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

January 31, 2017

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

SUBJECT: COLUMBIA GENERATING STATION - ISSUANCE OF AMENDMENT RE: REVISE TECHNICAL SPECIFICATION TO ADOPT TSTF-522, "REVISE VENTILATION SYSTEM SURVEILLANCE REQUIREMENTS TO OPERATE FOR 10 HOURS PER MONTH" (CAC NO. MF7436)

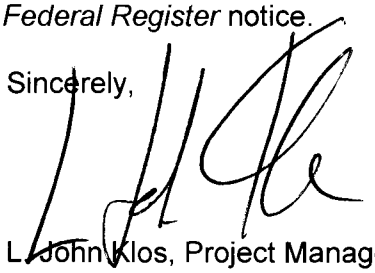
Dear Mr. Reddemann:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 239 to Renewed Facility Operating License No. NPF-21 for the Columbia Generating Station. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated March 3, 2016, as supplemented by letter dated January 19, 2017.

The amendment revises the TS Surveillance Requirements (SRs), which currently require operating ventilation systems with charcoal filters for a 10-hour period at a frequency controlled in accordance with the Surveillance Frequency Control Program (SCFP). The SRs are revised to require operation of the systems for 15 continuous minutes at a frequency controlled in accordance with the SCFP. The amendment is consistent with NRC-approved Technical Specifications Task Force (TSTF) Traveler TSTF-522, Revision 0, "Revise Ventilation System Surveillance Requirements to Operate for 10 hours per Month," as published in the *Federal Register* on September 20, 2012 (77 FR 58428), and there are minor variations or deviations from the TS changes described in TSTF-522, Revision 0. The changes revise TS 3.6.4.3, "Standby Gas Treatment (SGT) System," and TS 3.7.3, "Control Room Emergency Filtration (CREF) System."

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,



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

Docket No. 50-397

Enclosures:
1. Amendment No. 239 to NPF-21
2. Safety Evaluation

cc w/encls: Distribution via Listserv

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

ENERGY NORTHWEST

DOCKET NO. 50-397

COLUMBIA GENERATING STATION

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 239
License No. NPF-21

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Energy Northwest (licensee), dated March 3, 2016, as supplemented by letter dated January 19, 2017, 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;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment 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;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-21 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 239 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert J. Pascarelli, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License No. NPF-21
and Technical Specifications

Date of Issuance: January 31, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 239

COLUMBIA GENERATING STATION

RENEWED FACILITY OPERATING LICENSE NO. NPF-21

DOCKET NO. 50-397

Replace the following pages of the Renewed Facility Operating License No. NPF-21 and Appendix A, Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Facility Operating License

REMOVE	INSERT
- 4 -	- 4 -

Technical Specifications

REMOVE	INSERT
3.6.4.3-2	3.6.4.3-2
3.7.3-3	3.7.3-3

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 239 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.

(3) Deleted.

(4) Deleted.

(5) Deleted.

(6) Deleted.

(7) Deleted.

(8) Deleted.

(9) Deleted.

(10) Deleted.

(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.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two SGT subsystems inoperable during OPDRVs.	E.1 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each SGT subsystem for ≥ 15 continuous minutes with heaters operating.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.3.2	Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each SGT subsystem actuates on an actual or simulated initiation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.3.4	Verify each SGT filter cooling recirculation valve can be opened and the fan started.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.3.1	Operate each CREF subsystem for ≥ 15 continuous minutes with the heaters operating.	In accordance with the Surveillance Frequency Control Program
SR 3.7.3.2	Perform required CREF filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.3.3	Verify each CREF subsystem actuates on an actual or simulated initiation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.7.3.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 239 TO

RENEWED FACILITY OPERATING LICENSE NO. NPF-21

ENERGY NORTHWEST

COLUMBIA GENERATING STATION

DOCKET NO. 50-397

1.0 INTRODUCTION

By application dated March 3, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16067A390), as supplemented by letter dated January 19, 2017 (ADAMS Accession No. ML17019A423), Energy Northwest (the licensee) requested changes to the Technical Specifications (TSs; Appendix A to Renewed Facility Operating License No. NPF-21) for the Columbia Generating Station (CGS).

The supplemental letter dated January 19, 2017, provided additional information that clarified the application, did not change the scope of the application as originally noticed, and did not change the U.S. Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination published in the *Federal Register* on May 24, 2016 (81 FR 32805).

The amendment revises the TS Surveillance Requirements (SRs), which currently require operating ventilation systems with charcoal filters for a 10-hour period at a frequency controlled in accordance with the Surveillance Frequency Control Program (SCFP). The SRs are revised to require operation of the systems for 15 continuous minutes at a frequency controlled in accordance with the SCFP. The amendment is consistent with U.S. Nuclear Regulatory Commission (NRC)-approved Technical Specifications Task Force (TSTF) Traveler TSTF-522, Revision 0, "Revise Ventilation System Surveillance Requirements to Operate for 10 hours per Month," as published in the *Federal Register* on September 20, 2012 (77 FR 58428), and there are no proposed variations or deviations from the TS changes described in TSTF-522, Revision 0.

Specifically, the changes revise TS 3.6.4.3, "Standby Gas Treatment (SGT) System," and TS 3.7.3, "Control Room Emergency Filtration (CREF) System."

2.0 REGULATORY EVALUATION

The air filtration and adsorption systems are required at nuclear power plants to lower the concentration of airborne radioactive material that may be released from the site to the environment due to a design basis event. Lowering the concentration of airborne radioactive

materials can mitigate doses to plant operators and members of the public in the event of a design basis event. A typical system consists of ventilation ductwork, fans, dampers, valves, instrumentation, prefilters or demisters, high-efficiency particulate air (HEPA) filters, heaters, and activated charcoal adsorbers. These systems are tested by operating the systems and monitoring the response of the overall system as well as individual components. Laboratory tests of charcoal adsorbers are also performed to ensure the charcoal adsorbs an acceptable amount of radioactive gasses.

Current testing requirements for the air filtration and adsorption systems state that the systems should be operated for at least 10 continuous hours with heaters operating per the SFCP. These requirements are based on NRC staff guidance for testing air filtration and adsorption systems that has been superseded. New NRC staff guidance states at least 15 continuous minutes of ventilation system operation with heaters operating in accordance with the SFCP is acceptable for those plants that test ventilation system adsorption at a relative humidity of less than 95 percent. Plants that test ventilation system adsorption at a relative humidity of 95 percent do not require heaters for the ventilation system to perform its specified safety function.

The licensee has proposed revising SRs which currently require operating these two engineered safety feature (ESF) ventilation systems for at least 10 continuous hours with the heaters operating at a frequency controlled in accordance with the SCFP. The SRs would be changed to require at least 15 continuous minutes of ventilation system operation with the heaters operating at a frequency controlled in accordance with the SCFP.

The regulatory requirements for design and testing of these systems are contained in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.67 and Part 100, as well as Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," General Design Criteria 19, 41, 42, 43, and 61.

Regulatory Guide (RG) 1.52, Revision 2, "Design, Testing, and Maintenance Criteria for Post-Accident Engineered-Safety-Feature Atmosphere Cleanup System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants" (ADAMS Accession No. ML003740139), was published in March 1978 to provide guidance and criteria acceptable to the NRC staff for licensees to implement the regulations in 10 CFR related to air filtration and adsorption systems.

Regulatory Position 4.d of Revision 2 of RG 1.52 stated that "Each ESF atmosphere cleanup train should be operated at least 10 hours per month, with the heaters on (if so equipped), in order to reduce the buildup of moisture on the adsorbers and HEPA filters." The purpose of this position is to minimize the moisture content in the system and thereby enhance efficiency in the event the system is called upon to perform its design basis function. SRs 3.6.4.3.1 and 3.7.3.1 currently require operating the heaters in the respective ventilation and filtering systems for at least 10 continuous hours at a frequency controlled in accordance with the SCFP. The current Standard Technical Specification (STS) Bases explain that operation of heaters for 10 hours would eliminate moisture on the charcoal adsorbers and HEPA filters.

Subsequently, the NRC staff was informed that 10 continuous hours of system operation would dry out the charcoal adsorber for a brief period of time but, following heater de-energization, the level of moisture accumulation in adsorbers would rapidly return to the pre-test level. The NRC staff found this information persuasive and subsequently issued NRC Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal," dated June 3, 1999

(ADAMS Accession No. ML082350935 and errata sheet dated August 23, 1999, at ADAMS Accession No. ML031110094). GL 99-02 requested licensees to confirm their charcoal testing protocols accurately reflect the adsorber gaseous activity capture capability. GL 99-02 also requested the licensees to account for the effects of moisture accumulation in adsorbers.

In GL 99-02, the NRC staff concluded that plants that test ESF ventilation system adsorption at a relative humidity of 70 percent in accordance with American Society of Testing and Materials (ASTM) D3803-1989 require heater operation during monthly surveillances to demonstrate that the ventilation system can perform its specified safety function. Conversely, those plants that test ESF ventilation system adsorption at a relative humidity of 95 percent in accordance with ASTM D3803-1989 do not require heater operation during monthly surveillances to demonstrate that the ventilation system can perform its specified safety function.

Therefore, the NRC staff updated RG 1.52 to include the new information (ADAMS Accession No. ML011710176). RG 1.52, Revision 3, Regulatory Position 6.1 states, in part, that "[e]ach ESF atmosphere cleanup train should be operated continuously for at least 15 minutes each month, with the heaters on (if so equipped), to justify the operability of the system and all its components."

One of the reasons for the previous 10-hour requirement for ventilation system operation with heaters operating was to minimize the effects of moisture on the adsorber's ability to capture gaseous activity. However, these effects are already accounted for in the CGS Ventilation Filter Testing Program by performing testing at a relative humidity of 70 percent. CGS TS 5.5.7, Ventilation Filter Testing Program, requires testing charcoal absorbers in a manner to account for the effects of moisture on the adsorber's ability to capture gaseous activity assuming filter train heater operability. Therefore, the licensee does not propose to remove the requirement to operate heaters from SRs 3.6.4.3.1 and 3.7.3.1.

The NRC's regulatory requirements related to the content of the TS are contained in Section 50.36, "Technical specifications," of 10 CFR. The regulations at 10 CFR 50.36 require that the TS include items in the following categories: (1) safety limits, limiting safety systems settings, and limiting control settings; (2) limiting conditions for operations (LCOs); (3) SRs; (4) design features; and (5) administrative controls. The regulations under 10 CFR 50.36(c)(3) state that SRs are "requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met."

The NRC's guidance for the format and content of licensee TSs can be found NUREG-1434, Revision 4, "Standard Technical Specifications, General Electric BWR/6 Plants," dated April 2012 (ADAMS Accession No. ML12104A195).

3.0 TECHNICAL EVALUATION

3.1 Licensee's Proposed TS Changes

Current SR 3.6.4.3.1 states:

> Operate each SGT subsystem for ≥ 10 continuous hours with heaters operating.

Revised SR 3.6.4.3.1 would state:

> Operate each SGT subsystem for ≥ 15 continuous minutes with heaters operating.

Current SR 3.7.3.1 states:

> Operate each CREF subsystem for ≥ 10 continuous hours with heaters operating.

Revised SR 3.7.3.1 would state:

> Operate each CREF subsystem for ≥ 15 continuous minutes with heaters operating.

3.2 NRC Staff Evaluation

The NRC staff evaluated the licensee's proposed change against the applicable regulatory guidance in RG 1.52, Revision 3. The proposed change would require at least 15 minutes of system, including heater, operation. The NRC staff found that the proposed change is consistent with guidance in RG 1.52, Revision 3.

The NRC staff evaluated the licensee's proposed change against the applicable regulatory guidance in the STS, as modified by TSTF-522. The proposed change adopted the TS format and content, to the extent practicable, contained in the changes made to NUREG-1434 by TSTF-522. The NRC staff found that the proposed change is consistent with guidance in the STS, as modified by TSTF-522.

The NRC staff compared the proposed change to the existing SRs, as well as the regulatory requirements of 10 CFR 50.36. The existing SRs provide assurance that the necessary quality of ventilation systems and components will be maintained and that the LCOs will be met. The proposed change reduces the amount of required system and heater operational time from 10 hours to 15 minutes. The 10-hour operational requirement for heaters was based on using the SR to eliminate moisture in the adsorbers and thus ensure the adsorbers would capture gaseous activity. As discussed in Section 2.0 of this safety evaluation, the effects of moisture on the SGT system and CREF system adsorber's ability to capture gaseous activity are now accounted for in the licensee's Ventilation Filter Testing Program by performing testing at a relative humidity of 70 percent. Since the SRs are no longer relied upon to ensure the effects of moisture on the adsorber's ability to capture gaseous activity are accounted for, the 10-hour heater operational requirement is unnecessary. The NRC staff found that reducing the required minimum system operation time to 15 minutes, consistent with RG 1.52, Revision 3, in conjunction with the Ventilation Filter Testing Program, is sufficient to justify operability of the system and all its components. The NRC staff found that the proposed SRs meet the regulatory requirements of 10 CFR 50.36 because they provide assurance that the necessary quality of SGT and CREF ventilation systems and components will be maintained and that the LCOs will be met. Therefore, the NRC staff concludes that the proposed changes are acceptable.

The regulation at 10 CFR 50.36 states, in part, that "[a] summary statement of the bases or reasons for such specifications ... shall also be included in the application, but shall not become part of the technical specifications." The licensee may make changes to the TS Bases without prior NRC staff review and approval in accordance with the TS Bases Control Program in

TS 5.5.10. Accordingly, along with the proposed TS changes, the licensee also submitted TS Bases changes corresponding to the proposed TS changes.

3.3 Variations from TSTF-522

The NRC staff acknowledges the following variations from the TS changes described in the TSTF-522, Revision 0, or the applicable parts of the NRC staff's model safety evaluation (SE), dated September 13, 2012:

- CGS TSs utilize a different nomenclature than the STS on which TSTF-522 was based. Specifically, CGS TS 3.7.3 is titled "Control Room Emergency Filtration System" whereas the cited specification in TSTF-522 is titled "Control Room Fresh Air System."

- There are TS numbering variations between CGS's TS and the STS in NUREG-1434. For example, CGS TS 5.5.7, "Ventilation Filter Testing Program," is numbered and entitled in NUREG-1434 as TS 5.5.8, "Ventilation Filter Testing Program (VFTP)."

The NRC staff finds that these differences are administrative variations and do not affect the applicability of TSTF-522 to the CGS TS.

The NRC staff finds that testing the SGT and CREF ventilation systems for 15 minutes with heaters operating and performing the charcoal testing at 70 percent relative humidity is sufficient to verify that the safety function of the SGT and CREF systems is met and, that this change does not reduce the margin of safety for these ESF systems.

Based on the above, the NRC staff concludes that the change is acceptable because it maintains the margin of safety and follow the guidance of GL 99-02, ASTM D3803-1989, and RG 1.52, Revision 3.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Washington State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes an inspection or surveillance requirement. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding published in the *Federal Register* on May 24, 2016 (81 FR 32805). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: David A. Nold, NRR/DSS/SBPB

Date: January 31, 2017

COLUMBIA GENERATING STATION - ISSUANCE OF AMENDMENT RE: REVISE TECHNICAL SPECIFICATION TO ADOPT TSTF-522, "REVISE VENTILATION SYSTEM SURVEILLANCE REQUIREMENTS TO OPERATE FOR 10 HOURS PER MONTH" (CAC NO. MF7436) DATED JANUARY 31, 2017.

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ADAMS Accession No.: ML16357A646 *SE memo dated June 15, 2016 **via e-mail

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DSS/SBPB/BC*	NRR/DSS/STSB/BC**
NAME	JKlos	PBlechman (JBurkhardt for)	RDennig	AKlein (MChernoff for)
DATE	12/21/16	1/6/17	6/15/16	12/29/16
OFFICE	OGC - NLO	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM	
NAME	BHarris	RPascarelli	JKlos	
DATE	1/26/17	1/30/17	1/31/17	

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