KHNPDCDRAIsPEm Resource

From: Ciocco, Jeff
Sent: Thursday, August 20, 2015 8:37 AM
To: apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Harry (Hyun Seung) Chang; Jiyong Andy Oh; Steven Mannon
Cc: Tjader, Theodore; Dias, Antonio; Umana, Jessica; Lee, Samuel
Subject: APR1400 Design Certification Application RAI 159-8108 (16 - Technical Specifications)
Attachments: APR1400 DC RAI 159 SPSB 8108.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, 45 days to respond to the RAI questions. We may adjust the schedule accordingly.

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

Thank you,

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United States Nuclear Regulatory Commission
Protecting People and the Environment

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REQUEST FOR ADDITIONAL INFORMATION 159-8108

Issue Date: 08/20/2015
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 16 - Technical Specifications
Application Section:

QUESTIONS

16-46

Paragraph (a)(11) of 10 CFR 52.47 and paragraph (a)(30) of 10 CFR 52.79 states that a design certification (DC) applicant and a combined license (COL) applicant respectively are to propose TS prepared in accordance with 10 CFR 50.36 and 50.36a. 10 CFR 50.36 sets forth requirements for technical specifications to be included as part of the operating license for a nuclear power facility. Subsection 52.47(a)(11) requires that technical specifications be provided in the application for a design certification.

The “Background” section of the Bases for generic TS 3.5.1 states that the safety injection tank (SIT) “motor operated isolation valves are normally open with power removed from the valve motor to prevent inadvertent closure prior to or during an accident.” The next to last paragraph discusses that the isolation valves are interlocked with pressurizer pressure instrumentation channels to ensure the [SIT] valves will automatically open as RCS pressure is increased above SIT pressure and that the SIT isolation valves receive an SIAS signal to open. The discussion needs to be clarified.

The discussion should describe when power is and is not removed; the discussion should also mention at what point during startup power is removed from the motor operated isolation valves. The discussion also needs to clearly explain the effect of an SIAS signal on the SIT isolation valves.

16-47

Paragraph (a)(11) of 10 CFR 52.47 and paragraph (a)(30) of 10 CFR 52.79 states that a design certification (DC) applicant and a combined license (COL) applicant respectively are to propose TS prepared in accordance with 10 CFR 50.36 and 50.36a. 10 CFR 50.36 sets forth requirements for technical specifications to be included as part of the operating license for a nuclear power facility. Subsection 52.47(a)(11) requires that technical specifications be provided in the application for a design certification.

In the "Actions" section of the Bases for generic TS 3.5.1, the last paragraph of the discussion of Required Action B.1 states “If there is a known condition where pressure or level could not be maintained for at least 72 hours …” This sentence is confusing because it does not seem to relate to any Condition in the Actions Table. The paragraph seems to be a discussion of Condition C, or perhaps it is an explanation of what would cause entry into Condition D. A more detailed example of what is meant should be provided. Rewrite or remove this paragraph.

16-48

Paragraph (a)(11) of 10 CFR 52.47 and paragraph (a)(30) of 10 CFR 52.79 states that a design certification (DC) applicant and a combined license (COL) applicant respectively are to propose TS prepared in accordance with 10 CFR 50.36 and 50.36a. 10 CFR 50.36 sets forth requirements for technical specifications to be included as part of the operating license for a nuclear power facility. Subsection 52.47(a)(11) requires that technical specifications be provided in the application for a design certification.

In generic TS 3.5.2, Condition A applies when two SIS trains are inoperable if the trains are diagonal and allows 72 hours to restore the trains to operable status. If two adjacent SIS trains are inoperable, Condition C applies and requires an immediate unit shutdown. The Bases for generic TS 3.5.2 do not explain the significance of “diagonal trains”; presumably two operable safety injection trains injecting on opposite sides of the reactor vessel is acceptable, but injecting on one side of the reactor vessel is not, possibly because a balanced or symmetric flow into the reactor vessel is necessary to satisfy safety analysis assumptions.

The applicant is requested to include a discussion of the significance of diagonal SIS trains in the Bases for Required Action A.1 of generic TS 3.5.2.


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