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

September 4, 2020

Mr. Bradley J. Sawatzke
Chief Executive Officer
Energy Northwest
Mail Drop 1023
76 North Power Plant Loop
P.O. Box 968
Richland, WA 99352-0968

SUBJECT: COLUMBIA GENERATING STATION - ISSUANCE OF AMENDMENT NO. 261 RE: REVISE TECHNICAL SPECIFICATION 3.8.7, "DISTRIBUTION SYSTEMS – OPERATING" (**EXIGENT CIRCUMSTANCES**) (EPID L-2020-LLA-0181)

Dear Mr. Sawatzke:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 261 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 August 20, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20233A976), as supplemented by letters dated August 24, 2020; August 27, 2020; and September 1, 2020 (ADAMS Accession Nos. ML20238A706, ML20240A345, and ML20245E682, respectively).

The license amendment adds a one-time extension to the completion time of TS 3.8.7, "Distribution Systems – Operating," Condition A, from 8 hours to 16 hours, specifically associated with Division 2 alternating current electrical power distribution inoperability caused by inoperability of 120/240-volt power panel E-PP-8AE during repairs on its supply transformer E-TR-8A/1.

A copy of the related safety evaluation is also enclosed. The safety evaluation describes the exigent circumstances under which the amendment is being issued and provides a final no significant hazards consideration determination. Notice of issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Mahesh C. Chawla
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-397

Enclosures:
1. Amendment No. 261 to NPF-21
2. Safety Evaluation

cc: 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. 261
License No. NPF-21

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

   A. The application for amendment by Energy Northwest (the licensee), dated August 20, 2020, as supplemented by letters dated August 24, 2020; August 27, 2020; and September 1, 2020, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and 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. 261 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.

3. The license amendment is effective as of its date of issuance and shall expire at 0800 Pacific Standard Time on October 1, 2020.

FOR THE NUCLEAR REGULATORY COMMISSION

SAMSON S. LEE

Digitally signed by SAMSON S. LEE
Date: 2020.09.04 11:37:25 -04'00'

Samson S. Lee, Acting Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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

Date of Issuance: September 4, 2020

ATTACHMENT TO LICENSE AMENDMENT NO. 261

TO RENEWED FACILITY OPERATING LICENSE NO. NPF-21

COLUMBIA GENERATING STATION

DOCKET NO. 50-397

Replace the following pages of Renewed Facility Operating License No. NPF-21 and the 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.

Renewed Facility Operating License

REMOVE	INSERT
-4-	-4-

Technical Specifications

REMOVE	INSERT
3.8.7-1	3.8.7-1
3.8.7-2	3.8.7-2
3.8.7-3	3.8.7-3
----	3.8.7-4

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 261 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.

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(11) Deleted.

(12) Deleted.

(13) Deleted.

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Distribution Systems - Operating

LCO 3.8.7 The following AC and DC electrical power distribution subsystems shall be OPERABLE:

a. Division 1 and Division 2 AC electrical power distribution subsystems;

b. Division 1 and Division 2 125 V DC electrical power distribution subsystems;

c. Division 1 250 V DC electrical power distribution subsystem; and

d. Division 3 AC and DC electrical power distribution subsystems.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Division 1 or 2 AC electrical power distribution subsystem inoperable.	A.1 Restore Division 1 and 2 AC electrical power distribution subsystems to OPERABLE status.	---------NOTES---------- These completion times may not be used simultaneously. 1. Until October 1, 2020, a Completion Time of 16 hours may be used for replacement of E-TR-8A/1. 2. Until June 30, 2021, a Completion Time of 16 hours may be used for replacement of WMA-42-8F1E or its failed starter coil. ---------- 8 hours <u>AND</u> 16 hours from discovery of failure to meet LCO 3.8.7.a or b

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Division 1 or 2 125 V DC electrical power distribution subsystem inoperable.	B.1 Restore Division 1 and 2 125 V DC electrical power distribution subsystems to OPERABLE status.	----------NOTE---------- Until June 30, 2021, a Completion Time of 16 hours is applicable for replacement of WMA-42-8F1E or its failed starter coil. ---------- 2 hours AND 16 hours from discovery of failure to meet LCO 3.8.7.a or b
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 ----------NOTE---------- LCO 3.0.4.a is not applicable when entering MODE 3. _____ Be in MODE 3.	 12 hours
D. Division 1 250 V DC electrical power distribution subsystem inoperable.	D.1 Declare associated supported feature(s) inoperable.	Immediately
E. One or more Division 3 AC or DC electrical power distribution subsystems inoperable.	E.1 Declare High Pressure Core Spray System inoperable.	Immediately
F. Two or more divisions with inoperable electrical power distribution subsystems that result in a loss of function.	F.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct breaker alignments and indicated power availability to required AC and DC electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 261 TO

RENEWED FACILITY OPERATING LICENSE NO. NPF-21

ENERGY NORTHWEST

COLUMBIA GENERATING STATION

DOCKET NO. 50-397

1.0 INTRODUCTION

By application dated August 20, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20233A976), as supplemented by letters dated August 24, 2020; August 27, 2020; and September 1, 2020 (ADAMS Accession Nos. ML20238A706 ML20240A345, and ML20245E682, respectively), Energy Northwest (the licensee) requested a license amendment to revise Columbia Generating Station (Columbia) Technical Specification (TS) 3.8.7, "Distribution Systems – Operating." This license amendment request (LAR) would add a one-time extension of the completion time (CT) of TS 3.8.7 Condition A from 8 hours to 16 hours, specifically associated with Division 2 alternating current (AC) electrical power distribution inoperability caused by inoperability of 120/240-volt (V) power panel E-PP-8AE during repairs on its supply transformer E-TR-8A/1.

As discussed in its application dated August 20, 2020, the licensee requested that the proposed amendment be processed by the U.S. Nuclear Regulatory Commission (NRC, the Commission) on an exigent basis in accordance with the provisions in Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.91(a)(6). The NRC staff's evaluation regarding the exigent circumstances is discussed in Section 4.0 of this safety evaluation.

The supplemental letters dated August 24, 2020; August 27, 2020; and September 1, 2020, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Tri-City Herald*, located in Kennewick, Washington, from August 23, 2020, through August 25, 2020.

2.0 REGULATORY EVALUATION

2.1 System Description

Onsite Class 1E AC Power

In the LAR dated August 20, 2020, the licensee stated:

> The onsite Class 1E AC electrical power distribution system is divided by division into three independent AC electrical power distribution subsystems consisting of 4160, 480, 120/240, and 120/208 V buses described in the table below. Each division is considered a "subsystem" of the Class 1E AC and Direct Current (DC) electrical power distribution system.

VOLTAGE	**DIVISION 1**	**DIVISION 2**	**DIVISION 3**
4160 V	[Switchgear] SM-7	[Switchgear] SM-8	[Switchgear] SM-4
480 V	[Switchgear] SL-71 and SL-73 Motor Control Centers 7A, 7AA, 7B, 7BA, 7BB, and 7F Power Panel PP-7AB	[Switchgear] SL-81 and SL-83 Motor Control Centers 8A, 8AA, 8B, 8BA, 8B-B, and 8F Power Panel PP-8AB	3 Phase Engine and Generator Auxiliary Loads Power Panel Motor Control Center 4A
120/240 V	1 Phase Power Panels PP-7AA, PP-7AF, PP-7AE, and PP-7A	1 Phase Power Panels PP-8AA PP- 8AF, PP-8AE, and PP-8A	1 Phase Power Panel PP-4A
120/208 V	3 Phase Power Panels PP-7AG and PP-7AAA	3 Phase Power Panels PP-8AG and PP-8AAA	

In the LAR dated August 20, 2020, the licensee also stated:

> The required AC power distribution subsystems listed in the table above ensure the availability of AC electrical power for the systems required to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence or a postulated design basis accident (DBA). Maintaining the Division 1, 2, and 3 AC (and DC) electrical power distribution subsystems OPERABLE ensures that the redundancy incorporated into the design of Engineered Safety Features (ESF) is not defeated. Any two of the three divisions of the distribution system are capable of providing the necessary electrical power to the associated ESF components. Therefore, a single failure within any system or within the electrical power distribution subsystems does not prevent safe shutdown of the reactor.

> Power panel E-PP-8AE is one of the required 120/240V AC instrument buses required to be operable to support Division 2 AC subsystem operability. Transformer E-TR-8A/1 is the voltage-regulating transformer for E-PP-8AE, supplying power from the 120/240V critical bus E-PP-8A.

In the supplement dated August 24, 2020 (in response to the NRC staff's request for additional information (RAI) No. 1), the licensee provided various single line diagrams showing the lineup of various power panels for each of the three divisions.

2.2 Reason for the Proposed Change

A distribution transformer E-TR-8A/1 is currently in degraded condition (but still operable) and requires urgent repairs or replacement. During repairs or replacement of this transformer, the associated required Division 2, 120/240 V Power Panel E-PP-8AE will become inoperable. In the LAR, the licensee stated that replacement of transformer E-TR-8A/1 and post-maintenance testing is estimated to take approximately 14 hours, exceeding the current CT of TS 3.8.7 Condition A by approximately 6 hours.

In the LAR, the licensee provided the following reason for the proposed license amendment:

> A reduced voltage trend was identified in the Corrective Action Program (CAP) on August 6, 2020, on the supply transformer (E-TR-8A/1) to one of the required AC electrical distribution panels (E-PP-8AE). Power panel E-PP-8AE provides power to a range of plant equipment. Power panel E-PP-8AE voltage is monitored weekly through surveillance test procedures. Plant operating experience with these particular transformers suggests a degrading electrolytic capacitor may be causing the voltage anomaly.
>
> The phase voltages for E-PP-8AE have been found to be approaching administrative minimum voltage (A-G 115V and B-G 114V) and the 114V minimum allowable voltage for both phases, during several recent measurements. The degrading voltage to the power panel is indicative of failure of the transformer to regulate its output voltage as expected. It is noted, by successfully meeting their surveillance requirements, electrical power panel E-PP-8AE and its supplying transformer E-TR-8A/1, remain operable and are capable of continuing to perform their intended FSAR-credited and TS-credited safety functions. Therefore, operation in the current configuration does not pose undue risk to the health and safety of the public or the environment. It is further noted, there is reasonable assurance that E-PP-8AE and E-TR-8A/1, continue to remain operable in the near-term because they are capable of meeting a more conservative and stringent frequency of monitoring, as evidenced by the self-imposed Adverse Condition Monitoring Plan (ACMP).
>
> On August 7, 2020, Operations prepared and approved an ACMP to expedite monitoring and planning of repair or replacement of the transformer. Current response to the issue is being driven by the ACMP and is further supported by a Decision Making Matrix approved by the Plant General Manager. Per the ACMP, voltage monitoring was initially increased to once daily. When voltage readings fell below 115.5 [V], shiftly monitoring was instituted per the ACMP. Because it is unpredictable to when E-TR- 8A/1 will fail to a point where the output voltage to E-PP-8AE is at or below the administrative minimum voltage values (A-G 115V

and B-G 114V) or the 114V minimum allowable voltage for both phases, indefinite operation in this configuration increases the window of vulnerability, hence the exigent nature of this LAR. In order to prevent failure, which could cause a fire in the Division 2 Reactor Protection System room, an engineering evaluation has recommended replacement of E-TR-8A/1 at the earliest opportunity. Energy Northwest wishes to eliminate the potential window of vulnerability by submitting this exigent LAR for the Commissions' review and approval.

2.3 Proposed TS Changes

The current TS 3.8.7 limiting condition for Operation (LCO) requires Division 1, 2, and 3 AC and DC electrical power distribution subsystems to be operable whenever Columbia is in Modes 1, 2, or 3. With one Division 1 or 2 AC electrical power distribution subsystem inoperable, TS 3.8.7 Condition A requires restoration of the affected subsystem within 8 hours. If the required action of TS Condition 3.8.7.A cannot be met, the plant must be in Mode 3 within an additional 12 hours in accordance with TS 3.8.7 Condition C.

The proposed change would revise the CT for TS 3.8.7 Condition A by adding a note (the changes are indicated in **bold below**) to the CT for restoring Division 1 and 2 AC electrical power distribution subsystems to operable status to allow a one-time 16-hour CT. This note will state:

NOTE**S**

These completion times may not be used simultaneously.

1. **Until October 1, 2020, a Completion Time of 16 hours is applicable for replacement of E-TR-8A/1.**

2. Until June 30, 2021, a Completion Time of 16 hours is applicable for replacement of WMA-42-8F1E or its failed starter coil.

The licensee also stated that Energy Northwest will be taking action to minimize the overall time power panel E-PP-8AE, and transformer E-TR-8A/1 will be out of service and inoperable. This will include ensuring that the replacement parts will be staged for the required work and that maintenance crews will have conducted dry runs. Also, based on the notes applicable to the CT requested in this LAR and to the CT applicable to the previously issued Amendment No. 258, dated May 12, 2020 (ADAMS Accession No. ML20125A080), the maximum CT for TS 3.8.7 Condition A will be limited to 16 hours.

In the supplement dated September 1, 2020 (response to RAI No. 8), the licensee stated:

Columbia will not voluntarily enter into note language related WMA-42-8F1E or its starter coil while engaged in the repair of E-TR-8A/1 or vice versa.
Both E-TR-8A/1 and WMA-42-8F1E are Division 2 resources. If WMA-42-8F1E or its starter coil fail while E-TR-8A/1 work is ongoing, Division 1 resources which are protected and available during the planned evolution on E-TR-8A/1 will provide support.

2.4 Applicable Regulatory Requirements

The NRC staff reviewed the LAR based on the following regulatory requirements.

Under 10 CFR 50.92(a), determination on whether to grant an applied-for license amendment is to be guided by the considerations that govern the issuance of initial licenses or construction permits to the extent applicable and appropriate. Both the common standards for licenses and construction permits in 10 CFR 50.40(a), and those specifically for issuance of operating licenses in 10 CFR 50.57(a)(3), provide that there must be "reasonable assurance" that the activities at issue will not endanger the health and safety of the public.

The regulation in 10 CFR 50.36, "Technical specifications," establishes the requirements related to the content of the TSs. Pursuant to 10 CFR 50.36(c), TSs are required to include items in five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) LCOs; (3) surveillance requirements; (4) design features; and (5) administrative controls. The proposed changes in this LAR relate to the LCO category.

The regulation in 10 CFR 50.36(c)(2)(i) states, in part, that:

> Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met.

To issue the amendment, the NRC must find, among other things, reasonable assurance that the continued operation during the 16-hour CT will not endanger the health and safety of the public.

In Columbia's Final Safety Analysis Report (FSAR), Section 3.1, "Conformance with NRC General Design Criteria," the licensee described that Columbia meets the intent of Appendix A, "General Design Criteria for Nuclear Power Plants" to 10 CFR Part 50, effective May 21, 1971, and subsequently amended on July 7, 1971.

3.0 TECHNICAL EVALUATION

The licensee has proposed a one-time extension in the CT for TS 3.8.7 Condition A, from 8 hours to 16 hours to support restoration of a Division 2 power transformer (E-TR-8A/1) that provides power to 120/240 V AC power panel E-PP-8AE. Power panel E-PP-8AE is a required electrical distribution panel to satisfy Division 2 AC subsystem operability.

The NRC staff has evaluated the proposed TS changes considering both deterministic and risk-insights to determine if the licensee justified continued operation during the additional 8 hours.

3.1 Deterministic Evaluation

In the LAR, the licensee stated that any two of the three divisions of the distribution system can provide power to engineered safety feature (ESF) components to safely shut down the plant during an anticipated operational occurrence or a design-basis accident. The deterministic

evaluation is based on a defense-in-depth concept to ensure that the remaining AC subsystems during the requested CT can safely shut down the plant during an anticipated operational occurrence or a design-basis accident.

In the LAR, the licensee described the impact of the outage of power transformer (E-TR-8A/1) and the associated 120/240 V AC power panel E-PP-8AE on the following systems:

- Standby Gas Treatment System
- Standby Liquid Control System
- Automatic Depressurization System
- Containment Instrument Air System
- Reactor Building Heating Ventilation and Air Conditioning System
- Primary Containment Isolation Valves
- Secondary Containment Isolation Valves
- Miscellaneous System Impacts

Based on the discussion provided in the LAR, the staff finds that impact on the above systems will be minimal or will be adequately managed by the licensee, and the plant would continue to have adequate systems for safe shutdown.

Postulated Simultaneous Transformers Failure

The NRC staff evaluated whether similar distribution transformers in the other divisions can be subject to the same type of degradation or failures. The staff requested the licensee to provide additional information such as recent operating experience with other similar transformers. Based on information provided by the licensee in its supplements dated August 24, 2020, and August 27, 2020, the staff findings are summarized as follows:

(1) These transformers are of voltage regulating type to provide 120/240 V or 120/208 V small power, control, and instrument power to various ESF equipment.

(2) The main cause of degradation of these similar transformers is due to the degradation of electrolyte capacitors connected in the output voltage section of the transformers.

(3) Based on information provided in the supplement dated August 24, 2020 (response to RAI No. 5), and August 27, 2020 (response to RAI No. 6), the degradation is a slow process. All transformers are currently in healthy condition except transformer E-TR-8A/1 feeding power panel E-PP-8AE (Division 2). Transformer E-TR-8A/1 has significant degradation and requires early repairs or replacement.

(4) Based on curves provided in the supplement dated August 24 (response to RAI No. 5), the transformer E-TR-7A/1 feeding power panel E-PP-7AE (Division 1) is also showing signs of degradation, although still in a better condition than transformer E-TR-8A/1.

The likelihood of simultaneous failure (degradation to the point considered as failure (i.e., unable to provide requisite voltage to ESF equipment)) of two transformers (E-TR-8A/1 and E-TR-7A/1) in a short period of required CT of 16 hours is expected to be low. However, to evaluate the safety of the plant, in an RAI dated August 26, 2020 (ADAMS Accession

No. ML20239A970), the staff requested the licensee to describe how the plant can safely shut down under the postulated simultaneous condition of:

- loss-of-offsite power (LOOP),
- failure of E-TR-8A/1 (Division 2), and
- failure of E-TR-7A/1 (Division 1).

Considering that a LOOP occurrence would have relatively higher probability as compared to a loss-of-coolant accident, the staff considered this scenario important for the deterministic safety evaluation.

In its supplement dated August 27, 2020 (response to RAI No. 7), the licensee described that deenergizing of both E-PP-7AE and E-PP-8AE power panels would impact the following systems to a limited extent:

- Control Room Emergency Filtration System,
- Control Room Air Conditioning System,
- Standby Gas Treatment System,
- Automatic Depressurization System,
- Containment Instrument Air,
- Standby Liquid Control System,
- Reactor Building Heating Ventilation and Air Conditioning System,
- Primary Containment Isolation Valves, and
- Secondary Containment Isolation Valves.

The licensee stated that the limited impact would not prevent the plant to perform a safe shutdown, remove decay heat, or achieve and maintain cold shutdown conditions since the onsite emergency diesel generators will provide power to the necessary equipment with existing procedures.

The staff reviewed the information provided by the licensee and evaluated the impact on the safety function of each of the above systems. Based on functions of the above safety-related systems as described in the Updated Final Safety Analysis Report, the staff finds the impact on the safe shutdown capability of the systems will be limited. The systems will be able to continue to provide their safety-related function. Therefore, the staff finds that the plant will have the capability for safe shutdown, even under the scenario of low likelihood of inoperability of transformer E-TR-8A/1 (Division 2) and transformer E-TR-7A/1 (Division 1) (considered inoperable but actually operable showing a small degradation) and a LOOP occurring in a short period CT of 16 hours.

Configuration Risk Management Program and Compensatory Measures

In the LAR, the licensee stated that Columbia has a configuration risk management program. Plant risk is assessed and managed in accordance with Plant Procedure Manual 1.5.14, “Risk Assessment and Management for Maintenance/Surveillance Activities.”

Based on the risk-significant configurations, the licensee will implement the following risk-management actions as prudent measures during the allowed outage time extension for E-PP-8AE:

- The following equipment will be protected:
  - E-PP-7AE,
  - Hardened containment vent,
  - Safety and non-safety related CIA Train A, and
  - Safety related CIA Train B.

- Pre-job briefs will increase operator awareness of the following operator actions:
  - CIA nitrogen bottle replacement,
  - Hardened containment venting, and
  - Manual containment venting.

- The licensee will verify that severe weather conditions are not forecasted.

Based on the above description of the configuration risk management program and the risk-management actions, the staff has reasonable assurance that the plant risk will be adequately managed, and the risk will remain low.

Based on the deterministic evaluation provided in this section of the safety evaluation, the NRC staff has adequate assurance that the plant will continue to have adequate systems for safe shutdown of the plant during the proposed CT of 16 hours.

3.2 Risk Insights

The licensee stated that the LAR was a one-time exigent request based on a deterministic evaluation further supported with risk insights described in its letter dated August 20, 2020. The licensee further stated that the exigent request was based on the need to replace power transformer E-TR-8A/1, which provides power to the 120/240V AC power panel E-PP-8AE, and the time required to replace the transformer, which exceeded the allowed CT described in TS 3.8.7 Condition A. As stated in the LAR, the evaluation is only supported by risk insights. Therefore, although the LAR contains probabilistic risk assessment (PRA) information, it is not a risk-informed application. Therefore, the NRC staff determined that it did not need to review the licensee's PRA.

On August 15, 2019, Columbia exigent LAR (ADAMS Accession No. ML19227A370), as supplemented, requested a one-time extension of the CT of TS 3.8.7 Action A to replace failing transformer E-TR-7A/2. Amendment No. 254 was issued by letter dated August 26, 2019 (ADAMS Accession No. ML19234A016). The August 20, 2020, Columbia exigent LAR, as supplemented, requested a one-time extension of the CT of TS 3.8.7 Action A to replace failing transformer E-TR-8A/1. In a letter dated August 22, 2020 (ADAMS Accession No. ML20237F264), the NRC staff requested an evaluation of the potential for a common cause degradation mechanism between the two transformers (E-TR-8A/1 and E-TR-7A/2).

In its supplement dated August 24, 2020 (response to RAI No. 5), the licensee confirmed that the transformers are similar and that these and other similar transformers are monitored and managed in accordance with station preventative maintenance strategy, including periodic replacement of transformers at the end of their service life during refueling outages. The licensee also clarified that weekly voltage surveillances under TS Surveillance Requirement 3.8.7.1 showed gradual declining performance leading to the two exigent requests to extend the CT to allow for replacement of the transformers during power operations. However, the licensee identified key distinctions between the declining performance of the two transformers. The degradation of E-TR-7A/2 (replaced in 2019) occurred as the transformer

was nearing expected end of service life. By contrast, degradation of E-TR-8A/1 (to be replaced during this extended CT) is occurring at approximately half of the expected service life and following a capacitor replacement. The licensee stated that these differences do not support a common cause conclusion between the transformers involved with the 2019 LAR and the current LAR.

The NRC staff finds that the evaluation provided by the licensee is sufficient to exclude common cause mechanism from the risk insights associated with the request to extend the CT for transformer E-TR-8A/1 from 8 to 16 hours.

The NRC staff determined that "special circumstances," as discussed in NUREG-0800, Section 19.2, "Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance" (ADAMS Accession No. ML071700658), which would have necessitated additional risk information be provided, did not exist. As such, the NRC staff did not request any additional risk information associated with the review of this LAR.

While this is not a risk-informed LAR, the licensee provided risk insights related to the proposed change in Section 3.1 of Enclosure 1 to the LAR. The risk insights provided by the licensee included an evaluation that concluded there is no common cause issue and provided numerical results. Because this is not a risk-informed LAR, the probabilistic risk assessment models used to derive risk insights were not reviewed by the staff to determine their technical acceptability to support this LAR. As a result, the staff did not rely on the numerical results provided by the licensee.

However, the staff considered the licensee-provided qualitative risk insights to aid in the deterministic review of the proposed change. In addition, the NRC staff conducted an independent assessment using the NRC's standardized plant analysis risk model for Columbia. The results of the staff's assessment and the licensee-provided risk insights support the engineering conclusions that the requested increased CT has a minimal impact on risk. The NRC staff concludes that the available risk insights did not challenge the engineering conclusions.

3.3 Evaluation of TS 3.8.7 Changes

Section 2.3 of this safety evaluation describes the licensee's proposed TS changes. The NRC staff reviewed the licensee's evaluation as explained below.

The proposed change would revise the CT for TS 3.8.7 Condition A by adding a note to the CT for restoring Division 1 and 2 AC electrical power distribution subsystems to operable status to allow a one-time 16-hour CT. The staff performed a deterministic evaluation and considered risk insights as discussed in Sections 3.1 and 3.2 of this safety evaluation, respectively.

With the addition of the proposed note, TS 3.8.7 Condition A would have two notes active at the same time that extend CTs of two different inoperable components in Division 2. The licensee proposed a limitation in its letter dated September 1, 2020, that the two CT extensions to 16 hours may not be used simultaneously.

The NRC staff reviewed the proposed changes in the LAR and supplemental letters. The NRC staff concluded that the new TS 3.8.7 Condition A note 1, which extends the CT from 8 to 16 hours to allow online repair of transformer E-TR-8A/1 and the associated caveat that both notes should not be used simultaneously are written in a style consistent with the current

Columbia TSs. The NRC staff finds the limitation for the application of the notes acceptable because it minimizes the challenge to the plant systems.

3.4 Technical Evaluation Conclusion

Based on the technical evaluation described in Section 3.0 above, the NRC staff finds the proposed changes to TS 3.8.7 Condition A are acceptable and will provide reasonable assurance that the activities at issue will not endanger the health and safety of the public. With the additional 8 hours of CT, there is still reasonable assurance that the subject activities will not endanger the health and safety of the public.

4.0 EXIGENT CIRCUMSTANCES

4.1 Background

As discussed in the LAR, the licensee requested that the proposed amendment be processed by the NRC on an exigent basis.

The NRC's regulations contain provisions for issuance of amendments when the usual 30-day public comment period cannot be met. These provisions are applicable under exigent circumstances. Consistent with the requirements in 10 CFR 50.91(a)(6), exigent circumstances exist when: (1) a licensee and the NRC must act quickly, (2) time does not permit the NRC to publish a *Federal Register* notice allowing 30 days for prior public comment, and (3) the NRC determines that the amendment involves no significant hazards consideration.

Under the provisions in 10 CFR 50.91(a)(6), the NRC notifies the public in one of two ways: (1) by issuing a *Federal Register* notice providing an opportunity for hearing and allowing at least 2 weeks from the date of the notice for prior public comments, or (2) by using local media to provide reasonable notice to the public in the area surrounding the licensee's facility. In this case, the NRC used the second approach and published a public notice in the *Tri-City Herald*, located in Kennewick, Washington (https://www.tri-cityherald.com), a newspaper local to the licensee's facility, from August 23, 2020, through August 25, 2020.

4.2 Licensee's Basis for Exigent Circumstances

As stated in Section 2.3 of the LAR, consistent with the requirements of 10 CFR 50.91(a)(6), the licensee believes an exigent circumstance exists based on the following:

- The station has acted to address an unforeseen degraded condition on a transformer that feeds one of the required Class 1E AC electrical panels.

  On August 6, 2020, through monitoring and trending of the low output voltage condition on E-TR-8A/1, a degrading condition was identified and a recommendation was made to replace the transformer at the next opportunity since further degradation may occur.

  Through work scope planning it was determined that the replacement activity and restoration of operability of the affected required panel would take up to 6 hours longer than the allowed completion time of 8 hours (i.e., up to 14 hours).

- Internal operating experience associated with a failure of this type of transformer in 2007 has shown that lightly loaded transformers of this type are susceptible to accelerated degradation.

  The transformer is contained in Columbia's Preventive Maintenance Optimization Living Program. Based on the engineering input for these transformers, preventive maintenance is performed every 10 years and the scope is clean, inspect, and replace capacitors. The capacitors in this transformer were replaced in 2015. The degraded condition has been entered into Columbia's CAP for evaluation.

- Extending the allowed completion time to 16 hours would allow for corrective maintenance and subsequent retest and would prevent the station from an unnecessary plant shutdown without a corresponding health and safety benefit.

  The technical analysis through the use of deterministic and risk insights supports the conclusion that the resulting risk is acceptable and consistent with the NRC safety goals.

- The proposed amendment involves a no significant hazards consideration.

NRC Staff Conclusion

The licensee and the Commission must act quickly because this amendment action allows the earliest opportunity for repair and replacement of supply transformer E-TR-8A/1 and avoids any further plant impact that may be created should the transformer continue to degrade. The licensee acted in a quick and timely manner with the submission of this amendment request. Based on these findings and the determination that the amendment involves no significant hazards consideration, as discussed below, the NRC staff has determined that a valid need exists for issuance of the license amendment using the exigent provisions of 10 CFR 50.91(a)(6).

5.0 PUBLIC COMMENTS

Under the provisions in 10 CFR 50.91(a)(6), the NRC notifies the public in one of two ways: (1) by issuing a *Federal Register* notice providing an opportunity for hearing and allowing at least 2 weeks from the date of the notice for prior public comments, or (2) by using local media to provide reasonable notice to the public in the area surrounding the licensee's facility. In this case, the NRC used the second approach and published a public notice in the *Tri-City Herald*, located in Kennewick, Washington (https://www.tri-cityherald.com), a newspaper local to the licensee's facility, from August 23, 2020, through August 25, 2020. The notice included the NRC staff's proposed no significant hazards consideration determination. The notice also provided an opportunity for public comment until August 31, 2020, regarding the staff's proposed no significant hazards consideration determination.

No public comments were received regarding the proposed amendment.

6.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

The NRC's regulation in 10 CFR 50.92(c) states that the NRC may make a final determination, under the procedures in 10 CFR 50.91, that a license amendment involves no significant hazards consideration if operation of the facility in accordance with the amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

As required by 10 CFR 50.91(a), in its LAR dated August 20, 2020, the licensee provided its analysis of the issue of no significant hazards consideration, which is presented below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed amendment does not increase the probability of an accident because the onsite Class 1E alternating current (AC) electrical power distribution cannot initiate an accident. The onsite Class 1E AC electrical power distribution system ensures the availability of AC electrical power for the systems required to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence or a postulated design basis accident.

   The proposed one time 16-hour Completion Time (CT) extension does not alter the conditions, operating configurations, or minimum amount of operating equipment assumed in the safety analysis for accident mitigation. De-energizing power panel E-PP-8AE does not affect Division 1 equipment that would be relied upon during any accident response.

   No changes are proposed in the manner in which the electrical power distribution provides plant protection or which create new modes of plant operation. In addition, the deterministic assessment and the probabilistic risk assessment (PRA) evaluation concluded that there is no increased risk contribution for the increased CT. The proposed change in CT does not affect the probability of any event initiators. There will be no degradation in the performance of, or an increase in the number of challenges imposed on, safety related equipment assumed to function during an accident situation. There will be no change to normal plant operating parameters or accident mitigation performance.

   Therefore, there is no significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously analyzed?

   Response: No.

   The proposed amendment will not create the possibility of a new or different kind of accident because inoperability of Division 2 AC electrical

power distribution is not an accident precursor. There are no hardware changes nor are there any changes in the method by which any plant system performs a safety function. This request does not affect the normal method of plant operation. The proposed amendment does not introduce new equipment, or new way of operation of the system, which could create a new or different kind of accident. No new external threats, release pathways, or equipment failure modes are created. No new accident scenarios, transient precursors, failure mechanisms, or limiting single failures are introduced as a result of this request.

Therefore, the implementation of the proposed amendment will not create a possibility for an accident of a new or different type than those previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

Columbia's AC and DC electrical power distribution subsystems are designed with sufficient redundancy such that a one division may be removed from service for maintenance or testing and the remaining subsystems are capable of providing electrical loads to satisfy the FSAR requirements for accident mitigation or plant shutdown. The deterministic evaluation supports that no addition risk is presumed from the CT extension. The probabilistic safety assessment evaluation concluded that the risk contribution of the CT extension is within allowable limits. There will be no change to the manner in which safety limits or limiting safety system settings are determined nor will there be any change to those plant systems necessary to assure the accomplishment of protection functions. For these reasons, the proposed amendment does not involve a significant reduction in a margin of safety.

Therefore, the proposed change does not involve a significant reduction in the margin of safety.

The NRC staff reviewed the licensee's no significant hazards consideration analysis. Based on the review and on the NRC staff's evaluation of the underlying license amendment request as discussed above, the NRC staff concludes that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff has made a final determination that no significant hazards consideration is involved for the proposed amendment and that the amendment should be issued as allowed by the criteria contained in 10 CFR 50.91.

7.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Washington State official was notified of the proposed issuance of the amendment on August 20, 2020. The State official had no comments.

8.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 published in the *Tri-City Herald* on August 23, 2020, through August 25, 2020. This safety evaluation documents a final no significant hazards consideration determination, and 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.

9.0 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 Contributors: S. Dinsmore
V. Goel
K. West
D. Wu

Date: September 4, 2020

SUBJECT: COLUMBIA GENERATING STATION - ISSUANCE OF AMENDMENT NO. 261 RE: REVISE TECHNICAL SPECIFICATION 3.8.7, "DISTRIBUTION SYSTEMS – OPERATING" (**EXIGENT CIRCUMSTANCES**) (EPID L-2020-LLA-0181) DATED SEPTEMBER 4, 2020

DISTRIBUTION:

PUBLIC	RidsNrrDraAplc Resource	RidsRgn4MailCenter Resource
PM File Copy	RidsNrrDexEeob Resource	DWu, NRR
RidsACRS_MailCTR Resource	RidsNrrLAPBlechman Resource	KWest, NRR
RidsNrrDorlLpl4 Resource	RidsNrrPMColumbia Resource	VGoel, NRR
RidsNrrDssStsb Resource	SDinsmore, NRR	RidsNrrLALRonewicz Resource

ADAMS Accession No.: ML20242A002 *by memorandum **by e-mail

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DE/EEOB/BC*	NRR/DSS/STSB/BC**
NAME	SLee	LRonewicz	BTitus	VCusumano
DATE	9/02/2020	9/02/2020	8/28/2020	9/1/2020
OFFICE	NRR/DRA/APLC/BC(A)**	OGC – NLO**	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM
NAME	AGrady	DRoth	JDixon-Herrity (SLee for)	MChawla
DATE	8/27/2020	9/03/2020	9/04/2020	9/04/2020

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