



ENERGY NORTHWEST

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GO2-10-144

10 CFR 50.55a

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 RELATED TO
REQUEST FOR RELIEF 3ISI-11**

- Reference: 1) Letter, Energy Northwest to NRC, "Revision Requests to the Third Ten-Year Inservice Inspection Program for Columbia Generating Station", dated March 11, 2010. (ML 100770221)
- 2) Letter, C.F. Lyons (NRC) to Mr. Mark Reddemann, (Energy Northwest) "Columbia Generating Station Request for Additional Information Related to Request for Relief 3ISI-11" (TAC NO ME3714), dated August 20, 2010. (ML 102280087)

Dear Sir or Madam:

By Reference 2, the NRC has requested additional information regarding Columbia Generating Station's request, submitted in Reference 1, for relief from requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI. The response to the request for additional information is attached.

There are no commitments contained in this letter. If you have further questions, please contact D.W. Gregoire at (509) 377-8616.

Respectfully,

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

Attachment: Response to the Request for Additional Information

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

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RESPONSE TO THE REQUEST FOR ADDITIONAL INFORMATION

Background:

The Nuclear Regulatory Commission (NRC) staff has reviewed and evaluated the information submitted by Energy Northwest (the licensee) in its letter dated March 11, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100770221), which requested NRC approval of a proposed alternative to the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI and other augmented inspection requirements regarding examination of certain nozzle-to-safe end welds and certain dissimilar metal welds at Columbia Generating Station (CGS).

For these welds, the licensee proposes to use the inspection schedules contained in the Electric Power Research Institute's (EPRI's) BWRVIP-75-A, "BWR [Boiling-Water Reactor] Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules," dated October 2005, as an alternative to the ASME Code requirements. The applicable ASME Code, Section XI Code of record for CGS's third 10-year interval inservice inspection program is the 2001 Edition through the 2003 Addenda, as amended by Section 50.55a of Title 10 of the *Code of Federal Regulations*.

The NRC staff requires the following additional information to complete its review of the application.

Request #1:

For the volumetric examinations of the components, piping, nozzles, etc., contained in this request for relief, please verify that the licensee is using ASME Code, Section XI, Appendix VIII requirements. If not, please explain.

Columbia Generating Station Response to #1:

Columbia Generating Station (CGS) uses the 2001 Edition of ASME Section XI for Appendix VIII as modified by 10 CFR 50.55a.

Request #2:

As noted in the licensee's proposed alternative, the frequency of inspections for normal water chemistry will be as defined in the NRC letter dated March 16, 2006, "NRC Approval Letter for BWRVIP-75-A, "BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules" (ADAMS Accession No. ML060760028). Please verify that the licensee is using the latest version of the EPRI BWR Water Chemistry Guidelines (BWRVIP-130) for control of the unit's water chemistry. If not, please explain. Please provide a brief discussion of the Hydrogen Water Chemistry, Noble Metal Chemical Addition, etc., in use at CGS.

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Columbia Generating Station Response to #2:

CGS uses the latest version of the EPRI BWR Water Chemistry Guidelines, (BWRVIP-190) for control of the unit's water chemistry. BWRVIP-130 is a previous version of the EPRI BWR Water Chemistry Guidelines. Initial Noble Metal Chemical Addition (NMCA) application was completed May 2001, followed by implementation of Hydrogen Water Chemistry (HWC) in November 2004. The second application of NMCA was performed in May 2007. Through August 2010 HWC availability has been 97.9% for current operating cycle and 98.4% since starting HWC in November 2004.

CGS follows the guidance of BWRVIP-62 for evaluating effective implementation of HWC with NMCA. BWRVIP-62 outlines the approaches that may be used to demonstrate that HWC is effectively implemented. The goal of an effective HWC mitigation plan is to reduce an electrochemical corrosion potential (ECP) at the metal surface during normal operation thereby providing protection against IGSCC. The approach used depends on the HWC process employed (i.e., HWC-Moderate or NMCA) and may be further influenced by whether ECP measurements are made. The monitoring requirements for establishing and maintaining an effective control program are found in BWRVIP-62.

CGS is currently a Category 3a plant per BWRVIP-62 guidance, meaning that CGS is an NMCA plant with ECP monitoring. As such, CGS complies with the following primary and secondary monitoring methods:

Primary Parameters:

- Measured ECP
- Monitoring of Catalyst loading

Secondary Monitoring Parameters include the following:

- Feedwater hydrogen injection rate or measured Feedwater hydrogen concentration
- Measured Reactor water dissolved oxygen concentration
- Measured Reactor water molar ratio hydrogen to oxygen
- Hydrogen to oxygen molar ratio from radiolysis model