

April 19, 2005  
GO2-05-075

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

**Subject: COLUMBIA GENERATING STATION  
DOCKET NO. 50-397  
LICENSE AMENDMENT REQUEST  
APPLICATION FOR TECHNICAL SPECIFICATION IMPROVEMENT TO  
REVISE CONTROL ROD SCRAM TIME TESTING FREQUENCY USING  
THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS (CLIP)**

Dear Sir or Madam:

In accordance with the provisions of Section 50.90 of Title 10 of the *Code of Federal Regulations* (10 CFR), Energy Northwest is submitting a request for an amendment to the technical specifications (TS) for the Columbia Generating Station (Columbia).

The proposed amendment would revise TS testing frequency for the surveillance requirement (SR) in TS 3.1.4, "Control Rod Scram Times." These changes are based on TS Task Force (TSTF) change traveler TSTF-460 (Revision 0) that has been approved generically for the boiling water reactor (BWR) Standard TS, NUREG-1433 (BWR/4) and NUREG-1434 (BWR/6), by revising the frequency of SR 3.1.4.2, control rod scram time testing, from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1." A notice announcing the availability of this proposed TS change using a CLIP was published in the Federal Register on August 23, 2004 (69 FR 51864).

Attachment 1 provides a description of the proposed change and confirmation of applicability. Attachment 2 provides the existing TS page marked-up to show the proposed change and Attachment 3 provides the existing TS Bases pages marked-up to show the proposed changes. Attachment 3 is provided for informational purposes only and does not require NRC approval. Attachment 4 lists the commitment made in this letter. Energy Northwest requests approval of the proposed license amendment by August 15, 2005 with the amendment being implemented within 60 days.

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**APPLICATION FOR TECHNICAL SPECIFICATION IMPROVEMENT TO REVISE  
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In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Washington State Official.

Should you have any questions or require additional information regarding this matter, please contact Mr. MK Brandon, Licensing, at (509) 377-4758.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 19, 2005.

Respectfully,



WS Oxenford  
Vice President, Technical Services  
Mail Drop PE04

- Attachments:
1. Description and Assessment
  2. Proposed Technical Specification Changes (markup)
  3. Proposed Technical Specification Bases Changes (markup)
  4. Regulatory Commitment

cc: BS Mallett - NRC RIV  
B Benney - NRC NRR  
NRC Sr. Resident Inspector - 988C  
RN Sherman - BPA/1399  
WA Horin - Winston & Strawn  
JO Luce - EFSEC  
RR Cowley - WDOH

# APPLICATION FOR TECHNICAL SPECIFICATION IMPROVEMENT TO REVISE CONTROL ROD SCRAM TIME TESTING FREQUENCY USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS (CLIIP)

## Attachment 1

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### Description and Assessment

#### 1.0 INTRODUCTION

The proposed license amendment revises the required testing frequency for the surveillance requirement (SR) in Technical Specification (TS) 3.1.4, "Control Rod Scram Times." A notice announcing the availability of this proposed TS change using the Consolidated Line Item Improvement Process (CLIIP) was published in the Federal Register on August 23, 2004 (69 FR 51864).

#### 2.0 DESCRIPTION OF PROPOSED AMENDMENT

These changes are based on TS Task Force (TSTF) change traveler TSTF-460 (Revision 0) that has been approved generically for the Boiling Water Reactor (BWR) Standard TS, NUREG-1433 (BWR/4) and NUREG-1434 (BWR/6). The required frequency of SR 3.1.4.2, control rod scram time testing, is changed from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1."

#### 3.0 BACKGROUND

The background for this application is adequately addressed by the CLIIP Notice of Availability published on August 23, 2004 (69 FR 51864) and TSTF-460.

#### 4.0 REGULATORY REQUIREMENTS AND GUIDANCE

The applicable regulatory requirements and guidance associated with this application are adequately addressed by the CLIIP Notice of Availability published on August 23, 2004 (69 FR 51864) and TSTF-460.

#### 5.0 TECHNICAL ANALYSIS

Energy Northwest has reviewed the Safety Evaluation (SE) published on August 23, 2004 (69 FR 51864) as part of the CLIIP Notice of Availability. This verification included a review of the NRC staff's SE and the supporting information provided to support TSTF-460. Energy Northwest has concluded that the justifications presented in the TSTF proposal and the SE 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.

As described in the CLIIP model SE, part of the justification for the change in surveillance frequency is the high reliability of the Columbia control rod drive system. As requested in the notice of availability published on August 23, 2004 (69 FR 51864), the historical performance of the control rod drive system at Columbia is as follows:

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Energy Northwest has performed a review of the SCRAM time test results since the beginning of 1995 to present. This review determined 4958 tests had been performed at Columbia. During this timeframe, no control rod has been declared "slow" as a result of the SCRAM time failing to meet the two by two average time Technical Specification or COLR acceptance criteria.

**6.0 COMMITMENTS**

As discussed in the CLIIP model SE published in the Federal Register on August 23, 2004 (69 FR 51864) for this TS improvement, Energy Northwest is making the following regulatory commitment with the understanding that the NRC will include it as a condition for the issuance of the requested amendment:

Energy Northwest will incorporate the revised acceptance criterion value of 7.5 percent into the TS Bases for Columbia in accordance with the Bases Control Program described in TS 5.5.10.

**7.0 NO SIGNIFICANT HAZARDS CONSIDERATION**

Energy Northwest has reviewed the proposed no significant hazards consideration determination published on August 23, 2004 (69 FR 51864) as part of the CLIIP. Energy Northwest has concluded that the proposed determination presented in the notice is applicable to Columbia and the determination is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

**8.0 ENVIRONMENTAL EVALUATION**

Energy Northwest has reviewed the environmental evaluation included in the model SE published on August 23, 2004 (69 FR 51864) as part of the CLIIP. Energy Northwest has concluded that the staff's findings presented in that evaluation are applicable to Columbia and the evaluation is hereby incorporated by reference for this application.

**9.0 PRECEDENT**

This application is being made in accordance with the CLIIP. Energy Northwest is not proposing variations or deviations from the TS changes described in TSTF-460 or the NRC staff's model SE published on August 23, 2004 (69 FR 51864).

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**10.0 REFERENCE**

Federal Register Notice: Notice of Availability of Model Application Concerning Technical Specifications Improvement Regarding Revision to the Control Rod Scram Time Testing Frequency in STS 3.1.4, "Control Rod Scram Times" for General Electric Boiling Water Reactors Using the Consolidated Line Item Improvement Process, published August 23, 2004 (69 FR 51864).

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**PROPOSED TECHNICAL SPECIFICATION CHANGES (Markup)**

Page

3.1.4.3

Control Rod Scram Times  
3.1.4

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.1.4.2 Verify, for a representative sample, each tested control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure <math>\geq</math> 800 psig.</p>	<p><del>120</del> days cumulative operation in MODE 1 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">200</span></p>
<p>SR 3.1.4.3 Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with any reactor steam dome pressure.</p>	<p>Prior to declaring control rod OPERABLE after work on control rod or CRD System that could affect scram time</p>
<p>SR 3.1.4.4 Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure <math>\geq</math> 800 psig.</p>	<p>Prior to exceeding 40% RTP after work on control rod or CRD System that could affect scram time</p> <p><u>AND</u></p> <p>Prior to exceeding 40% RTP after fuel movement within the reactor pressure vessel</p>

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**PROPOSED TECHNICAL SPECIFICATION BASES CHANGES (Markup)**

(For information only)

Pages

B 3.1.4-5

B 3.1.4-6

BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

In addition, the scram times in Table 3.1.4-1 are the average of a two-by-two array. Therefore, a control rod scram time, as determined by the following SRs, must be factored into the average scram time for all applicable two-by-two arrays.

SR 3.1.4.1

The scram reactivity used in DBA and transient analyses is based on assumed control rod scram time. Measurement of the scram times with reactor steam dome pressure  $\geq 800$  psig demonstrates acceptable scram times for the transients analyzed in References 5 and 6.

Maximum scram insertion times occur at a reactor pressure of approximately 800 psig because of the competing effects of reactor steam dome pressure and stored accumulator energy. Therefore, demonstration of adequate scram times at reactor steam dome pressure  $\geq 800$  psig ensures that the scram times will be within the specified limits at higher pressures. Limits are specified as a function of reactor pressure to account for the sensitivity of the scram insertion times with pressure and to allow a range of pressures over which scram time testing can be performed. To ensure scram time testing is performed within a reasonable time following a refueling or after a shutdown  $\geq 120$  days, all control rods are required to be tested before exceeding 40% RTP. This frequency is acceptable, considering the additional surveillances performed for control rod OPERABILITY, the frequent verification of adequate accumulator pressure, and the required testing of control rods affected by work on control rods or the CRD System.

SR 3.1.4.2

Additional testing of a sample of control rods is required to verify the continued performance of the scram function during the cycle. A representative sample contains at least 10% of the control rods. The sample remains representative if no more than 20% of the control rods in the sample tested are determined to be "slow." If more than 20% of the sample is declared to be "slow" per the criteria in Table 3.1.4-1, additional control rods are tested until this 20% criterion (i.e., 20% of the entire sample size) is satisfied, or until

7.5 2

(continued)

BASES

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SURVEILLANCE  
REQUIREMENTS

SR 3.1.4.2 (continued)

the total number of "slow" control rods (throughout the core, from all Surveillances) exceeds the LCO limit taken. For planned testing, the control rods selected for the sample should be different for each test. Data from inadvertent scrams should be used whenever possible to avoid unnecessary testing at power, even if the control rods with data were previously tested in a sample. The ~~120~~ day Frequency is based on operating experience that has shown control rod scram times do not significantly change over an operating cycle. This Frequency is also reasonable, based on the additional Surveillances done on the CRDs at more frequent intervals in accordance with LCO 3.1.3 and LCO 3.1.5, "Control Rod Scram Accumulators."

200

SR 3.1.4.3

When work that could affect the scram insertion time is performed on a control rod or the CRD System, testing must be done to demonstrate that each affected control rod retains adequate scram performance over the range of applicable reactor pressures from zero to the maximum permissible pressure. The scram testing must be performed once before declaring the control rod OPERABLE. The required scram time testing must demonstrate that the affected control rod is still within acceptable limits. The limits for reactor pressures < 800 psig are found in the Licensee Controlled Specifications Manual (Ref. 8), and are established based on a high probability of meeting the acceptance criteria at reactor pressures  $\geq$  800 psig. Limits for  $\geq$  800 psig are found in Table 3.1.4-1. If testing demonstrates the affected control rod does not meet these limits, but is within the 7-second limit of the Note to Table 3.1.4-1, the control rod can be declared OPERABLE and "slow."

Specific examples of work that could affect the scram times include (but are not limited to) the following: removal of any CRD for maintenance or modification; replacement of a control rod; and maintenance or modification of a scram solenoid pilot valve, scram valve, accumulator isolation valve, or check valves in the piping required for scram.

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**LIST OF REGULATORY COMMITMENTS**

The following table identifies the action committed to by Columbia Generating Station in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments. Please direct questions regarding these commitments to MK Brandon at (509) 377-4758.

<b>COMMITMENT</b>	<b>DUE DATE</b>
Energy Northwest will incorporate the revised acceptance criterion value of 7.5 percent into the TS Bases for Columbia in accordance with the Bases Control Program described in TS 5.5.10.	During the implementation of the Approved License Amendment