

KHNPDCDRAIsPEm Resource

From: Ciocco, Jeff
Sent: Monday, February 01, 2016 10:06 AM
To: apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Harry (Hyun Seung) Chang; Andy Jiyong Oh; Christopher Tyree
Cc: Schmidt, Jeffrey; Karas, Rebecca; Steckel, James; Lee, Samuel
Subject: APR1400 Design Certification Application RAI 388-8502 (15.04.07 - Inadvertent Loading and Operation of a Fuel Assembly in an Improper Position)
Attachments: APR1400 DC RAI 388 SRSB 8502.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 388-8502

Issue Date: 02/01/2016

Application Title: APR1400 Design Certification Review – 52-046

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

Docket No. 52-046

Review Section: 15.04.07 - Inadvertent Loading and Operation of a Fuel Assembly in an Improper Position

Application Section:

QUESTIONS

15.04.07-1

In DCD Tier 2, Section 15.4.7.2, "Sequence of Events and Systems Operation," the applicant states that the worst case undetectable misloading at BOC would be the interchange of a shimmed with an unshimmed assembly at the core center. In DCD Section 15.4.7.3.2, "Input Parameters and Initial Conditions," the applicant states the worst undetectable misloading at startup (i.e., BOC) is the interchange of Assemblies 12 and 24. The staff notes that assembly locations 12 and 24 are near the core periphery as shown in DCD Figure 15.4.7-1, "Location of the Worst-Case Misloading." The staff believes there is a potential inconsistency regarding the location of the worst misloaded assembly. Update the DCD as necessary.

15.04.07-2

In DCD Tier 2, Section 15.4.7.3.3, "Results," the applicant states that maximum increase in planer peaking factor is less than 15 percent, including measurement uncertainties, due to the misloading. It is unclear to the staff if the 15 percent increase is between incore measurements intervals or the maximum change during the cycle between the as-designed core and the misloaded loading pattern. Clarify what the 15 percent change is relative to and revise the DCD as necessary.



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