

KHNPDCDRAIsPEm Resource

From: Ward, William
Sent: Friday, July 24, 2015 4:30 PM
To: 'apr1400rai@khnp.co.kr'; KHNPDCDRAIsPEm Resource; 'Chang, Harry'; 'Yunho Kim (yshh8226@gmail.com)'; 'Mannon, Steven (steven.mannon@aec.com.com)'
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Subject: APR1400 Design Certification Application RAI 111-7971 (6.5.2 Containment Spray as a Fission Product Cleanup System)
Attachments: image001.jpg; APR1400 DC RAI 111 RPAC 7971.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, 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 111-7971

Issue Date: 07/24/2015

Application Title: APR1400 Design Certification Review – 52-046

Operating Company: Korea Hydro & Nuclear Power Co. Ltd.

Docket No. 52-046

Review Section: 06.05.02 - Containment Spray as a Fission Product Cleanup System

Application Section: 6.5.2 and 15.6.5.5.1.1

QUESTIONS

06.05.02-1

The design basis accident (DBA) loss of coolant accident (LOCA) dose analysis discussed in DCD 15.6.5 was performed to show compliance with the design and siting dose criteria in 10 CFR 52.47(a)(2)(iv) and control room habitability dose criteria in GDC 19. With respect to the modeling of iodine removal by containment sprays in the LOCA dose analysis, DCD page 15.6-46 states that there is no recirculation mode of the containment spray system (CSS), because the CSS takes suction on the in-containment refueling water storage tank (IRWST) for the entire duration of CSS operation. The calculation of elemental iodine removal by containment sprays described in DCD 6.5.2.3.3 is consistent with the assumption that there is no recirculation of water. However, in DCD 6.5.2.3.2 and DCD 6.8.2.2.1 (page 6.8-9), the description of water movement in the containment during containment spray operation includes spillage into the holdup volume tank (HVT) which includes tri-sodium phosphate (TSP) in baskets for pH control and subsequent flow into the IRWST. If you continue to use methods that are consistent with SRP 6.5.2, would accounting for this flow of water from the containment to the IRWST change the calculated elemental iodine removal coefficient or the time to reach the maximum iodine decontamination factor of 200?