

KHNPDCDRAIsPEm Resource

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Sent: Tuesday, October 27, 2015 7:10 AM
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Subject: APR1400 Design Certification Application RAI 272-8313 (07.02 - Reactor Trip System)
Attachments: APR1400 DC RAI 272 ICE 8313.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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REQUEST FOR ADDITIONAL INFORMATION 272-8313

Issue Date: 10/27/2015
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 07.02 - Reactor Trip System
Application Section:

QUESTIONS

07.02-13

Provide clarification on the Plant Protection System (PPS) watchdog timer and explain the purpose of the manual reset operation for the reactor trip switchgear system.

10 CFR 50.55a(h)(3) requires compliance with IEEE Std 603-1991. IEEE Std 603-1991, Clause 5.2, "Completion of Protective Action," states, in part, that the safety systems shall be designed so that, once initiated automatically or manually, the intended sequence of protective actions of the execute features shall continue until completion. When reviewing Technical Report APR1400-Z-J-NR-14001-P, Rev. 0, "Safety I&C System," the staff noted two design aspects that require clarification.

1. In Figure 4-7, the staff is not clear about the application of Note 2 to the design. Specifically, identify what part of the logic in Figure 4-7, "Watchdog Timer for PPS," does Note 2 apply. Update the logic associated with Note 2 in Figure 4-7 as part of the clarification.
2. Section 4.2.3.6, "Reactor Trip Switchgear System," does not explain the purpose or function of the manual reset operation. Explain the purpose and function of the manual reset operation and update the APR1400 application accordingly.

07.02-14

Provide the operating bypass for the low pressurizer pressure actuation for safety injection actuation signal (SIAS) and containment isolation actuation signal (CIAS) in APR1400 FSAR Tier 1, Table 2.5.1-4, "Reactor Trip System and Engineered Safety Features Initiation Bypasses."

10 CFR 50.55a(h)(3) requires compliance with IEEE Std 603-1991. IEEE Std 603-1991, Clause 4.3, states the design basis shall document the permissive conditions for each operating bypass capability that is to be provided. The NRC staff was not able to identify the operating bypass for the low pressurizer pressure actuation for the SIAS/CIAS in APR1400 FSAR Tier 1, Section 2.5.1.1, "Design Description," Item 7.b. Update to the operating bypass listing in FSAR Tier 1, Table 2.5.1-4, such that it is consistent with the operating bypass listing in FSAR Tier 2, Table 7.3-1, "ESFAS Operating Bypass Permissive."



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