



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

May 22, 2012

Mr. Mark E. Reddemann
Chief Executive Officer
Energy Northwest
P.O. Box 968 (Mail Drop 1023)
Richland, WA 99352-0968

**SUBJECT: ISSUANCE OF RENEWED FACILITY OPERATING LICENSE NO. NPF-21 FOR
COLUMBIA GENERATING STATION**

Dear Mr. Reddemann:

The U.S. Nuclear Regulatory Commission (NRC or the staff) has issued Renewed Facility Operating License No. NPF-21 for the Columbia Generating Station (Columbia). The NRC issued the renewed facility operating license based on the staff's review of your application dated January 19, 2010, as supplemented by letters submitted to the NRC through April 23, 2012. The technical specifications for Columbia were not amended as a result of the NRC's review.

Renewed Facility Operating License No. NPF-21 expires at midnight on December 20, 2043.

The technical basis for issuing the renewed operating license is set forth in NUREG-2123, "Safety Evaluation Report Related to the License Renewal of the Columbia Generating Station," May 2012. The results of the environmental review related to the issuance of the renewed license are given in NUREG-1437, Supplement 47, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding Columbia Generating Station," April 2012.

Enclosure 1 contains Renewed Facility Operating License No. NPF-21 with attachments, Appendix A, "Technical Specifications," and Appendix B, "Environmental Protection Plan," and Appendix C, "Additional Conditions."

Enclosure 2 is a copy of the related *Federal Register* notice of issuance of the renewed license. The staff has sent the original to the Office of the Federal Register for publication.

M. Reddemann

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If you have any questions regarding this issue, please feel free to contact me at 301-415-3897 or by e-mail at Arthur.Cunanan@nrc.gov.

Sincerely,

A handwritten signature in black ink that reads "Arthur Cunanan". The signature is written in a cursive, flowing style.

Arthur Cunanan, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-397

Enclosures:

1. Columbia Generating Station
Renewed Facility Operating License
2. Federal Register Notice of Renewed
Facility Operating License

cc: Listserv

Letter to Mark Reddemann from A. Cunanan dated May 22, 2012

SUBJECT: ISSUANCE OF RENEWED FACILITY OPERATING LICENSE NO. NPF-21 FOR
COLUMBIA GENERATING STATION

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ACunanan

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Enclosure 1

**Columbia Generation Station Renewed Facility
Operating License**

ML12089A090



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

ENERGY NORTHWEST

DOCKET 50-397

COLUMBIA GENERATING STATION

RENEWED FACILITY OPERATING LICENSE

Renewed License No. NPF-21

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for renewed license filed by Energy Northwest (also the licensee), complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I, and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of Energy Northwest, Columbia Generating Station (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-93 and the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission (except as exempted from compliance in Section 2.D. below);
 - D. There is reasonable assurance: (i) that the activities authorized by this renewed operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I (except as exempted from compliance in Section 2.D. below);
 - E. Energy Northwest is technically qualified to engage in the activities authorized by this renewed license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
 - F. Energy Northwest has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;

Renewed License No. NPF-21

- G. The issuance of this renewed license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Renewed Facility Operating License No. NPF-21, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
 - I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this renewed license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70.
 - J. Actions have been identified and have been or will be taken with respect to (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR 54.21(a)(1), and (2) time-limited aging analyses that have been identified to require review under 10 CFR 54.21(c), such that there is reasonable assurance that the activities authorized by the renewed operating license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for the facility, and that any changes made to the facility's current licensing basis in order to comply with 10 CFR 54.29(a) are in accordance with the Act and the Commission's regulations.
2. Based on the foregoing findings regarding this facility, Renewed Facility Operating License NPF-21 is hereby issued to Energy Northwest (the licensee) to read as follows:
- A. This renewed operating license applies to Columbia Generating Station, a boiling water nuclear reactor and associated equipment, owned by Energy Northwest. The facility is located on Hanford Reservation in Benton County near Richland, Washington, and is described in the licensee's "Final Safety Analysis Report", as supplemented and amended, and in the licensee's Environmental Report, as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Energy Northwest:
 - (1) Pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use, and operate the facility at the designated location on Hanford Reservation, Benton County, Washington, in accordance with the procedures and limitations set forth in this renewed license;

- (2) Pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
 - (3) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source of special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
 - (6) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to store byproduct, source and special nuclear materials not intended for use at Columbia Generating Station. The materials shall be no more than 9 sealed neutron radiation sources designed for insertion into pressurized water reactors and no more than 40 sealed beta radiation sources designed for use in area radiation monitors. The total inventory shall not exceed 24 microcuries of strontium-90, 20 microcuries of uranium-235, 30 curies of plutonium-238, and 3 curies of americium-241.
- C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of full power (3486 megawatts thermal).

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 224 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

- (a) For Surveillance Requirements (SRs) not previously performed by existing SRs or other plant tests, the requirement will be considered met on the implementation date and the next required test will be at the interval specified in the Technical Specifications as revised in Amendment No. 149.

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(11) Shield Wall Deferral (Section 12.3.2. SSER#4, License Amendment #7)

The licensee shall complete construction of the deferred shield walls and window as identified in Attachment 3, as amended by this license amendment.

(12) Deleted.

(13) Deleted.

* The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

(14) Fire Protection Program (Generic Letter 86-10)

The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in Section 9.5.1 and Appendix F of the Final Safety Analysis Report (FSAR) for the facility thru Amendment #39 and as described in subsequent letters to the staff through November 30, 1988, referenced in the May 22, 1989 safety evaluation and in other pertinent sections of the FSAR referenced in either Section 9.5.1 or Appendix F and as approved in the Safety Evaluation Report issued in March 1982 (NUREG 0892) and in Supplements 3, issued in May 1983, and 4, issued in December 1983, and in safety evaluations issued with letters dated November 11, 1987 and May 22, 1989 subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

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(29) Protection of the Environment (FES)

Before engaging in additional construction or operational activities which may result in a significant adverse environmental impact that was not evaluated or that is significantly greater than the evaluation in the Final Environmental Statement the licensee shall provide a written notification to the Director of the Office of Nuclear Reactor Regulation and receive written approval from that office before proceeding with such activities.

(30) Deleted.

(31) Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel
- (b) Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre-staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures
- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

(32) The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

(33) Control Room Envelope Habitability Program (CRE)

Upon implementation of Amendment No.207 adopting TSTF-448, Revision 3, the determination of CRE unfiltered air leakage as required by SR 3.7.3.4, in accordance with TS 5.5.14.c.(i), the assessment of CRE habitability as required by Specification 5.5.14.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.14.d, shall be considered met. Following implementation:

- (a) The first performance of SR 3.7.3.4, in accordance with Specification 5.5.14.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from November 6, 2003, the date of the most recent successful tracer gas test, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
- (b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.14.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from November 6, 2003, the date of the most recent successful tracer gas test, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
- (c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.14.d, shall be within 24 months, plus the 184 days allowed by SR 3.0.2, as measured from March 23, 2006, the date of the most recent successful pressure measurement test, or within 184 days if not performed previously.

- (34) The information in the FSAR supplement, submitted pursuant to 10 CFR 54.21(d), as supplemented by Commitment Nos. 1, 5, 13, 14, 17, 18, 23, 24, 26, 27, 28, 32, 36, 38, 40, 41, 42, 43, 48, 49, 50, 53, 55, 58, 59, 60, 61, 63, 64, 65, 66, 67, 68, 69, and 70 of Appendix A of NUREG-2123, "Safety Evaluation Report Related to the License Renewal of Columbia Generating Station" dated May 2012, is henceforth part of the FSAR which will be updated in accordance with 10 CFR 50.71(e). As such, the licensee may make changes to the programs and activities described in the UFSAR supplement and Commitment Nos. 1, 5, 13, 14, 17, 18, 23, 24, 26, 27, 28, 32, 36, 38, 40, 41, 42, 43, 48, 49, 50, 53, 55, 58, 59, 60, 61, 63, 64, 65, 66, 67, 68, 69, and 70 of Appendix A of NUREG-2123 provided the licensee evaluates such changes pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.
- (35) The licensee's FSAR supplement submitted pursuant to 10 CFR 54.21(d), as revised during the license renewal application review process, and as supplemented by Commitment Nos. 1, 5, 13, 14, 17, 18, 23, 24, 26, 27, 28, 32, 36, 38, 40, 41, 42, 43, 48, 49, 50, 53, 55, 58, 59, 60, 61, 63, 64, 65, 66, 67, 68, 69, and 70 of Appendix A of NUREG-2123, describes certain future programs and activities to be completed before the period of extended operation. Energy Northwest shall complete these activities no later than June 20, 2023, and shall notify the NRC in writing when implementation of these activities is complete.
- (36) To prevent lateral motion of the core plate, the licensee shall install core plate wedges around the periphery of the core plate within the shroud on or before December 20, 2021. Upon completion of the core plate wedge installation, the licensee shall submit a written report to the NRC staff summarizing the results of the installation. The licensee shall also submit a written report regarding any corrective action taken related to core plate rim hold-down bolts or core plate wedges and the results of extent of condition reviews on or before December 20, 2021.

- D. Exemptions from certain requirements of Appendices G, H and J to 10 CFR Part 50, are described in the Safety Evaluation Report. These exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. Therefore, these exemptions are hereby granted pursuant to 10 CFR 50.12. With the granting of this exemption the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.
- E. The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plan, which contains Safeguards Information protected under 10 CFR 73.21, is entitled: "Columbia Generating Station Physical Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Independent Spent Fuel Storage Installation Plan, Revision 3" submitted May 18, 2006. Energy Northwest shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Energy Northwest CSP was approved by License Amendment No. 222.
- F. Deleted.
- G. The licensee shall notify the Commission, as soon as possible but not later than one hour, of any accident at this facility which could result in an unplanned release of quantities of fission products in excess of allowable limits for normal operation established by the Commission.
- H. The licensee shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.

- I. This renewed license is effective as of the date of issuance and shall expire at midnight December 20, 2043.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "E. J. Leeds", is positioned above the printed name and title.

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Enclosures:

1. Appendix A Technical Specifications
2. Appendix B Environmental Protection Plan
3. Appendix C Additional Conditions

Date of Issuance: May 22, 2012