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GO2-16-155

10 CFR 50.90

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

Subject: **COLUMBIA GENERATING STATION, DOCKET NO. 50-397
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION (RAI) FOR
LICENSE AMENDMENT REQUEST (LAR) TO REDUCE THE REACTOR
STEAM DOME PRESSURE SPECIFIED IN TECHNICAL
SPECIFICATION 2.1.1, "REACTOR CORE SLS" FROM THE REACTOR
SYSTEMS BRANCH (SRXB)**

- References:
1. Letter from Energy Northwest to NRC, dated July 12, 2016, License Amendment Request for Changes to Technical Specification 2.1.1, "Reactor Core SLS" (ADAMS Accession Number ML16194A515)
 2. Email from NRC to Energy Northwest, dated October 31, 2016 (ADAMS Accession Number ML16305A069)

Dear Sir or Madam:

In Reference 1 Energy Northwest submitted a License Amendment Request (LAR) for Columbia Generating Station (Columbia) for Changes to Technical Specification (TS) 2.1.1, "Reactor Core SLS" to Reduce the Reactor Steam Dome Pressure specified in TS 2.1.1 in response to GE Energy-Nuclear (GE) Safety Communication (SC 05-03). The Reference 2 email transmitted a Request for Additional Information (RAI) from the Nuclear Regulatory Commission (NRC) to Energy Northwest in relation to the subject LAR.

In response to Reference 2, Energy Northwest is submitting as Attachment 1, a response to the RAI. Revised TS markup and clean pages are provided as Attachments 2 and 3.

The No Significant Hazards Consideration Determination (NSHCD) provided in the original submittal is not altered by this submittal. This letter and its attachments contain no regulatory commitments.

If there are any questions or if additional information is needed, please contact Mr. R.M. Garcia, Licensing Supervisor, at 509-377-8463.

I declare under penalty of perjury that the foregoing is true and correct. Executed this 17th day of November, 2016.

Respectfully,

A handwritten signature in black ink, appearing to read 'A. L. Javorik', with a long horizontal flourish extending to the right.

A. L. Javorik
Vice President, Engineering

Attachments: As stated

cc: NRC Region IV Administrator
 NRC NRR Project Manager
 NRC Sr. Resident Inspector - 988C
 CD Sonoda - BPN1399 (email)
 WA Horin - Winston & Strawn
 RR Cowley -WDOH (email)
 EFSECutc.wa.gov - EFSEC (email)

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

NRC Request:

In Section 1, "Summary," of Attachment 1 to the application dated July 12, 2016, the license stated:

GE fuel utilizes the GEXL14 and GEXL17 critical power correlations, with an approved pressure range from 700 to 1400 psia [pounds per square inch absolute] (685 to 1385 psig [pounds per square inch gauge]). Columbia has determined that changing the pressure limits in TS SLs 2.1.1.1 and 2.1.1.2 to 685 psig as permitted by NEDC-32851 P-A, Rev. 5, "GEXL14 Correlation for GE14 Fuel", (Reference 2) and NEDC-33292P, Rev. 3, "GEXL17 Correlation for GNF2 Fuel", (Reference 3), provides greater margin for the PRFO transient, such that the dome pressure will remain above the revised TS 2.1 safety limits.

When converting 700 psia to psig, the lower bound pressure for the GEXL17 and GEXL14 correlations is approximately $(700 - 14.7 =) 685.3$ psig. As such, the 685 psig value specified in the proposed TS change is slightly outside the pressure range in which the GEXL17 and GEXL14 correlations are valid for GNF2 and GE14 fuel. Please provide further justification for the proposed 685 psig value or propose a revised pressure value for this TS change that is supported by the GEXL17 and GEXL14 correlations (e.g., 700 psia or 686 psig).

Energy Northwest Response:

A value of 686 psig will be used instead of the previously proposed value of 685 psig. This new value is within the pressure range in which the GEXL14 and GEXL17 correlations are valid for GE14 and GNF2 fuels. The value has been updated and the new markup and proposed clean pages are provided in Attachments 2 and 3. The No Significant Hazards Consideration Determination (NSHCD) previously provided is not altered by this submittal.

PROPOSED TECHNICAL SPECIFICATION MARKUPS

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

- 2.1.1.1 With the reactor steam dome pressure < ~~785~~-686 psig or core flow < 10% rated core flow: |

THERMAL POWER shall be $\leq 25\%$ RTP.

- 2.1.1.2 With the reactor steam dome pressure \geq ~~785~~-686 psig and core flow $\geq 10\%$ rated core flow: |

The MCPR shall be ≥ 1.10 for two recirculation loop operation or ≥ 1.13 for single recirculation loop operation.

- 2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System Pressure SL

Reactor steam dome pressure shall be ≤ 1325 psig.

2.2 SL Violations

With any SL violation, the following actions shall be completed within 2 hours:

- 2.2.1 Restore compliance with all SLs; and

- 2.2.2 Insert all insertable control rods.
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PROPOSED TECHNICAL SPECIFICATION CLEAN PAGES

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

2.1.1.1 With the reactor steam dome pressure < 686 psig or core flow < 10% rated core flow:

THERMAL POWER shall be $\leq 25\%$ RTP.

2.1.1.2 With the reactor steam dome pressure ≥ 686 psig and core flow $\geq 10\%$ rated core flow:

The MCPR shall be ≥ 1.10 for two recirculation loop operation or ≥ 1.13 for single recirculation loop operation.

2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System Pressure SL

Reactor steam dome pressure shall be ≤ 1325 psig.

2.2 SL Violations

With any SL violation, the following actions shall be completed within 2 hours:

2.2.1 Restore compliance with all SLs; and

2.2.2 Insert all insertable control rods.
