

NRR-PMDAPem Resource

From: Klos, John
Sent: Wednesday, July 12, 2017 8:58 AM
To: Williams, Lisa L.
Cc: Klos, John
Subject: Columbia RWCU LAR , MF8318, formal release of RAIs

Importance: High

Lisa,

By letter dated August 30, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16243A515), Energy Northwest (the licensee) submitted a License Amendment Request (LAR) for Columbia Generating Station, which requested approval to revise the Quality Group designation for the piping, valves, pumps and mechanical modules located in low temperature portions of the reactor water cleanup (RWCU) system located in the radwaste building from Quality Group C to Quality Group D.

The NRC staff has reviewed the LAR and has identified areas where additional information is needed to complete its review. Clarification calls were held on June 1, 2017, June 20, 2017 and July 6, 2017 that developed the final set of questions below which require no further clarification. These RAIs are now released formally with a 75 calendar day response time; thereby, these RAIs are due September 25, 2017.

RAI1:

RG 1.26 establishes an acceptable method for complying with requirements of GDC 1 and 10 CFR 50.55a by classifying fluid systems and components important to safety and applying corresponding quality codes and standards to such systems and components. This RG describes an acceptable method for determining quality standards for Quality Group B, C, and D water- and steam-containing components important to safety of water-cooled nuclear power plants.

Columbia FSAR Section 3.2.2 states that the Quality Group classifications indicated in Tables 3.2-1 and 3.2-2 meet the requirements of 10 CFR 50.55a and Regulatory Guide 1.26, Revision 3. Table 3.2-2 shows that Quality Group C corresponds to ASME Section III, Class 3 equipment designed to Subsections NA and ND for piping, valves, and pressure vessels. Table 3.2-2 also shows that the design standards for Quality Group D components are ASME B31.1 for piping and valves, and ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, for pressure vessels.

As specified in 10 CFR 50.55a(g)(4), components (including supports) that are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI of the ASME Boiler and Pressure Vessel Code (BPVC) to the extent practical within the limitations of design, geometry, and materials of construction of the components. As stated in the Enclosure to the Energy Northwest letter dated February 4, 2016, (ADAMS Accession No. ML16035A405) the applicable ASME Section XI Code Edition and Addenda for Columbia's fourth ten-year inservice inspection interval ending December 12, 2025, is the 2007 Edition through the 2008 Addenda.

The applicable requirements of Section XI of the ASME BPVC include inservice examination and repair and replacement criteria. The repair and replacement criteria of Subsection IWA apply to all ASME Class 3 components. The examination requirements of Subsection IWD applied to all ASME Class 3 pressure-retaining components and their integral attachments on Class 3 systems in support of certain functions, including emergency core cooling and containment heat removal. These requirements are not applicable to Quality Group D components and are not included in the ASME B31.1 code.

As stated in the license amendment request, Columbia's RWCU system was originally designed fully compliant with Regulatory Guide 1.26, Revision 3 guidance. Regulatory Position C.2.c of RG 1.26 specified that water-containing components not part of the reactor coolant pressure boundary or included in Quality Group B, but part of systems or portions of systems that are connected to the reactor coolant pressure boundary and are capable of being isolated from that boundary during all modes of normal reactor operation by two valves, each of which is either normally closed or capable of automatic closure, should be designated Quality Group C.

The staff did not identify any discussion of the effect of the proposed quality group classification change on 10CFR50.55a implementation in the amendment request. As described above, the change in Quality Group could remove the requirement for inservice examination of pressure retaining components and their integral attachments and would remove the repair and replacement criteria currently required to be applied to Quality Group C components, thereby potentially increasing the probability of pressure boundary failure. Provide a discussion addressing changes in application of 10 CFR 50.55a(g)(4) requirements applicable to components classified Quality Class C that would result from the proposed reclassification as Quality Class D components. This discussion should address the following:

- Describe any adverse results of past required inservice examinations that resulted in repair or replacement activities. In the event that the Quality Group C RWCU system components have been excluded from inservice examination under Subsection IWD of the ASME BPVC, provide justification for the exclusion.
- Provide an appropriate administrative means of controlling future examination, repair, and replacement activities affecting the high-pressure portion of the RWCU system proposed for classification as Quality Group D, such as a license condition, or justify the relaxation based on an a risk-informed assessment if the potential for containment bypass. The voluntary process outlined in 10 CFR 50.69, "Risk-Informed Categorization and Treatment of Structures, Systems and Components for Nuclear Power Reactors," provides an acceptable alternative for compliance with the requirements of 10 CFR 50.55a(g).

RAI 2:

Section 3.2 of the Columbia Final Safety Analysis Report (FSAR) states that Quality Class II+ corresponds to augmented quality and involves the assignment of qualities affecting activities as specifically committed. The staff identified no discussion of any augmented qualities applicable to the components proposed for downgrading to Quality Group D other than extension of the high energy line classification to RWCU piping in the radwaste building meeting the pressure criteria for high energy lines. Explain the effect of including the components proposed for reclassification as a high energy line with respect to the quality class designation of the components. As appropriate, describe the components and associated attributes that would be subject to augmented quality and designation as Quality Class II+, as described in Section 3.2 of the Columbia FSAR. Clarify the components of the RWCU system within the radwaste building that are currently designated Quality Class II+ (e.g., resin backwash line) and provide the basis for the augmented quality class relative to the high pressure Quality Class II piping.

RAI 3:

Section 4.1.10 of Attachment 1 to the LAR described that originally 39 valves (31 fully replaced and 8 with valve internal-only modifications) were changed from the original Quality Group C to Quality Group D. However, 2 of these fully-replaced valves were restored back to their original Quality Group C classification.

Please provide the technical basis for returning 2 valves back to the Quality Group C classification. If degradation or damage to the Quality Group D component contributed to returning the component to Quality Group C, describe the degraded condition and the cause of the degradation.

Thank you,

John Klos
DORL Callaway, Columbia Project Manager

U.S. NRC, Office of Nuclear Reactor Regulation,
Division of Operating Reactor Licensing, O9D09
NRC/NRR/DORL/LPL4, MS O9E3
Washington, DC 20555-0001
301.415.5136, 301.415.2102 (fax)
John.Klos@NRC.gov

Hearing Identifier: NRR_PMDA
Email Number: 3602

Mail Envelope Properties (d9c4f1e07f7b49d8ba085d1add32ac48)

Subject: Columbia RWCU LAR , MF8318, formal release of RAIs
Sent Date: 7/12/2017 8:58:10 AM
Received Date: 7/12/2017 8:58:11 AM
From: Klos, John

Created By: John.Klos@nrc.gov

Recipients:

"Klos, John" <John.Klos@nrc.gov>
Tracking Status: None
"Williams, Lisa L." <llwilliams@energy-northwest.com>
Tracking Status: None

Post Office: HQPWMSMRS02.nrc.gov

Files	Size	Date & Time
MESSAGE	7724	7/12/2017 8:58:11 AM

Options

Priority: High
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received: