

August 20, 2001  
GO2-01-117

Docket No. 50-397

Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

Gentlemen:

Subject: **COLUMBIA GENERATING STATION, OPERATING LICENSE NPF-21  
RESPONSE TO INSPECTION REPORT NO. 50-397/01-03**

Reference: Letter dated July 20, 2001, WB Jones (NRC) to JV Parrish (Energy Northwest),  
"Columbia Generating Station - Inspection Report No. 50-397/01-03"

The purpose of this letter is to provide our response to two of the noncited violations (NCV) that are identified in the reference. We are contesting NCV 50-397/01003-01 pertaining to inadequate corrective action related to ensuring adequate alternate decay heat removal methods. The basis for our position is attached. For ease of reference, a partial restatement of the noncited violation is also included in the attachment.

We are accepting NCV 50-397/01003-02 pertaining to the failure to test secondary containment isolation valves in accordance with the Inservice Testing Program. However, we would like to provide the following additional clarification on valve classification.

The original reactor building sump isolation design was driven by a licensing requirement from NUREG-0737, Section III.D.1.1, "Integrity of Systems Outside Containment Likely to Contain Radioactive Material For Pressurized-Water Reactors and Boiling-Water Reactors." This section called for an immediate leak reduction program and a continuing leak reduction program of preventive maintenance to reduce leakage to as-low-as-practical levels.

The design of the reactor building sump isolation includes tripping the power to the sump pumps and tripping the power to the air-operated solenoids which allows the sump isolation valves to close. The design basis for providing automatic closure of these valves is for reactor sump isolation, not for secondary containment isolation.

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The design provided an added feature of sump isolation as a backup to the Technical Specification 5.5.2 program requirements for primary coolant sources outside containment to ensure that pumping of the reactor building sump does not occur when there is a potential for highly radioactive sump water. The valves were not credited for meeting Technical Specification 5.5.2 or meeting the secondary containment isolation safety function as described in the FSAR.

The valves were not considered secondary containment isolation valves until they were incorrectly classified as such as part of the Design Requirements Document program. The valves should have never been classified as having a secondary containment isolation function; however, given the fact that they were, they should have been included in our Inservice Testing Program at that time (the valves have since been included in the Inservice Testing Program). This discrepancy is currently being resolved as part of our corrective action process.

Should you have any questions or desire additional information regarding this letter, please call RN Sherman at (509) 377-8616.

Respectfully,



DW Coleman, Manager  
Performance Assessment & Regulatory Programs  
Mail Drop PE20

Attachment

cc: EW Merschoff - NRC RIV  
Director, Office of Enforcement - NRC NRR  
JS Cushing - NRC NRR  
NRC Sr. Resident Inspector - 988C  
DL Williams - BPA - 1399  
TC Poindexter - Winston & Strawn

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NCV 50-397/01003-01, Inadequate Corrective Actions to Address Alternate Decay Heat  
Removal Method

Partial Restatement of Noncited Violation

A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI (Corrective Actions), was identified for inadequate corrective measures taken for an issue identified during a previous outage. Plant personnel had failed to identify an appropriate method of alternate decay heat removal with both trains of shutdown cooling inoperable. The finding was determined to affect the mitigating system cornerstone and to be of very low safety significance (Green) using the significance determination process Appendix G (Shutdown Operations).

The inspectors identified that the licensee had specified inadequate corrective measures for Problem Evaluation Request 299-0871, dated April 1999. The corrective action document specified, in part, that no adequate method of alternate decay heat removal was specified to meet the requirements of Technical Specification 3.9.8, Action A.1. The inspectors observed that the recommended method stemming from the corrective action document still did not meet the Technical Specification requirements.

The Bases for the noted Technical Specification Action specifies, in part, "With no . . . shutdown cooling available, an alternate method of decay heat removal must be established within one hour. In this condition, the volume of water above the reactor vessel flange provides adequate capability to remove decay heat from the reactor core. However, the overall reliability is reduced because the loss of water level could result in reduced decay heat removal capabilities . . ."

The inspectors considered the licensee's plans and corrective actions for Problem Evaluation Request 299-0871 inadequate because:

- 1) operators would not establish the system within one hour after entering the Action; and
- 2) the system would not remain operational in the event of a loss of water level. The skimmer surge tanks receive water through weirs positioned at the very top of the reactor vessel and spent fuel pool. When level drops (even a few inches) flow into the skimmer surge tanks stops, rendering the alternate decay heat removal system inoperable.

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Response

Energy Northwest denies the noncited violation. The use of RHR heat exchangers in the fuel pool cooling assist mode is a standard BWR design. Chapter 9.1 of the FSAR describes the system and its use. This is the primary method credited for use in refueling outages when RHR shutdown cooling is not available. Level is maintained above the reactor cavity and fuel pool weirs by an automatic fill system such that the combined cooling capacity of the fuel pool cooling system and the RHR cooling system can be used during refueling outages, including outages that result in full core off load. Since initial plant licensing, Columbia Generating Station operating procedures have directed the use of this alternate method of decay heat removal for use whenever required maintenance or Technical Specification surveillance testing of components resulted in the RHR shutdown cooling mode being inoperable during shutdown conditions.

We contend that the corrective actions for Problem Evaluation Request (PER) 299-0871 were adequate because the alternate decay heat removal methods established in response to the PER met the requirements of the Technical Specifications. The basis for the violation provided in the Inspection Report is that the Technical Specifications require the method to be established within one hour and that the method must be able to remain operational in the event of a lowering of level in the reactor cavity area. We contend that the Technical Specifications do not contain these requirements for the alternate decay heat removal method.

- LCO 3.9.8 Action A.1 states:

Verify an alternate method of decay heat removal is available. The Completion Time is one hour, and once per 24 hours thereafter.

- LCO 3.9.8 Bases state:

With no RHR shutdown cooling available, an alternate method of decay heat removal must be established within one hour. In this condition, the volume of water above the reactor vessel flange provides adequate capability to remove decay heat from the reactor core. However, the overall reliability is reduced because the loss of water level could result in reduced decay heat removal capability.

The alternate decay heat removal method is use of the RHR heat exchangers in the fuel pool cooling assist mode. Limiting Condition for Operation (LCO) 3.9.8 does not specify a time limit for when the alternate decay heat removal method must be placed in operation. The action required by the Technical Specifications is to verify within one hour that a method is available. The Bases, by definition, do not contain action statements and; therefore, the term establish within one hour in the Bases cannot be construed to require an action other than to verify the availability of the method within one hour.

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Furthermore, in this context, the heat removal capability of the volume of water above the reactor flange is also adequate to remove decay heat from the reactor core. Although this volume of water is not considered to be alternate decay heat removal method, it does provide an inherent margin of time for responsible operator action to: 1) verify an alternate decay heat removal method is available, and; 2) establish a time in which the alternate method must be placed in service to reduce reactor vessel water temperature.

The constraining temperature limit in the case of Columbia Generating Station is the spent fuel pool temperature limit. The outage plan established the time in which the alternate decay heat removal method would be required to be placed in service and that the method would be available at that time. Since this was a preplanned evolution in the outage schedule, the alternate method was to be "verified" prior to entry into LCO 3.9.8, Condition A. The plan determined that, with the heat-up rate of 2°F/hour and an action to place the alternate decay heat removal method in service at 120°F (which would take approximately six hours), there would be ample margin (approximately 17.5 hours) to ensure that the spent fuel pool limit of 155°F would not be exceeded.

It was also noted in the Inspection Report that the method should be capable of operation with reduced water level, which is outside of the applicability of LCO 3.9.8. Limiting Condition for Operation 3.9.9 governs the requirements for the alternate decay heat removal method below 22 feet above the reactor vessel flange. Within the applicability of LCO 3.9.9, we do not credit the RHR fuel pool cooling assist mode as an alternate decay heat removal method.

We are also planning on pursuing this through the Boiling Water Reactor Owners' Group.