KHNPDCDRAIsPEm Resource

From: Ward, William
Sent: Monday, May 22, 2017 7:01 PM
To: apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; daegeun.ahn@gmail.com; Andy Jiyong Oh; Jungho Kim (jhokim082@gmail.com); Wagner, David (Vienna)
Cc: McCoppin, Michael; Ward, William; Umana, Jessica; Thomas, Matt; Karas, Rebecca
Subject: APR1400 Design Certification Application RAI 547-8819 [6.2.2 - Containment Heat Removal Systems]
Attachments: APR1400 DC RAI 547 SRSB 8819.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,

William R. Ward, P.E.
APR1400 DCA Lead Project Manager
U.S. Nuclear Regulatory Commission
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Washington, DC, 20555-0001
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From: Ward, William

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Options
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Return Notification: No
Reply Requested: No
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REQUEST FOR ADDITIONAL INFORMATION 547-8819

Issue Date: 05/22/2017
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 06.02.02 - Containment Heat Removal Systems
Application Section:

QUESTIONS

06.02.02-47

10 CFR 50.36(c)(2)(ii)(C) requires the design to establish a technical specification (TS) limiting condition for operation (LCO) for a structure, system, or component (SSC) that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient.

As part of the Chapter 6 presentation to the Advisory Committee on Reactor Safeguards (ACRS) Subcommittee, an ACRS member questioned whether the In-containment Refueling Water Storage Tank (IRWST) vacuum protection swing panels need to be included in the design's technical specifications in order to ensure operability of the IRWST and downstream pumps (safety injection, containment spray, shutdown cooling pumps) during an accident. Specifically, if the vacuum protection swing panels failed to open in the event of vacuum conditions in the IRWST (such as an SI event where containment is not pressurized), then would the IRWST structural integrity or the downstream pumps operability be challenged due to a lack of net positive suction head (NPSH), given the analysis assumes a minimum containment pressure? The staff reviewed Chapter 6 of the DCD and could not garner enough information to determine whether or not the vacuum protection swing panels are required to be operable in order to ensure operability of the IRWST itself and the downstream pumps that the IRWST feeds.

The staff requests the applicant to provide additional information in a response that describes whether or not the IRWST swing panels need to function properly in order to ensure the continued operability of the emergency core cooling system (ECCS). If the IRWST swing panels are required to function properly in order to ensure the continued operability of the ECCS, then the staff requests the applicant to add the swing panels to its technical specifications and surveillance requirements.