

# **ENERGY NORTHWEST**

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February 9, 2001  
GO2-01-019

Docket No. 50-397

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

Gentlemen:

**Subject: COLUMBIA GENERATING STATION, OPERATING LICENSE NPF-21;  
REQUEST FOR ADOPTION OF BWRVIP-75 WELD EXAMINATION  
SCHEDULE**

- References:
- 1) Letter dated October 27, 1999, BWRVIP to NRC, "BWR Vessel and Internals Project Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75)"
  - 2) Letter dated September 15, 2000, NRC to Carl Terry BWRVIP Chairman, "Safety Evaluation of the 'BWRVIP Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75),' EPRI Report TR-113932, October 1999 (TAC No. MA5012)"

In reference 1, the Boiling Water Reactor Vessel and Internals Project (BWRVIP) submitted a report entitled "BWR Vessel and Internals Project Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75)" for NRC review and approval. In reference 2, the NRC issued a Safety Evaluation (SE), approving, with the exception of nine open items described therein, the use of BWRVIP-75 inspection schedule in lieu of the schedule established in NUREG-0313, Supplement 2, to address the staff's positions described in Generic Letter (GL) 88-01.

Energy Northwest hereby requests NRC approval to adopt the revised austenitic stainless steel piping weld inspection schedule criteria contained in Electric Power Research Institute proprietary report TR-113932 (BWRVIP-75) in lieu of our present commitments to GL 88-01. The proposed alternative applies only to welds and piping within the scope of GL 88-01 and NUREG 0313, Revision 2.

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The attachment to this letter discusses how the justifications for a revised inspection schedule contained in the BWRVIP-75 report apply to Columbia Generating Station and addresses the nine open items from the SE.

Should you have any questions or require additional information pertaining to this request, please contact PJ Inserra or me at (509) 377-4147.

Respectfully,

*W. W. Coleman, Jr.*

RL Webring  
Vice President, Operations Support/PIO  
Mail Drop PE08

Attachment

cc: EW Merschoff - NRC-RIV  
JS Cushing - NRC-NRR  
TC Poindexter - Winston & Strawn

NRC Sr. Resident Inspector - 988C  
DL Williams - BPA/1399

## **ADOPTION OF BWRVIP-75 WELD EXAMINATION SCHEDULE**

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### Background

By letter dated October 27, 1999, the Boiling Water Reactor Vessel and Internals Project (BWRVIP) submitted a report entitled "BWR Vessel and Internals Project Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules (BWRVIP-75)" to the NRC for review and approval. The report proposes revisions to the extent and frequencies of reactor coolant system austenitic stainless steel piping weld examination schedules contained in Generic Letter (GL) 88-01. The proposed revisions are empirically based on examination results and service experience from boiling water reactors and knowledge regarding the benefits of improved water chemistry. By letter dated September 15, 2000, the NRC issued a Safety Evaluation (SE) approving the adoption of the BWRVIP-75 guidance in lieu of licensee commitments to NUREG-0313, Revision 2, as implemented by GL 88-01. The staff approved SE contains nine open items that are recommended revisions to the BWRVIP-75 report to provide needed safety margin to ensure the continued safe operation of plants adopting the revised inspection schedules.

Columbia Generating Station proposes to adopt the examination schedule described in BWRVIP-75 as modified by the open items in the staff's SE described below. It is the intention of Columbia Generating Station to substitute the inspection schedules contained in BWRVIP-75 for all previous commitments to GL 88-01 inspection schedules.

### Open Item 3.1 Proposed Inspection Frequency and Scope for Category A Welds

Category A welds are fabricated with Intergranular Stress Corrosion Cracking (IGSCC) resistant materials and are comprised of two subgroups, B-J welds and B-F welds. To qualify for the BWRVIP-75 weld inspection schedule, these welds must have an IGSCC mitigating measure in addition to the resistant material. Columbia Generating Station proposes to adopt the BWRVIP-75 schedule of 10% of the population every 10 years for B-J welds because Solution Heat Treatment has been applied as a mitigating measure. The B-F welds have not had a second mitigating measure applied and inspections for this subgroup will continue to be performed on 100% of the population every 10 years in accordance with ASME Section XI, Table IWB-2500-1.

### Open Item 3.2 Proposed Inspection Frequency for Category B Welds

Category B welds at Columbia Generating Station are those non-resistant welds that have been improved by application of the Induction Heating Stress Improvement process (IHSI) within the first two years of system operation. Additionally, these welds comply with the BWRVIP-61 report (on IHSI effectiveness) recommendation for properly applied Stress Improvement (SI) and subsequent qualified Ultrasonic Testing to verify SI effectiveness. For this category of welds, Columbia Generating Station proposes to adopt the BWRVIP-75 inspection schedule of 25% of the population every 10 years.

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### Open Item 3.3 Proposed Inspection Frequency for Category C Welds

Category C welds are those welds composed of non-resistant materials that were stressed improved after 2 years of system operation. At Columbia Generating Station, the Mechanical Stress Improvement Process (MSIP) was applied as a mitigating measure for these welds. For this reason, these welds are not within the purview of the BWRVIP-61 report on IHSI effectiveness and are not subject to the restrictions described for IHSI welds in open item 3.3 of the staff's SE. Therefore, Columbia Generating Station proposes to adopt the BWRVIP-75 inspection frequency of 25% of the population every 10 years for these welds.

### Open Items 3.4 and 3.5 Proposed Inspection Frequency for Category E Welds

Category E welds are those that are cracked and reinforced by weld overlay or have stress improvement applied as a mitigating measure. Columbia Generating Station has no welds in this category at this time.

### Open Item 3.6 Sample Expansion

Consistent with the staff's recommendation on this subject, Columbia Generating Station will continue to comply with the sample expansion criteria delineated in GL 88-01.

### Open Item 3.7 Reactor Water Coolant Conductivity

The proposed reduction of weld inspection frequency is justified in part by the improved quality of reactor water chemistry at Columbia Generating Station. The reactor water coolant conductivity has been within the recommendations of the BWRVIP-29 report on BWR Water Chemistry Guidelines. The average conductivity over the last 10 years has been 0.156 uS, which is below the Level 1 action value of 0.3 uS specified in the BWRVIP-29 report.

### Open Item 3.8 Effective Hydrogen Water Chemistry (HWC) and Noble Metal Chemical Addition (NMCA) Programs

Columbia Generating Station does not currently utilize a HWC or NMCA program for reactor coolant. For this reason, Columbia Generating Station is requesting weld inspection schedules specified in the BWRVIP-75 for plants with Normal Water Chemistry.

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Open Item 3.9 Identification of Safety Significant Locations

Weld locations to be inspected will be determined using a risk significance ranking process. This process defines risk significant weld locations as those with a high consequence of failure and susceptibility to some type of failure mechanism. The welds selected for inspection will be distributed among welds in each category until the required percentage of locations have been selected with the highest safety-significant locations being selected first. Personnel selecting these locations will be knowledgeable of the IGSCC mechanism and its impact on the subject piping systems. A higher inspection priority will be given to locations having attributes that would promote IGSCC, or where IGSCC would be accelerated.