

ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Monday, June 14, 2010 3:58 PM
To: 'usepr@areva.com'
Cc: Marble, Julie; Bongarra, James; Junge, Michael; Eudy, Michael; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 408(4706,4715), FSAR Ch. 18
Attachments: RAI_408_COLP_4706_4715.doc

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on May 25, 2010, and on June 14, 2010, you informed us that the RAI is clear and no further clarification is needed. As a result, no change is made to the draft RAI. The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs. For any RAIs that cannot be answered within 30 days, it is expected that a date for receipt of this information will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the published schedule.

Thanks,
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6/14/2010

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 18 - Human Factors Engineering
Application Section: FSAR Chapter 18

QUESTIONS for Operating Licensing and Human Performance Branch (AP1000/EPR Projects) (COLP)

18-165

Follow-up to RAI 348, Question 18-95:

The Applicant's degree of commitment regarding the development of EOF is not clear. The first sentence of Section 2.3.2 of the HFE IP ["HFE design implementation for a new Emergency Operations Facility (EOF) and the Operational Support Center (OSC) or changes resulting from the addition of a U.S. EPRTM plant to an existing EOF and OSC."] is not clear. Please clarify and indicate what the COL scope is relative to "a new Emergency Operations Facility (EOF) and the Operational Support Center (OSC) or changes resulting from the addition of a U.S. EPRTM plant to an existing EOF and OSC."

AREVA responded: HFE Implementation Plan, Section 2.3.2 explains that EOF and OSC are the responsibility of the COL applicant. The portion of the sentence that states "to an existing EOF and OSC" refers to the existing facilities already associated with many COL applicants. The statement will be modified for clarification as follows: "HFE design implementation for a new Emergency Operations Facility (EOF) and the Operational Support Center (OSC) or changes to an existing EOF and OSC resulting from the addition of a U.S. EPR plant are part of the COL applicant's scope...The US EPR FSAR will not be changed as a result of this question."

With respect to this response:

Staff request that FSAR be changed to include a COL information item indicating the COL Applicant's responsibility for this scope.

18-166

Follow-up to RAI 348, Question 18-101:

"The relative schedule in figure 18.1-1 illustrates "V&V interim checks" are used at multiple stages to check design, that documentation of various aspects such as PICS/SICS, control room design documentation, and HSI Design are revised during the process. Staff notes that 'iterative V&V' is not a NUREG concept. Its use in Figure 18.1-1 is more consistent with "man in the loop" testing or "testing phase". As used by Staff, V&V is an endpoint and final validation of the system design. Staff request clarification and definition of the term 'V&V interim check.'"

AREVA responded:

"Using the term V&V for anything other than the final check creates confusion. U.S. EPR FSAR Tier 2, Figure 18.1-1 does not show "V&V Interim Checks." The figure correctly shows the HFE V&V in relation to the design process. Intermediate design verifications and validations are referred to as design evaluations and remain within their respective implementation plans."

Staff agree that use of the term V&V for anything other than the final V&V check creates confusion. However, AREVA is incorrect in their statement that Figure 18.1-1 of the FSAR Tier 2 document does not use this term. Figure 18.1-1 is titled "HFE PROGRAM MILESTONES;" Figure 18.1-1 uses the term "V&V interim checks" at 6 or more points on the figure. There may have been confusion with Figure 18.1-2, titled "HFE DESIGN CONTROL PROCESS," which is present on page 18.1-13, and which does not use the term. Staff's original RAI requesting clarification and definition of the term "V&V interim check" referred to Figure 18.1-1 "HFE PROGRAM MILESTONES" found on pages 18.1-11 and 18.1-12 of the U.S. EPR FINAL SAFETY ANALYSIS REPORT, Tier 2 document, in which the term is used 6 times.

Staff requests definition of the term and clarification of the Figure 18.1-1 if the term does not refer to the final V&V process.

18-167

Follow-up to RAI 336, Question 18-71:

The applicant's response to question 18-71, a.1, is acceptable, pending the inclusion of the response in a revision to the Task Analysis IP (or applicable FSAR section).

18-168

Follow-up to RAI 336, Question 18-71:

The applicant's response to question 18-71, a.2, is acceptable in terms of the definition of "problematic tasks." However, the applicant's response states that the concept (of problematic tasks] is discussed in response to RAI 328, questions 18-62 and 18-70. The staff does not understand the relevance of the applicant's responses to these two questions to the concept of problematic tasks. Please explain. In addition, the information provided in the applicant's response to the original and supplemental questions should be included in a revision to the Task Analysis IP (or applicable FSAR section).

18-169

Follow-up to RAI 336, Question 18-71:

The applicant's response to question 18-71, b., indicates that the IP document provides a guideline level of detail for the more specific steps of accomplishing a task analysis which are provided in the applicant's TA Work Plan, a document available for staff audit. This is an acceptable approach for addressing the staff's question related to providing a greater level of

detail explaining how task analysis is performed. The applicant also provided in its response, an excerpt from a TA Work Plan on operational sequence diagrams, which describes the use of this technique as applied to the EPR task analysis and also states that a sample TA worksheet is provided in response to RAI 18-75. This is an acceptable response to the staff provided that the applicant includes the excerpt from the TA Work Plan in the IP, citing it as an example of a TA technique used to perform the EPR TA.

18-170

Follow-up to RAI 336, Question 18-72:

The staff agrees with the applicant's technical responses to this question.

However, the TA IP should incorporate the technical details of the response (including the cited references) into the appropriate section(s) of the TA IP or provide a pointer, if appropriate, to where the various TA techniques as applied to the EPR TA are described in detail in other IPs (e.g., the OCS technique is described in section "x" of the V&V IP).