ENERGY NORTHWEST

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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) REGARDING TRAVERSING IN-CORE PROBE CONTAINMENT ISOLATION VALVE INSTRUMENTATION LICENSE AMENDMENT REQUEST**

References:
1) Letter GO2-10-051 dated March 29, 2010, WS Oxenford (Energy Northwest) to NRC, "License Amendment Request to Change Technical Specifications Relating to Traversing In-core Probe Containment Isolation Valve Instrumentation," (ADAMS Accession No. ML100990162)
2) Letter dated December 9, 2010, NRC to ME Reddemann (Energy Northwest), "Request for Additional Information Related Traversing In-core Probe Containment Isolation Valve Instrumentation License Amendment Request (TAC NO. ME3713)," (ADAMS Accession No. ML103370113)

Dear Sir or Madam:

By Reference 1, Energy Northwest requested changes to the Columbia Generating Station (Columbia) Technical Specifications involving the Traversing In-core Probe Containment Isolation Valve Instrumentation. Via Reference 2, the NRC requested additional information related to the Energy Northwest submittal.

The Energy Northwest response to the Reference 2 request for additional information is provided in the attachment to this letter. The information contained in this response does not impact the original determination of no significant hazards. There are no new commitments contained in this letter.

If you have any questions or require additional information, please contact MA Huiatt, Principal Engineer, Licensing, at (509) 377-4243.

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

Respectfully,

BJ Sawatzke
Vice President, Nuclear Generation

Attachment: Response to Request for Additional Information

cc: NRC Region IV Administrator
NRC Project Manager
NRC Senior Resident Inspector/988C
RN Sherman – BPA/1399
WA Horin – Winston & Strawn

Response to Request for Additional Information

Request for Additional Information (RAI):

By letter dated September 15, 2008, the NRC issued Amendment 208 to the CGS license for adoption of approved generic TS changes associated with containment isolation valves (ADAMS Accession No. ML081900507). The NRC's approval of Amendment 208 was based, in part, on including SR 3.3.6.1.1 requiring a channel check for the proposed addition of Function 6, "Traversing In-core Probe Isolation," to Table 3.3.6.1-1, "Primary Containment Isolation Instrumentation." In addition, Table 3.3.6.1-1, Function 7, "Traversing In-Core Probe Isolation," of General Electric BWR4 Standard Technical Specifications, Revision 3 (NUREG-1433), requires the channel check (SR 3.3.6.1.1) every 12 hours.

Please justify the following:

1. Without the channel check (SR 3.3.6.1.1) for both Function 6.a and 6.b, how does the licensee confirm that the instrumentation will continue to operate properly between each channel functional test (92 days)?

2. What compensatory measures are being proposed in lieu of a channel check?

Response to item 1:

Since the Traversing In-core Probe (TIP) isolation instrumentation provides no means to perform channel checks (no indicators), there is no direct means to perform a qualitative assessment of channel behavior. In addition, Energy Northwest does not perform any additional confirmation that the instrument will operate properly between each channel functional test.

However, there is a reasonable basis for why a channel check or confirmation is unnecessary. This is based on the following factors:

- The performance of channel functional tests and calibrations has demonstrated an extended history of reliable operation.

- The NRC has previously supported deviations from Standard Technical Specifications (STS) for installed instrumentation that cannot support a channel check surveillance.

From a safety significance standpoint:

- The TIP system is not normally in use, with a majority of the containment isolation valves (CIVs) maintained in the closed position.

Channel Functional Test and Calibration Performance

The TIP system CIV isolation instrumentation has an extended history of reliable operation. A review of the channel functional and calibration history of the TIP CIV instrumentation indicates that there has not been any drift, failures, or trends of as-found conditions that have, or would have exceeded allowable values during the past five years of operation. In addition, for the four instruments that provide inputs into the TIP isolation instrumentation, there have been only five instances where adjustments due to being outside of as-found tolerances were required during the 85 calibrations in the past five years. This translates to an average of just over one adjustment per instrument every five years.

Previous NRC Position

The definition for a CHANNEL CHECK as specified in the Columbia Technical Specifications is as follows:

> A CHANNEL CHECK shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

Prior to the adoption of Amendment 208 in September of 2008, the TIP isolation instrumentation system did not have any specific TS controls mandating system performance or operability requirements.

Energy Northwest's proposed adoption of the generic TSTF-306 changes, which included four new surveillances to support demonstration of the operability of the TIP isolation instrumentation, did not recognize until after receipt of NRC approval that the installed instrumentation at Columbia could not support a channel check of these instruments.

As identified in this submittal, the NRC has previously accepted deviations from the Standard Technical Specifications (STS) during the conversion to Improved Technical Specifications (ITS) at Columbia for many systems that did not have the installed instrumentation to support a channel check. Some examples of the instrumentation that a deviation was accepted for include the Main Steam Line Reactor Vessel Water Level – Low Low, Level 2 and Secondary Containment Drywell Pressure – High Isolation Functions.

TIP System Usage

The TIP system is infrequently used and the majority of the CIVs are closed when the system is not in use. The TIP system CIVs consist of inline ball valves and shear valves for each of the five TIP subsystems (A through E) that penetrate containment. When the system is not in use, the ball valves are maintained in a closed position. Normal operation of the TIP system is performed when calibration of the Local Power Range Monitors (LPRMs) is required. This occurs on a periodicity related to core exposure and correlates to the surveillance scheduled at approximately 42 day intervals when the plant is running at full power. Use of the TIP system generally takes less than one shift at each surveillance interval to gather TIP detector data. As described in the Energy Northwest submittal, the TIP system CIV isolation design is such that manually initiated shear valves may be utilized to provide the containment isolation function for those instances in which the ball valves cannot be isolated

However, it should be noted that there is a common 3/8 inch purge line that penetrates the containment. This purge line branches to each of the five TIP indexer mechanisms inside containment. The TIP purge line contains a check valve and a globe valve. The TIP purge line CIV globe valve is maintained in the open position, even when the system is not in use, to maintain a dry air source, typically nitrogen, to preclude any potential for moisture intrusion into the system.

As described in the submittal, the presence of an isolation signal would result in the TIP CIVs automatically closing, if not already positioned closed. For a typical system configuration when the TIP system is not in use, this would effectively result in only the TIP purge line globe valve CIV going closed, as the ball valves would already be in the closed position. The TIP purge line globe valve has controls available in the control room to close this valve if needed.

There are other indications available to the control room personnel for the TIP system and related TIP CIVs. These indications include the status of the TIP CIVs' position, shear valve circuit integrity, and whether or not an isolation signal is present. The channel check that cannot be physically performed applies specifically to the TIP isolation instrumentation functions of reactor vessel water level – low low and drywell pressure – high. The TIP CIV instrumentation includes valve position indication lights that are verified on a monthly basis as required by Technical Specification (TS) Surveillance Requirement (SR) 3.3.3.1.1.

As part of the TIP operating procedure, the status of the TIP CIV isolation instrumentation is verified. After the requisite information is collected to support the LPRM calibration, the CIV ball valves associated with each TIP subsystem are closed. This position is verified at suspension of TIP system operations via plant procedures.

In summary:

- There is a reliable history of the TIP CIV instrumentation calibration history and performance.
- Precedence supports deviation from STS for instrumentation that cannot support a channel check surveillance.
- In the on-line configuration, all containment isolation valves but one a
- re normally kept in the closed position. The normally open purge line CIV resides in a line that also contains a check valve, and is capable of being manually isolated by operations personnel.

Based on the above, it is Energy Northwest's position that there is sufficient reliability and adequate controls in place to provide confidence that the function provided by the TIP CIV instrumentation is appropriately monitored between channel functional tests.

Response to item 2:

As discussed in the response to item 1 above, existing procedural controls and surveillances monitor the TIP CIV instrumentation on a periodic basis and provide sufficient verification of the functionality of this system. No additional actions are proposed in lieu of channel checks.