

KHNPDCDRAIsPEm Resource

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Sent: Tuesday, June 23, 2015 8:49 AM
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Cc: Ashcraft, Joseph; Jackson, Terry; Ward, William; Lee, Samuel
Subject: APR1400 Design Certification Application RAI 46-7879 (07.06 - Interlock Systems Important to Safety)
Attachments: APR1400 DC RAI 46 ICE1 7879.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, the following days to respond to the RAI's questions. We may adjust the schedule accordingly.

07.06-1: 45 days

07.06-2: 30 days

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

Thank you,

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REQUEST FOR ADDITIONAL INFORMATION 46-7879

Issue Date: 06/23/2015

Application Title: APR1400 Design Certification Review – 52-046

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

Docket No. 52-046

Review Section: 07.06 - Interlock Systems Important to Safety

Application Section:

QUESTIONS

07.06-1

Clarify what signals go through the main control room (MCR)/remote shutdown room (RSR) Master Transfer Switches.

10 CFR Part 50, Appendix A, General Design Criterion (GDC) 19, "Control room," and NUREG-0800, SRP, Section 7.4, require, in part, that equipment at appropriate locations outside the control room shall be provided and should be capable of operating independently of (i.e., without interaction with) the equipment in the main control room. FSAR Tier 2, Figures 7.6-1A, B, C and 7.6-2 show control from both main control room (MCR) and remote shutdown room (RSR), but do not reflect the signals going through the MCR/RSR Master Transfer Switches described in FSAR Tier 2, Section 7.7.1.2. FSAR Tier 2, Figure 7.6-3, does not show any control from RSR, but the status of valves goes to both MCR and RSR. FSAR Tier 2, Section 7.6.2.1.k states "Instrumentation and control systems for the all interlock systems important to safety except SCS suction line relief valve interlock in the MCR are designed in conformance with GDC 19 to be maintained in a safe condition under accident conditions (see Figures 7.6-1A through 7.6-3)." Clarify in FSAR Tier 2, Figures 7.6-1A, B, C and 7.6-2 where the signals go through the MCR/RSR Master Transfer Switches. Also, clarify in what portion of the I&C safety system the interlock logic resides. Clarify in FSAR Tier 2, Figure 7.6-3 whether the CCW Supply and Return Header Isolation Valves are controlled from both MCR and RSR and provide a description of why the status is needed in both MCR/RSR and if those signals need to go through the MCR/RSR Master Transfer Switches.

07.06-2

Provide inspections, test, analyses, and acceptance criteria (ITAAC) for all safety-related interlocks.

10 CFR 52.47(b)(1), requires that a DC application contain the proposed inspections, tests, analyses, and acceptance criteria (ITAAC) that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a plant that incorporates the design certification is built and will operate in accordance with the design certification, the provisions of the Atomic Energy Act, and the NRC's regulations. Safety-related interlocks provide important functions to prevent the occurrence of potential transients and accidents. However, the staff did not find ITAAC that would verify the development, construction, testing and operation of such interlocks for the APR1400. Provide ITAAC for all safety-related interlocks or provide reference to where these ITAAC are located within the application.

