

KHNPDCDRAIsPEm Resource

From: Ciocco, Jeff
Sent: Wednesday, October 14, 2015 8:23 AM
To: apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Harry (Hyun Seung) Chang; Andy Jiyong Oh; Erin Wisler
Cc: Junge, Michael; Kent, Lauren; Ward, William; Lee, Samuel
Subject: APR1400 Design Certification Application RAI 250-8282 (18 - Human Factors Engineering)
Attachments: APR1400 DC RAI 250 COLB 8282.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, 60 days, 45 days, and 45 days, respectively, to respond to these RAI questions. We may adjust the schedule accordingly.

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

Thank you,

Jeff Ciocco
New Nuclear Reactor Licensing
301.415.6391
jeff.ciocco@nrc.gov



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Subject: APR1400 Design Certification Application RAI 250-8282 (18 - Human Factors Engineering)
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From: Ciocco, Jeff
Created By: Jeff.Ciocco@nrc.gov

Recipients:

"Junge, Michael" <Michael.Junge@nrc.gov>
Tracking Status: None
"Kent, Lauren" <Lauren.Kent@nrc.gov>
Tracking Status: None
"Ward, William" <William.Ward@nrc.gov>
Tracking Status: None
"Lee, Samuel" <Samuel.Lee@nrc.gov>
Tracking Status: None
"apr1400rai@khnp.co.kr" <apr1400rai@khnp.co.kr>
Tracking Status: None
"KHNPDCDRAIsPEM Resource" <KHNPDCDRAIsPEM.Resource@nrc.gov>
Tracking Status: None
"Harry (Hyun Seung) Chang" <hyunseung.chang@gmail.com>
Tracking Status: None
"Andy Jiyong Oh" <jiyong.oh5@gmail.com>
Tracking Status: None
"Erin Wisler " <erin.wisler@aecom.com>
Tracking Status: None

Post Office: HQPWMSMRS08.nrc.gov

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Options

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REQUEST FOR ADDITIONAL INFORMATION 250-8282

Issue Date: 10/14/2015
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 18 - Human Factors Engineering
Application Section: 18.6

QUESTIONS

18-27

10CFR 52.6(a) states in part, “Information provided to the Commission by...an applicant for a standard design certification...shall be complete and accurate in all material respects.”

Section 5, “Implementation Team,” in APR1400-E-I-NR-14006-P, Treatment of Important Human Actions Implementation Plan (TIHA IP), Revision 0 lists the types of subject matter experts involved in the TIHA program element. The information in the table is not consistent with the information in the following sections of the TIHA IP:

· Identifying DIHAs:

Section 4.2, page 10 (this sections says that a safety analysis engineering SME selects DIHAs, but it does not include the plant operations SME)

· Review of DIHAs:

Section 3.3, page 5 (this section says that DIHAs are reviewed by a plant operations SME, not a safety analysis SME)

· Review of RIHAs:

Section 3.3, page 5 (this section says that RIHAs are reviewed by a plant operations SME, not an HSI/I&C SME)

1. Ensure that these sections of the TIHA IP and Table 5.1 contain the same information about the types of SMEs who will perform the TIHA program element. Ensure that any other submitted HFE documents referencing specific positions (SME's, engineers, etc.) are internally consistent with each other.
2. Additionally, clarify whether or not a safety analysis engineering SME, which is described in the TIHA IP, is the same as a systems safety engineer, which is described in Section 5, “Implementation Team,” of APR1400-E-I-NR-14001-P, “Human Factors Engineering Program Plan,” Revision 0 (the Program Plan does not describe qualifications for a safety analysis SME).
3. Revise the documentation as necessary.

18-28

10CFR 52.6(a) states in part, “Information provided to the Commission by...an applicant for a standard design certification...shall be complete and accurate in all material respects.”

Section 6, “Results Summary Report,” of APR1400-E-I-NR-14004-P, “Task Analysis Implementation Plan” (TA IP), Revision 0 discusses an ITAAC associated with completion of the TA Results Summary Report

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(ReSR); however, Table 2.9-1, "Human Factors Engineering ITAAC," in DCD Tier 1 does not include ITAAC for completion of the TA ReSR.

Revise the documentation to conform to the information in DCD Tier 1 Table 2.9-1.

18-29

Section 18.III, "Review Procedures," of NUREG-0800, states in part that elements approved at the implementation plan level require summary information in the DCD and a more detailed implementation plan to be submitted on the docket.

The TIHA IP, Revision 0, was submitted on the docket and reviewed by the staff; however, DCD Tier 2 Section 18.6, "Treatment of Important Human Actions," does not state that the TIHA program element will be carried out in accordance with the TIHA IP. DCD Tier 2 Section 18.4, "Task Analysis," does state that the task analysis will be carried out in accordance with the TA IP.

Revise the DCD Tier 2 Section 18.6 to clearly state that the TIHA program element will be carried out in accordance with the TIHA IP.



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