Generating Station, May 2021, "Fire PRA Peer Review Report Using ASME/ANS [American Nuclear Society] PRA Standard Requirements."
- Energy Northwest Report FPSA-2-UNC-0001, Revision 1, "CGS Fire PRA Uncertainty and Sensitivity Analysis Notebook."
- Energy Northwest Report FPSA-2-FQ-0001, Revision 1, "CGS Fire PRA Summary and Quantification Notebook."
- Energy Northwest Report FPSA-2-CFMLA-0001, Revision 1, "CGS Fire PRA Circuit Failure Mode Likelihood Analysis."
- Energy Northwest Report FPSA-2-MCR-0001, Revision 0, "CGS Fire PRA Fire Main Control Room Analysis."
- Energy Northwest Report FPSA-2-SCA-0001, Revision 1, "CGS Fire PRA Single Compartment Analysis."

Seismic PRA

- Energy Northwest PSA Support Document, SPR-QU, Revision 6, "Columbia Generating Station Seismic Probabilistic Risk Assessment Quantification."
- Energy Northwest PSA Support Document, SPSA-2-QU-0001, Revision 6, PSA Revision Model 8.2, "Revision Log."
- Energy Northwest Report ENGNW-00449-REPT-001, Revision 0, "Evaluation of Secondary Containment Effectiveness Model Against the ASME PRA Standard and ASME/ANS Standard Code Case 1."
- Energy Northwest Report ENGNW-00449-REPT-002, Revision 0, "F&O [Fact and Observation] Closure Review for Evaluation of Secondary Containment Effectiveness."
- Columbia Generating Station, February 2019, Revision 0, "Seismic PRA Peer Review Report Using ASME/ANS PRA Standard Requirements."
- Jensen Hughes, Letter Report 026022-RPT-01, Revision 0, "Columbia Generating Station PRA Finding-Level Fact and Observation Independent Assessment & Focused-Scope Peer Review."

External Hazards

- Energy Northwest Report IPEEE-2-EH-0001, Revision 0, "CGS External Hazard Assessment."
- Maracor Report, Revision 0, "Re-Examination of External Events Evaluation in the IPEEE [Individual Plant Examination of External Events], Columbia Generating Station."
- Washington Public Power Supply System Main Report, Revision 0, "Individual Plant Examination of External Events Washington Nuclear Plant 2."
- Erin Engineering and Research, Inc. Report, Revision 0, "Columbia Generating Station Evaluation of Tornado Frequency."

Electrical

- Energy Northwest Drawing, E503-6, Revision 119, "Auxiliary One Line Diagram."
- Energy Northwest Drawing, E503-9, Revision 95, "Auxiliary One Line Diagram."

- Energy Northwest Drawing, E505-1, Revision 113, "DC [Direct Current] One Line Diagram."
- Energy Northwest Drawing, E505-2, Revision 16, "DC One Line Diagram."
- Energy Northwest Drawing, E504-1, Revision 7, "Vital One Line Diagram."
- Energy Northwest Drawing, E505-3, Revision 0, "One Line Diagram Hardened Containment Vent 24 VDC [Volts Direct Current] System E-DP-S0/2."
- Energy Northwest Drawing, EWD-46E-240, Revision 19, "Electrical Wiring Diagram AC [Alternating Current] Electrical Distribution System Power Panel E-PP-7AF."
- Energy Northwest Drawing, EWD-46E-250, Revision 3, "Electrical Wiring Diagram AC Electrical Distribution System Power Panel E-PP-8AB."
- Energy Northwest Drawing, EWD-46E-253, Revision 5, "Electrical Wiring Diagram AC Electrical Distribution System Power Panel E-PP-8AG."
- Energy Northwest Drawing, "Onsite AC Power Sub-Fed ESF [Engineered Safety Feature] Buses Columbia Generating Station"
- Energy Northwest Drawing, E502-1, Revision 65, "Main One Line Diagram."
- Energy Northwest Drawing, E502-2, Revision 67, "Main One Line Diagram."
- Energy Northwest Drawing, E502-3, Revision 27, "Main One Line Diagram."
- Energy Northwest Drawing, E502-4, Revision 10, "Main One Line Diagram."
- Plant Procedures Manual, SOP-ELEC-DC-LU, Revision 011, "DC Electrical Distribution System Breaker Lineup," dated May 20, 2021.
- Columbia Generating Station Final Safety Analysis Report drawing, 950021.35, Figure 8.1-3, "230 kV [Kilovolt] Line Ties" dated December 2007 Amendment 59
- Columbia Generating Station Final Safety Analysis Report drawing, 950021.34, Revision 2, Figure 8.1-4, "115 kV Line Ties" dated December 2017 Amendment 64
- Columbia Generating Station Final Safety Analysis Report drawing, 960690.14, Figure 8.1-5, "230 kV and 115 kV Auxiliary Power Layout" dated December 2017 Amendment 64
- Energy Northwest Design Basis Document, Division 300, Section 310, "Standby Power Systems," Revision 15, dated June 2019.
- Calc.# E/I-02-90-01, Appendix A, "Steady State Voltage & Loading Calculations."
- Calculation E/I-02-87-07, Appendix A4, "ETAP MCC [Motor Control Center] Load Input Data."
- Calculation E/I-02-87-07, Appendix A3, "ETAP Large Motor & Static Load Input Data."
- Energy Northwest Design Basis Document, Division 300, Section 317-AC, "AC Electrical Distribution System," Revision 8, dated June 2021.
- Plant Procedures Manual, ABN-ELEC-DG3-CROSSTIE/SM8, Revision 012, "DG3 Crosstie to SM-8," dated April 1, 2021.
- Plant Procedures Manual, ABN-ELEC-DG3-CROSSTIE/SM7, Revision 011, "DG3 Crosstie to SM-7," dated July 29, 2020.
- Energy Northwest Calculation, E/I-02-91-03, "Calculation for Division1 and 2 and 3 Diesel Generator Loading," Revision 22, dated September 9, 2021.
- Plant Procedures Manual, 5.6.2, Revision 016, "Station Blackout (SBO) and Extended Loss of AC Power ELAP [Extended Loss of Alternating Current Power] Attachments," dated February 25, 2021.
- Plant Procedures Manual, 5.6.1, Revision 031, "SBO/ELAP," dated November 9, 2020.
- Plant Procedures Manual, SOP-ELEC-AC-LU, Revision 086, "AC Electrical Distribution System Breaker Lineup," dated March 24, 2022.

SUBJECT: COLUMBIA GENERATING STATION – REGULATORY AUDIT SUMMARY IN SUPPORT OF REVIEW FOR LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS TO ADOPT TSTF-505, REVISION 2 (EPID L-2022-LLA-0023) DATED DECEMBER 20, 2022

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