KHNPDCDRAIsPEm Resource

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Sent: Wednesday, July 15, 2015 1:53 PM
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Cc: Hansing, Nicholas; Clark, Theresa; Betancourt, Luis; Lee, Samuel
Subject: APR1400 Design Certification Application RAI 72-8020 (03.02.02 - System Quality Group Classification)
Attachments: APR1400 DC RAI 72 MEB 8020.pdf; image001.jpg

KHNP,

The attachment contains the subject request for additional information (RAI). This RAI was sent to you in draft form. Your licensing review schedule assumes technically correct and complete responses within 30 days of receipt of RAIs. However, KHNP requests, and we grant, 60 days to respond to the RAI question. We may adjust the schedule accordingly.

Please submit your RAI response to the NRC Document Control Desk.

Thank you,

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REQUEST FOR ADDITIONAL INFORMATION 72-8020

Issue Date: 07/15/2015
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 03.02.02 - System Quality Group Classification
Application Section:

QUESTIONS

03.02.02-3

The definitions of Quality Groups A, B, C, and D do not appear consistent with the guidance of RG 1.26 and the other guidance referenced in the SRP. For instance, the definition of Quality Group A does not clearly comply with the language in 10 CFR 50.55a, which states, in part, that components that are part of the reactor coolant pressure boundary must be Quality Group A unless failure of the component during normal reactor operation would not prevent the reactor to be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system. In Page 3.2-6 of DCD Section 03.02.02, the applicant discusses the "loss of enough reactor coolant to prevent orderly shutdown and cooldown," but this does not capture the full scope of the regulation. The applicant has stated that the quality groups are assigned in accordance with RG 1.26, but the text does not appear consistent. Please observe and incorporate the guidance into the definitions of quality groups, or justify why exception is taken to the guidance.

03.02.02-4

During review of Quality Group G classifications in DCD Tier 2, Section 3.2.2, the staff noted that although Quality Group G was defined as "designed to codes other than ASME Section III," ASME Section III CC-2001 with 2003 Addenda is listed as a Code and Standard for a Quality Group G SSCs in DCD Table 3.2-1. This does not appear consistent with the definition of Quality Group G indicated by the applicant in DCD Tier 2, Section 3.2.2. Please clarify the use of ASME Section III CC-2001 with 2003 Addenda as a Quality Group G Code. Additionally, please verify that this code for concrete containments is the correct code to apply to all referenced SSCs, such as the trisodium phosphate baskets (which are described in DCD Tier 2, Sections 6.1.1.2.1, 6.8.2.1.3, and 6.8.2.2.1 as stainless steel baskets).

03.02.02-5

The following list summarizes some inconsistencies or errors found in the review of DCD Tier 2, Sections 3.2.1 and 3.2.2 and associated sections. In accordance with 10 CFR 52.47, these inconsistencies should be addressed, and the DCD should be checked for additional related issues.

1. In Tier 2, Section 3.2.6, ASME B31.1 does not list a year, It appears that multiple years of this code are used, per Table 3.2-1. Please clarify which year should be used in both the text and the table, and justify or correct any inconsistencies.
2. In Tier 2, Section 3.2.6, References 16 and 17 indicate the 2001 edition of the ASME BPV Code. Tier 2, Table 3.2-1 shows the 2001 edition with 2003 addenda for Reference 17 and 2007 with 2008 addenda for Reference 16. Please confirm the correct year and justify or correct any inconsistencies.
3. In Tier 2, Table 3.2-1, Note 7 should refer to IEEE Std. 497 as accepted by the NRC in RG 1.97, as this regulatory guide includes regulatory positions on the content of the standard.

4. DCD Tier 2, page 3.2-78 is not consistent with the diagrams in Section 6.3, specifically the identification of valve 323 as a classification boundary. It appears that valve 332 was intended. Please clarify.
5. DCD Tier 2, page 3.2-74 lists "SC piping and valves from downstream of SI-653, 654 to upstream of and excluding SI- 178, 168" as Quality Group B. In reviewing the associated system diagram (Figure 6.3-63), there is no class break identified at SI 178, 168.

03.02.02-6

10 CFR 50.55a(d)(1) requires that components classified as Quality Group B meet the requirements for Class 2 Components in Section III of the ASME BPV Code. In DCD Tier 2, Table 3.2-1, the applicant has specified Quality Group B classifications for several SSCs without providing a corresponding entry in the "Codes and Standards" column associated with this 10 CFR 50.55a(d)(1) requirement. An example is the Control Element Assembly Drive motor assembly on Page 9 of the Table. 10 CFR 50.55a(e)(1) has similar requirements for Quality Group C components. Please review the contents of Table 3.2-1 and ensure that appropriate Codes and Standards are specified for all SSCs with Quality Group classifications.


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