KHNPDCDRAIsPEm Resource

From:	Ciocco, Jeff
Sent:	Wednesday, May 04, 2016 12:27 PM
To:	apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Jungho Kim (jhokim082 @gmail.com); Andy Jiyong Oh; Christopher Tyree
Cc:	Makar, Gregory; Mitchell, Matthew; Wunder, George; Williams, Donna
Subject:	APR1400 Design Certification Application RAI 475-8596 (10.04.08 - Steam Generator Blowdown System)
Attachments:	APR1400 DC RAI 475 MCB 8596.pdf

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, 45 days to respond to this RAI. We may adjust the schedule accordingly.

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

Thank you,

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MESSAGE	608	5/4/2016 12:27:19 PM
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REQUEST FOR ADDITIONAL INFORMATION 4758596

Issue Date: 05/04/2016
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 10.04.08 - Steam Generator Blowdown System
Application Section:

QUESTIONS

10.04.08-6

The response to RAI 381-8467, Question 10.04.08-1, provided additional information about the containment isolation signals related to the steam generator blowdown system. The response is dated April 2, 2016, ADAMS Accession Number ML16093A018. The response did not provide all of the information the staff needs to complete its review. The staff requests the following additional information:

a. The response proposes listing additional control signals in Tier 1 Table 2.7.1.8-1, but there is no corresponding change proposed for Tier 1 Figure 2.7.1.8-1. Since Figure 2.7.1.8-1 shows the control signals associated with containment isolation valves, provide your plans for revising Figure 2.7.1.8-1 or the basis for not revising it.

b. The response indicates that Tier 2 Chapter 7 intentionally discusses the instrumentation and controls at a higher level and does not describe individual signals. The staff determined that for consistency and clarity, the signals that activate the containment isolation valves should be identified in Chapter 7, especially in the functional diagrams. Please discuss your plans to add this information to the FSAR.

10.04.08-7

The response to RAI 381-8467, Question 10.04.08-3, provided additional information about addressing flow accelerated corrosion (FAC) in the steam generator blowdown system. The response is dated April 2, 2016, ADAMS Accession Number ML16093A018. The response proposes a new FSAR Subsection 10.4.8.2.2.f to describe how the design addresses FAC for the SGBS. The staff finds some parts of the proposed subsection unclear and requests that the applicant provide additional information to address the following issues:

a. The staff recognizes that specifying stainless steel is one way to meet staff guidance for preventing FAC. However, since FAC is a form of corrosion (flow-accelerated corrosion), the staff does not understand the statement that stainless steel is “not applied for preventing FAC, but for corrosion.” If this subsection of the FSAR provides the reason (other than FAC) for using stainless steel, that reason needs to be clarified.

b. The proposed description states that upstream and downstream lines of the SG blowdown filters and demineralizers are stainless steel. This description does not identify how far the stainless steel portion extends upstream; therefore, the response is unclear about the materials used between the flash tank and pre-filter, and how FAC is addressed in that portion of the system.

c. The staff does not understand the meaning of “chemical corrosion” and how it relates to use of stainless steel for the wet lay-up piping. The staff recognizes the use of stainless steel as a way to prevent FAC, but if this subsection of the FSAR provides another reason for using stainless steel in the wet lay-up piping, that reason needs to be clarified.

d. If there are carbon steel portions of the SGBS that can be excluded from the FAC program, that should be justified by identifying the applicable criteria in EPRI Report NSAC-202L, “Recommendations for an Effective Flow-Accelerated Corrosion Program,” Rev. 3 or later. The response references B31.1, the ASME Code for Power Piping, but NRC guidance does not recognize B31.1 as a basis for FAC programs.


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