KHNPDCDRAIsPEm Resource

From:	Ciocco, Jeff
Sent:	Thursday, January 26, 2017 11:23 AM
To:	apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Jungho Kim (jhokim082 @gmail.com); Andy Jiyong Oh; Hyeok Jeong (michael.jeong2@gmail.com); David Wagner (david.wagner@aecom.com)
Cc:	Yeshnik, Andrew; Mitchell, Matthew; Wunder, George; McCoppin, Michael
Subject:	APR1400 Design Certification Application RAI 535-8726 9 (09.01.02 - New and Spent Fuel Storage)
Attachments:	APR1400 DC RAI 535 MCB 8726.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.

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

Thank you,

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Hearing Identifier: KHNP_APR1400_DCD_RAI_Public
Email Number: 594

Mail Envelope Properties (731c1cff4e0f4bd19efbc68f9a870377)

Subject: APR1400 Design Certification Application RAI 535-8726 9 (09.01.02 - New and Spent Fuel Storage)
Sent Date: 1/26/2017 11:22:54 AM
Received Date: 1/26/2017 11:22:57 AM
From: Ciocco, Jeff

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Post Office: R4PWMSMRS03.nrc.gov

Files	**Size**	**Date & Time**
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APR1400 DC RAI 535 MCB 8726.pdf	90030	
image003.jpg	5023	

Options
Priority: Standard
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REQUEST FOR ADDITIONAL INFORMATION 535-8726

Issue Date: 01/26/2017
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 09.01.02 - New and Spent Fuel Storage
Application Section:

QUESTIONS

09.01.02-57

The applicant credits the spent fuel pool liner as performing an important to safety function in FSAR Section 9.1.3.3.2: “The leakage probability is very low because the SFP stainless steel liner is a seismic Category I structure” (GDC 62, requiring maintenance of SFP inventory). As such, GDC 1 requries that structures, systems, and components important to safety be designed, fabricated, erected, and tested to quality standards commesurated with the importance of the safety functions to be performed. The spent fuel pool liner does not perform a safety-related function and as such 10 CFR Appendix B need not apply. However, based upon the importance to safety, the spent fuel pool liner requires requries higher quality assurance than commercial grade components.

In the RAI 8627, Question 09.01.02-56, the staff described the two different quality assurance requirements that could apply to the procurement of the Type 304 liner plates (see RAI). Because the FSAR is not clear on which requirements apply the staff requested that: “The applicant should provide the staff with the QA requirements for the spent fuel pool liner. Additionally the applicant should revise the FSAR or QAPD to provide clear guidance for a COL applicant related the QA requirements for spent fuel pool liner.”

The staff has reviewed the applicant's response and determined that it is insufficent to close this issue.

The applicant's response suggests that acceptance criteria for the material was to review the ASTM mill certificate. As mentioned in the prior staff RAI, a review of the mill certification alone is inadequate. The critical characteristics (mechanical properties, chemical properties, ASTM A262 Practice E testing, etc.) must be verified (commercial grade dedication) or an audit of the supplier is necessary to verify that the liner material conforms to the assumptions in FSAR Section 9.1. Without this verification the spent fuel pool liner would not have sufficient quality assurance to meet the requirements of a Seismic Category 1 structure. Additionally, only reviewing the ASTM mill certificate would not be consistent with the SRP which references ANS 57.2 (1983) which has a requirement of ASME NQA-1 in Section 6.1.1.2.

As requested in RAI 8627, Question 09.01.02-56, the applicant should provide the staff with the QA requirements for the spent fuel pool liner. Additionally the applicant should revise the FSAR or QAPD to provide clear guidance for a COL applicant related the QA requirements for spent fuel pool liner.


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