

KHNPDCDRAIsPEm Resource

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Sent: Tuesday, July 21, 2015 1:00 PM
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Subject: APR1400 Design Certification Application RAI 93-8075 (16 - Technical Specifications)
Attachments: APR1400 DC RAI 93 SPSB 8075.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 93-8075

Issue Date: 07/21/2015
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: DCD Chapter 16 TS Section 4.0

QUESTIONS

16-1

10 CFR 50.36, "Technical Specifications" and 10 CFR 52.47(a)(11) provides the regulatory basis for the following questions. 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.

NUREG-1432, "Standard Technical Specifications-Combustion Engineering Plants," provides NRC guidance on format and content of technical specifications as one acceptable means to meet 10 CFR 50.36 requirements.

SRP 16, Part III.2.A states, in part, "when reviewing a difference between the proposed TS provision and the reference TS provision, verify that the applicant's written technical or administrative reasoning in support of the difference is logical, complete, and clearly written."

1. In generic TS 4.3.1, "Criticality," paragraph 4.3.1.1.b states:

The spent fuel storage racks are designed and shall be maintained with: $K_{\text{eff}} < 1.0$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in [FSAR] Section 9.1, "Fuel Storage and Handling.";

This is different from STS 4.3.1 where equivalent paragraph 4.3.1.1.b states:

The spent fuel storage racks are designed and shall be maintained with: $k_{\text{eff}} \leq 0.95$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in [Section 9.1 of the FSAR],

STS paragraph 4.3.1.1.b conforms to the regulatory requirements of 10 CFR 50.68(b)(4), which states:

If no credit for soluble boron is taken, the k-effective of the spent fuel storage racks loaded with fuel of the maximum fuel assembly reactivity must not exceed 0.95, at a 95 percent probability, 95 percent confidence level, if flooded with unborated water. If credit is taken for soluble boron, the k-effective of the spent fuel storage racks loaded with fuel of the maximum fuel assembly reactivity must not exceed 0.95, at a 95 percent probability, 95 percent confidence level, if flooded with borated water, and the k-effective must remain below 1.0 (subcritical), at a 95 percent probability, 95 percent confidence level, if flooded with unborated water.

The applicant is requested to clarify how the stated Specification meets 10 CFR 50.68(b)(4) requirements. A similar construction for TS 4.3.1.1 as shown in the AP1000 DCD Rev. 19, generic TS can be used if soluble boron is credited in the NRC-approved specific analysis identified in Specification 4.3.1.1.f.

2. In generic TS 4.3.1, "Criticality," paragraph 4.3.1.1.f, states:

REQUEST FOR ADDITIONAL INFORMATION 93-8075

The spent fuel storage racks are designed and shall be maintained with:
f .New or partially spent fuel assemblies with a discharge burnup in the “unacceptable domain” of Figure 3.7.16-1 will be stored in compliance with the NRC-approved specific document containing the analytical methods, title, date, or specific configuration or figure.

This is different from STS 4.3.1 where equivalent paragraph 4.3.1.1.f states:

The spent fuel storage racks are designed and shall be maintained with:
[f. New or partially spent fuel assemblies with a discharge burnup in the “unacceptable range” of Figure [3.7.18-1] will be stored in compliance with the NRC approved [specific document containing the analytical methods, title, date, or specific configuration or figure].

The applicant is requested to complete the necessary details regarding the referenced NRC-approved document.



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