

KHNPDCDRAIsPEm Resource

From: Ciocco, Jeff
Sent: Tuesday, November 24, 2015 3:13 PM
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Cc: Thomas, Vaughn; Istar, Ata; Ng, Ronnie; Lee, Samuel
Subject: APR1400 Design Certification Application RAI 320-8383 (03.08.05 - Foundations)
Attachments: APR1400 DC RAI 320 SEB1 8383.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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United States Nuclear Regulatory Commission

Protecting People and the Environment

REQUEST FOR ADDITIONAL INFORMATION 320-8383

Issue Date: 11/24/2015
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 03.08.05 - Foundations
Application Section: 3.8.5

QUESTIONS

03.08.05-19

10 CFR 50.55a and Appendix A to 10 CFR Part 50, General Design Criteria 1, 2, 4 and 5, provide the regulatory requirements for the design of the mat foundation for the prestressed concrete containment. Standard Review Plan (SRP) 3.8.5, Section II specifies analysis and design procedures applicable to the foundation of seismic Category I structures.

On October 5, 2015, the applicant presented an overview of its seismic analysis approach of the APR1400 to the staff. During the presentation, the applicant stated that a 3-foot lean concrete will be placed beneath the bottom of the basemat and that the lean concrete is classified as a non-safety related structure. The staff reviewed the DCD Tier 2, Section 3.8 along with the technical report (TR), APR1400-ES-NR-14006-P, "Stability Check for NI Common Basemat," Revision 1, and noted that the applicant did not provide any description on the use of lean concrete in its design of the APR1400. Per 10 CFR 50.55a, Appendix A to 10 CFR Part 50, General Design Criteria 1, 2, 4, 5, and SRP 3.8.5, the applicant is requested to describe in detail the following:

- a. What is the design criteria for the lean concrete?
- b. How is it used in the soil-structure-interaction analysis model?
- c. Is the "lean concrete" being used for all Category I structures?
- d. Is **the lean concrete** 3 feet thick throughout the NI? Why **3 feet**?
- e. Is the lean concrete reinforced?

Also, the applicant is requested to update applicable portion of Section 3.8 of the DCD Tier 2, and the TR accordingly.