ENERGY NORTHWEST

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March 29, 2010
GO2-10-051

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 LICENSE AMENDMENT REQUEST TO CHANGE TECHNICAL SPECIFICATIONS RELATING TO TRAVERSING IN-CORE PROBE CONTAINMENT ISOLATION VALVE INSTRUMENTATION**

Reference: Letter dated September 15, 2008, Carl F. Lyon (NRC) to J. V. Parrish (Energy Northwest), "Columbia Generating Station – Issuance of Amendment Re: Adoption of Approved Generic Technical Specification Changes Associated with Containment Isolation Valves (TAC No. MD6208)," (ADAMS Accession No. ML081900507)

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Energy Northwest hereby requests an amendment to the Technical Specifications (TS) for Columbia Generating Station (Columbia) Operating License NPF-21. Energy Northwest has reviewed the proposed amendment in accordance with 10 CFR 50.92 and concludes it does not involve a significant hazards consideration.

The proposed amendment would delete channel check surveillance requirements for the Traversing In-core Probe (TIP) Isolation instrumentation associated with TS 3.3.6.1, "Primary Containment Isolation Instrumentation." The channel check surveillance requirements were incorporated via the Reference in Amendment 208 to the Columbia TS. Subsequent to the NRC approval of Amendment 208, Columbia identified that the installed TIP instrumentation does not provide the appropriate information to support a channel check surveillance. Failure to comply with a required TS surveillance resulted in declaration of the TIP Isolation instrumentation inoperable and isolation of the containment penetration. Temporary clearance and administrative controls are employed, as allowed by the TS, to un-isolate this penetration to support use of the TIP system, which presents an operational burden for the station.

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Approval of the proposed amendment is requested by September 30, 2010 to remove this operational burden. Once approved the amendment shall be implemented within 30 days.

The enclosure provides a technical and regulatory evaluation of the changes, including further discussion of the following relevant precedents related to exclusion of channel check surveillance requirements for instrumentation:

- Amendments 213 to NPF-14 and 188 to NPF-22 for Susquehanna (ADAMS Accession No. ML031560495)

- Amendment 149 for NPF-21 for WNP-2 (now Columbia) (ADAMS Accession No. ML022120577)

Attachments to the enclosure include the TS page markup and the retyped TS pages.

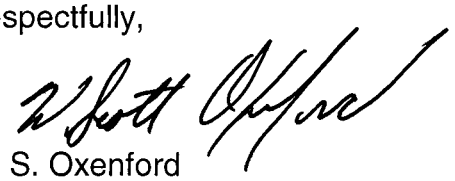
There are no new regulatory commitments made in this letter.

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. M. C. Humphreys, Licensing Supervisor, at (509) 377-4025.

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

Respectfully,



W. S. Oxenford
Vice President, Nuclear Generation & Chief Nuclear Officer

Enclosure: Evaluation of the proposed changes

Attachments to the Enclosure:
1. Technical Specification Page Mark-ups
2. Retyped Technical Specification Pages

cc: Regional Administrator – NRC RIV
Project Manager – NRC NRR
NRC Senior Resident Inspector/988C
R. N. Sherman – BPA/1399
W. A. Horin – Winston & Strawn
J. O. Luce – EFSEC
R. R. Cowley – WDOH

Description and Evaluation of the Proposed TS Changes

Subject: License Amendment Request to Change Technical Specifications Relating to Traversing In-core Probe Containment Isolation Valve Instrumentation

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ATTACHMENTS:

1. Technical Specification Page Mark-ups
2. Retyped Technical Specification Pages

1.0 SUMMARY DESCRIPTION

This evaluation supports a request to revise the Operating License NPF-21 for Columbia Generating Station (Columbia).

The proposed amendment would delete channel check surveillance requirements for the Traversing In-core Probe (TIP) Isolation instrumentation associated with TS 3.3.6.1, "Primary Containment Isolation Instrumentation."

The channel check surveillance requirements were added to the Columbia Technical Specifications (TS) via Amendment 208 (Reference 1). Subsequent to the NRC approval of Amendment 208, Columbia identified that the installed TIP instrumentation does not provide the appropriate information to support a channel check surveillance. Failure to comply with a required TS surveillance resulted in declaration of the TIP Isolation instrumentation inoperable and isolation of the containment penetration. Temporary clearance and administrative controls are employed, as allowed by the TS, to un-isolate this penetration to support use of the TIP system, which presents an operational burden for the station. Approval of this amendment is requested by September 30, 2010 to remove this operational burden.

Attachment 1 of this enclosure provides the mark-ups of the proposed TS changes. Attachment 2 provides the re-typed TS pages.

2.0 DETAILED DESCRIPTION

The proposed change is removal of Channel Check Surveillance Requirement (SR) 3.3.6.1.1 from Table 3.3.6.1-1, "Primary Containment Isolation Instrumentation," for Functions 6.a, Traversing In-core Probe Isolation - Reactor Vessel Water Level – Low Low, Level 2, and 6.b, Traversing In-core Probe Isolation - Drywell Pressure - High.

Via References 2 and 3, Energy Northwest submitted an amendment request to incorporate a number of Technical Specification Task Force (TSTF) Travelers. One of the Travelers, TSTF-306 (Reference 4), was proposed for adoption in this submittal. The purpose of TSTF-306 was to allow the plant to address inoperable instrumentation related to the containment isolation valves by providing the allowance to isolate the affected valves and allow for subsequent opening of the valves under administrative controls. This TSTF also added the TIP Isolation instrumentation to the equipment that this specification would cover via the addition of instrumentation surveillance requirements for a channel check, channel functional test, channel calibration, and logic system functional test. Without these additions to the TS, if the TIP Isolation instrumentation had failed it would have required a plant shutdown to correct the condition.

The NRC approved the request by issuing Amendment 208 for Columbia which added a channel check surveillance requirement for the new Functions 6.a and 6.b listed on Table 3.3.6.1-1. It was not until after the amendment had been approved by the NRC

that Columbia identified that the TIP Isolation instrumentation did not provide sufficient information to perform a channel check surveillance as defined in TS. The failure to identify the difference in the Columbia design from the "industry standard" as represented by the TSTF prior to submittal to the NRC was entered into the station corrective action program. As described in Section 1.0 above, failure to comply with a TS surveillance requirement required that the TIP Isolation instrumentation be declared inoperable and the associated containment isolation valves closed.

In order to utilize the TIP system to support calibration of the Local Power Range Monitors (LPRMs) the plant staff must remove and then restore equipment tag-out paperwork as well as provide additional administrative controls while the TIP containment isolation valves are opened. Removal of this surveillance requirement that the existing plant equipment cannot support will ease the administrative burden for operation of the TIP system.

3.0 TECHNICAL EVALUATION

The justification provided in TSTF-306 (and reflected in the Columbia submittal requesting incorporation of the TSTF) for adding the TIP Isolation instrumentation to the TS remains valid with the proposed change, and is summarized below:

> The TIP system uses a small bore penetration, and its isolation in a design basis event is via the manually operated shear valves. The ability to manually isolate the TIP system by either the normal isolation valve or the shear valve would be unaffected by inoperable instrumentation. Therefore, the option to isolate the penetration and to continue plant operation was provided. In order to implement this allowance, a separate isolation instrumentation function is proposed for the TIP system.

FSAR Section 7.7.1.6 – Neutron Monitoring System – Traversing In-core Probe discusses the arrangement where the TIP ball valves maintain the leak tightness integrity of the drywell. This section also discusses the shear valve which is used only if containment isolation is required and the ball valve cannot be isolated. The shear valve is controlled by a manually operated key lock switch, and can cut the cable and close the guide tube.

FSAR Section 6.2.4.3.2.2.3.11 – Traversing In-Core Probe (TIP) System Guide Tubes discusses the five guide tubes that penetrate the containment and interface with the containment atmosphere because of indexer leakage and built-in relief valves that prevent the indexers from collapsing on high pressure. The isolation design basis for these TIP lines is a "specific class of line" considered acceptable under General Design Criterion 56.

TSTF-306 proposed surveillances to satisfy 10 CFR 50.36(c)(3) requirements which included a channel check, channel calibration, channel functional test, and logic system functional test.

The channel check surveillance would help to satisfy 10 CFR 50.36(c)(3) requirements in part by providing detection of a gross channel failure and confirmation that the instrumentation continued to operate properly between each channel calibration. The Columbia TIP Isolation instrumentation design is such that there is no ability to perform a channel check. Removal of the "gross failure check (i.e. channel check)" surveillance from the Columbia TS does not preclude satisfactory compliance with 10 CFR 50.36(c)(3) requirements via the remaining SRs.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

1) Regulatory Requirements

Appendix A to 10 CFR 50, "General Design Criteria for Nuclear Power Plants," contains the following pertinent criteria:

> *Criterion 56 - Primary containment isolation.* Each line that connects directly to the containment atmosphere and penetrates primary reactor containment shall be provided with containment isolation valves as follows, unless it can be demonstrated that the containment isolation provisions for a specific class of lines, such as instrument lines, are acceptable on some other defined basis:
>
> (1) One locked closed isolation valve inside and one locked closed isolation valve outside containment; or
>
> (2) One automatic isolation valve inside and one locked closed isolation valve outside containment; or
>
> (3) One locked closed isolation valve inside and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment; or
>
> (4) One automatic isolation valve inside and one automatic isolation valve outside containment. A simple check valve may not be used as the automatic isolation valve outside containment.
>
> Isolation valves outside containment shall be located as close to the containment as practical and upon loss of actuating power, automatic isolation valves shall be designed to take the position that provides greater safety.

10 CFR 50.36(c)(3) states technical specifications will include surveillance requirements which "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."

2) Regulatory Guidance

Criterion 56 specifies the number, type, and positions of Containment Isolation Valves (CIVs) required for containment piping penetrations. However, this criterion does not contain provisions describing actions to take if CIVs become inoperable during plant operation. The most applicable guidance for such provisions is that contained in the improved Standard Technical Specifications (STS), NUREG-1433 (Reference 6). The proposed changes associated with this submittal do not modify any actions associated with inoperable CIVs and are consistent with NUREG-1433 in that regard.

4.2 Precedent

The NRC approved exclusion of a channel check for the TIP Isolation instrumentation related to drywell pressure (Function 7.b) for Susquehanna with amendments 213 and 188 (Reference 5) when TSTF-306 was incorporated. Columbia's proposed changes include removal of the channel check surveillance for the low level function in addition to the drywell pressure function.

When Columbia converted to the improved STS, approved by the NRC in 1997 (Reference 7), a number of systems required deviations from the STS for channel check SRs on instrumentation due to Columbia's design not including indications to support performance of a channel check. Some of the deviations included Main Steam Line Reactor Vessel Water Level – Low Low, Level 2, and Secondary Containment Drywell Pressure – High Isolation Functions, among others. The proposed TS change is consistent in approach to the deviations from the STS that have been previously approved by the NRC for Columbia.

4.3 Significant Hazards Consideration

The proposed amendment requests an administrative change that eliminates a channel check surveillance requirement from TS Table 3.3.6.1-1 for TIP Isolation instrumentation Functions 6.a and 6.b. The remaining surveillances for those functions continue to provide assurance that the TIP Isolation instrumentation remains operable. Columbia has evaluated whether or not a significant hazards consideration is involved with the proposed changes by focusing on the three standards set forth in 10 CFR 50.92(c) as discussed below:

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

   Response: No.

   The proposed change revises TS 3.3.6.1 by eliminating a channel check SR. The controls and requirements of TS otherwise continue to be enforced. The proposed change does not affect any plant equipment, test methods, or plant operation, and does not affect the initiation of any analyzed accident sequence. The allowance to

un-isolate a penetration flow path is preserved and will not have a significant effect on the mitigation of any accident previously evaluated because the penetration flow path can be isolated, if needed, by a dedicated operator. The option to isolate a TIP penetration continues to be preserved and ensures the penetration will perform as assumed in the accident analysis. Operation in accordance with the proposed TS will ensure that all analyzed accidents will continue to be mitigated as previously analyzed.

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 does not involve a physical alteration to the plant (i.e., no new or different type of equipment will be installed) or a change to the methods governing normal plant operation. The changes do not alter the assumptions made in the safety analysis.

   Therefore, the proposed changes do 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 will not affect the operation of plant equipment or the function of any equipment assumed in the accident analysis. The allowance to un-isolate a penetration flow path will not have a significant effect on a margin of safety because the penetration flow path can be isolated manually, if needed. The option to isolate a TIP penetration is preserved, and will continue to ensure the penetration will perform as assumed in the accident analysis.

   Therefore, the proposed changes do not involve a significant reduction in the margin of safety.

Based on the above, Columbia concludes that the proposed amendment does not involve a 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.

4.4 Conclusions

Based on the considerations discussed above, (1) there is a 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.

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed changes would change a requirement with respect to the 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 changes do 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 changes meet the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9).

Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed change is not required.

6.0 REFERENCES

1. Letter dated September 15, 2008, Carl F. Lyon (NRC) to J. V. Parrish (Energy Northwest), "Columbia Generating Station – Issuance of Amendment Re: Adoption of Approved Generic Technical Specification Changes Associated with Containment Isolation Valves (TAC NO. MD6208)," (ADAMS Accession No. ML081900507).

2. Letter GO2-07-111 dated July 30, 2007, from S. K. Gambhir (Energy Northwest) to NRC, "License Amendment Request for Proposed Changes to Columbia Technical Specifications: Adoption of Approved Generic Technical Specification Changes Associated with Containment Isolation Valves," (ADAMS Accession No. ML072220075).

3. Letter GO2-08-122 dated August 28, 2008, from S. K. Gambhir (Energy Northwest) to NRC, "Supplement to Adoption of Approved Generic Technical Specification Changes Associated with Containment Isolation Valves," (ADAMS Accession No. ML082480298).

4. Technical Specification Task Force Traveler, TSTF-306, Rev. 2, "Add Action to LC0 3.3.6.1 to Give Option to Isolate the Penetration."

5. Letter dated June 5, 2003, R.V. Guzman (NRC) to B.L. Shriver (PPL Susquehanna, LLC), "Susquehanna Steam Electric Station, Units 1 and 2 – Issuance of Amendment Re: Intermittent Opening of Isolated Flow Paths and Tip Isolation (TAC Nos. MB6665 AND MB6666)," (ADAMS Accession No. ML031560495).

6. NUREG 1433, Revision 3, "Standard Technical Specifications General Electric Plants, BWR/4," June 2004.

7. Letter dated March 4, 1997, Timothy G. Colburn (NRC) to J. V. Parrish "Issuance of Amendment for the Washington Public Power Supply System Nuclear Project No. 2 (TAC M94226)," (ADAMS Accession No. ML022120577).

LICENSE AMENDMENT REQUEST TO CHANGE TECHNICAL SPECIFICATIONS RELATING TO TRAVERSING IN-CORE PROBE CONTAINMENT ISOLATION VALVE INSTRUMENTATION
Attachment 1

Technical Specification Page Mark-ups

3.3.6.1-8

Table 3.3.6.1-1 (page 4 of 4)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. RHR SDC System Isolation					
a. Pump Room Area Temperature – High	3	1 per room	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 150°F
b. Pump Room Area Ventilation Differential Temperature – High	3	1 per room	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 70°F
c. Heat Exchanger Area Temperature – High	3	1 per room	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	
Room 505 Area					≤ 140°F
Room 507 Area					≤ 160°F
Room 605 Area					≤ 150°F
Room 606 Area					≤ 140°F
d. Reactor Vessel Water Level – Low, Level 3	3,4,5	2(d)	J	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ 9.5 inches
e. Reactor Vessel Pressure – High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 135 psig
f. Manual Initiation	1,2,3	2	G	SR 3.3.6.1.6	NA
6. Traversing Incore Probe Isolation					
a. Reactor Vessel Water Level - Low Low, Level 2	1,2,3	2	G	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ -58 inches
b. Drywell Pressure - High	1,2,3	2	G	~~SR 3.3.6.1.1~~ SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 1.88 psig

Delete

(d) Only one trip system required in MODES 4 and 5 with RHR Shutdown Cooling System integrity maintained.

LICENSE AMENDMENT REQUEST TO CHANGE TECHNICAL SPECIFICATIONS RELATING TO TRAVERSING IN-CORE PROBE CONTAINMENT ISOLATION VALVE INSTRUMENTATION
Attachment 2

Retyped Technical Specification Pages

3.3.6.1-8

Table 3.3.6.1-1 (page 3 of 4)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. RWCU System Isolation (continued)					
b. Differential Flow – Time Delay	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 46.5 seconds
c. Blowdown Flow – High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 271.7 gpm
d. Heat Exchanger Room Area Temperature – High	1,2,3	1	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 160°F
e. Heat Exchanger Room Area Ventilation Differential Temperature – High	1,2,3	1	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 70°F
f. Pump Room Area Temperature – High	1,2,3	1 per room	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 180°F
g. Pump Room Area Ventilation Differential Temperature – High	1,2,3	1 per room	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 100°F
h. RWCU/RCIC Line Routing Area Temperature – High	1,2,3	1	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 180°F
i. RWCU Line Routing Area Temperature – High	1,2,3	1 per room	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	
Room 409, 509 Areas					≤ 175°F
Room 408, 511 Areas					≤ 180°F
j. Reactor Vessel Water Level – Low Low, Level 2	1,2,3	2	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ -58 inches
k. SLC System Initiation	1,2,3	2(c)	I	SR 3.3.6.1.6	NA
l. Manual Initiation	1,2,3	2	G	SR 3.3.6.1.6	NA

(continued)

(c) SLC System Initiation only inputs into one of the two trip systems.

Table 3.3.6.1-1 (page 4 of 4)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. RHR SDC System Isolation					
a. Pump Room Area Temperature – High	3	1 per room	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 150°F
b. Pump Room Area Ventilation Differential Temperature – High	3	1 per room	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 70°F
c. Heat Exchanger Area Temperature – High	3	1 per room	F	SR 3.3.6.1.3 SR 3.3.6.1.4 SR 3.3.6.1.6	
Room 505 Area					≤ 140°F
Room 507 Area					≤ 160°F
Room 605 Area					≤ 150°F
Room 606 Area					≤ 140°F
d. Reactor Vessel Water Level – Low, Level 3	3,4,5	2(d)	J	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ 9.5 inches
e. Reactor Vessel Pressure – High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 135 psig
f. Manual Initiation	1,2,3	2	G	SR 3.3.6.1.6	NA
6. Traversing Incore Probe Isolation					
a. Reactor Vessel Water Level - Low Low, Level 2	1,2,3	2	G	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≥ -58 inches
b. Drywell Pressure - High	1,2,3	2	G	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 1.88 psig

(d) Only one trip system required in MODES 4 and 5 with RHR Shutdown Cooling System integrity maintained.