



Alex L. Javorik
Vice President, Engineering
P.O. Box 968, Mail Drop PE04
Richland, WA 99352-0968
Ph. 509-377-8555 F. 509-377-2354
aljavorik@energy-northwest.com

March 18, 2014
GO2-14-040

10 CFR 50.90

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

Subject: **COLUMBIA GENERATING STATION, DOCKET NO. 50-397
LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL
SPECIFICATIONS TO ADOPT TSTF-535 REVISION 0**

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Energy Northwest is submitting a request for an amendment to the Technical Specifications (TS) for Columbia Generating Station (Columbia).

The proposed amendment modifies the TS definition of "Shutdown Margin" (SDM) to require calculation of the SDM at a reactor moderator temperature of 68°F or a higher temperature that represents the most reactive state throughout the operating cycle. This change is needed to address new Boiling Water Reactor (BWR) fuel designs which may be more reactive at shutdown temperatures above 68°F.

- Attachment 1 provides a description of the proposed change, the requested confirmation of applicability, and plant specification verifications.
- Attachment 2 provides the existing TS pages marked up to show the proposed change.
- Attachment 3 provides revised (clean) TS pages.

Energy Northwest requests approval of the proposed License Amendment within one year of the date of this letter with the amendment being implemented within 60 days thereafter.

There are no new regulatory commitments contained in this request.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Washington State Official.

If you should have any questions regarding this submittal, please contact Ms. L. L. Williams, Licensing Supervisor, at 509-377-8148.

A001
NRR

**LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS TO
ADOPT TSTF-535 REVISION 0**

Page 2 of 2

I declare under penalty of perjury that the foregoing is true and correct. Executed
on the date of this letter.

Respectfully,

A handwritten signature in black ink, appearing to read 'A. L. Javorik', written in a cursive style.

A. L. Javorik
Vice President, Engineering

Attachment 1: Description and Assessment

Attachment 2: Proposed Technical Specification Changes

Attachment 3: Revised (clean) Technical Specification Pages

cc: NRC Region IV Administrator
NRC NRR Project Manager
NRC Sr. Resident Inspector - 988C
MA Jones - BPA/1399 (email)
WA Horin - Winston & Strawn (email)
RR Cowley - WDOH (email)
JO Luce - EFSEC (email)

LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS TO ADOPT TSTF-535 REVISION 0

Attachment 1

Page 1 of 3

DESCRIPTION AND ASSESSMENT

1.0 DESCRIPTION

The proposed amendment modifies the Technical Specifications (TS) definition of "Shutdown Margin" (SDM) to require calculation of the SDM at a reactor moderator temperature of 68°F or a higher temperature that represents the most reactive state throughout the operating cycle. This change is needed to address new Boiling Water Reactor (BWR) fuel designs which may be more reactive at shutdown temperatures above 68°F.

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

Energy Northwest has reviewed the model safety evaluation dated February 26, 2013, as part of the Federal Register Notice of Availability. This review included a review of the NRC staff's evaluation, as well as the information provided in TSTF-535 Revision 0, "Revise Shutdown Margin Definition to Address Advanced Fuel Designs." Energy Northwest has concluded that the justifications presented in the TSTF-535 proposal and the model safety evaluation prepared by the NRC staff are applicable to Columbia Generating Station (Columbia) and justify this amendment for the incorporation of the changes to the Columbia TS.

2.2 Optional Changes and Variations

Energy Northwest is not proposing any variations or deviations from the TS changes described in TSTF-535, Revision 0, or the applicable parts of the NRC staff's model safety evaluation dated February 26, 2013.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

Energy Northwest requests adoption of TSTF-535 Revision 0, which is an approved change to the standard technical specifications (STS), into the Columbia TS. The proposed amendment modifies the TS definition of SDM to require calculation of the SDM at a reactor moderator temperature of 68°F or a higher temperature that represents the most reactive state throughout the operating cycle.

Energy Northwest has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

Response: No.

**LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS TO
ADOPT TSTF-535 REVISION 0**

Attachment 1

Page 2 of 3

The proposed change revises the definition of SDM. SDM is not an initiator to any accident previously evaluated. Accordingly, the proposed change to the definition of SDM has no effect on the probability of any accident previously evaluated. SDM is an assumption in the analysis of some previously evaluated accidents and inadequate SDM could lead to an increase in consequences for those accidents. However, the proposed change revises the SDM definition to ensure that the correct SDM is determined for all fuel types at all times during the fuel cycle. As a result, the proposed change does not adversely affect the consequences of any accident previously evaluated.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No.

The proposed change revises the definition of SDM. The change does not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operations. The change does not alter assumptions made in the safety analysis regarding SDM.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

Response: No.

The proposed change revises the definition of SDM. The proposed change does not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. The proposed change ensures that the SDM assumed in determining safety limits, limiting safety system settings or limiting conditions for operation is correct for all BWR fuel types at all times during the fuel cycle.

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

Based on the above, Energy Northwest concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS TO ADOPT TSTF-535 REVISION 0

Attachment 1

Page 3 of 3

3.2 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) 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.

4.0 ENVIRONMENTAL EVALUATION

The proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

**LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS TO
ADOPT TSTF-535 REVISION 0**

Attachment 2

PROPOSED TECHNICAL SPECIFICATIONS CHANGES (MARK-UPS)

1.1 Definitions

PHYSICS TESTS (continued)

	c. Otherwise approved by the Nuclear Regulatory Commission.
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of 3486 MWt.
REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME	The RPS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RPS trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.
SHUTDOWN MARGIN (SDM)	SDM shall be the amount of reactivity by which the reactor is subcritical or would be subcritical throughout the operating cycle assuming that: <ol style="list-style-type: none"> The reactor is xenon free; The moderator temperature is $\geq 68^{\circ}\text{F}$, corresponding to the most reactive state; and All control rods are fully inserted except for the single control rod of highest reactivity worth, which is assumed to be fully withdrawn. With control rods not capable of being fully inserted, the reactivity worth of these control rods must be accounted for in the determination of SDM.
STAGGERED TEST BASIS	A STAGGERED TEST BASIS shall consist of the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during n Surveillance Frequency intervals, where n is the total number of systems, subsystems, channels, or other designated components in the associated function.
THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

**LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS TO
ADOPT TSTF-535 REVISION 0**

Attachment 3

PROPOSED TECHNICAL SPECIFICATION PAGES (CLEAN)

1.1 Definitions

PHYSICS TESTS (continued)

	c. Otherwise approved by the Nuclear Regulatory Commission.
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of 3486 MWt.
REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME	The RPS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RPS trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.
SHUTDOWN MARGIN (SDM)	SDM shall be the amount of reactivity by which the reactor is subcritical or would be subcritical throughout the operating cycle assuming that: <ul style="list-style-type: none"> a. The reactor is xenon free; b. The moderator temperature is $\geq 68^{\circ}\text{F}$, corresponding to the most reactive state; and c. All control rods are fully inserted except for the single control rod of highest reactivity worth, which is assumed to be fully withdrawn. With control rods not capable of being fully inserted, the reactivity worth of these control rods must be accounted for in the determination of SDM.
STAGGERED TEST BASIS	A STAGGERED TEST BASIS shall consist of the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during n Surveillance Frequency intervals, where n is the total number of systems, subsystems, channels, or other designated components in the associated function.
THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.