

KHNPDCDRAIsPEm Resource

From: Ward, William
Sent: Saturday, October 01, 2016 3:24 PM
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Subject: APR1400 Design Certification Application RAI 524-8697 [14.2 - Initial Plant Test Program - Design Certification and New License Applicants]
Attachments: APR1400 DC RAI 524 SRSB 8697.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, 45 days to respond to this RAI. 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 524-8697

Issue Date: 10/01/2016

Application Title: APR1400 Design Certification Review – 52-046

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

Docket No. 52-046

Review Section: 14.02 - Initial Plant Test Program - Design Certification and New License Applicants

Application Section:

QUESTIONS

14.02-69

In APR1400 DCD Section 14.2, the applicant committed to RG 1.68, Revision 4. RG 1.68, Appendix A, "Initial Test Program," states, in part, that it incorporates information relevant to applications for design certifications (DCs) under the applicable appendix to 10 CFR Part 52. For combined license (COL) applications under 10 CFR Part 52, the applicant must describe the ITP, in accordance with §52.79(a)(28). The requirements in 10 CFR 52.47 and 10 CFR 52.137 do not require a DC applicant to submit an ITP. However, DC applicants have previously submitted plans for an ITP in their applications to assist the COL applicant that references those DCs to meet the requirement in §52.79(a)(28) to include plans for an ITP in its COL application.

RG 1.68, Revision 4 provides guidance on initial fuel load and initial criticality tests in Appendix A, Section A-2, "Initial Fuel Load and Pre-Critical Tests," and Section A-3, "Initial Criticality," and initial fuel load and initial criticality test procedures in Appendix C, "Preparation of Procedures," Section C-2, "Fuel Loading," and Section C-3, "Initial Criticality Procedures." However, the APR1400 DC application does not include any initial fuel load/initial criticality tests to conform to the guidance in RG 1.68, which specifies the following tests:

- Initial Fuel Loading, to establish prerequisites and conditions for initial fuel loading and procedures to ensure safe loading
- Inverse Count Ratio or 1/M Plot Test for Fuel Loading, for verification of sub-criticality during fuel loading
- Initial Criticality, to describe the procedure for achieving initial criticality in a controlled manner

Since the above-described tests constitute a separate initial fuel load/initial criticality phase of the ITP, the DC applicant should consider creating a new table, similar to APR1400 DCD Tables 14.2-1, "Preoperational Tests," 14.2-2, "Post Core Hot Functional Tests," 14.2-3, "Low-Power Physics Tests, and 14.2-4, "Power Ascension Tests" or consider renaming one of those tables, as appropriate.

To be consistent with the guidance in RG 1.68, Revision 4, the three initial fuel load/initial criticality tests noted above should be added to DCD Section 14.2 and listed in a new table of initial fuel load/initial criticality tests.