ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Thursday, September 10, 2009 9:02 AM
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Cc: Clark, Theresa; Phan, Hanh; Fuller, Edward; Mrowca, Lynn; Chowdhury, Prosanta; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 289 (3500), FSAR Ch. 19
Attachments: RAI_289_SPLA_3500.doc

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on August 28, 2009, and on September 4, 2009, 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 questions in this RAI are considered potential open items for Phases 2 and 3 reviews. As such, the schedule we have established for your application assumes technically correct and complete responses prior to the start of Phase 4 review. For any RAI question that cannot be answered prior to the start of Phase 4 review, it is expected that a date for receipt of this information will be provided so that the staff can assess how this information will impact the published schedule.

Thanks,
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Hearing Identifier: AREVA_EPR_DC_RAIs
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9/10/2009

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 19 - Probabilistic Risk Assessment and Severe Accident Evaluation
Application Section: 19

QUESTIONS for PRA Licensing, Operations Support and Maintenance Branch 1 (AP1000/EPR Projects) (SPLA)

19-328

POTENTIAL OPEN ITEM

(Follow-up to Question 19-257) At the August 6, 2009, public meeting on unresolved issues related to U.S. EPR Final Safety Analysis Report (FSAR) Chapter 19, the staff discussed the probabilistic risk assessment (PRA) assumption that the AV42 priority modules are not subject to common-cause failure (CCF). The instrumentation and controls (I&C) staff has not reached a conclusion on the testability of the AV42 design, which is cited as support for the exclusion of CCF in item 7 of FSAR Table 19.1-108. In addition, this item states that "[s]oftware CCF is not a concern" without addressing CCFs that could result from manufacturing, maintenance, or other errors. The staff observes that, if a CCF occurred, manual and automatic actuation of components in various systems could be affected. Please provide further justification for excluding both software and hardware CCFs of the AV42 modules from the PRA. As needed, please revise the assumptions and insights in FSAR Chapter 19 to reflect potential failure modes of the modules.

19-329

POTENTIAL OPEN ITEM

(Follow-up to Question 19-270) The response to Question 19-270 discusses the PRA maintenance program, including criteria for performing immediate PRA revisions before "the next scheduled update." For example, the response to Question 19-279 discusses the effect on PRA insights of a future revision to the reactor coolant pump (RCP) thermal barrier cooling model and states that the PRA update "will be performed in accordance with the PRA maintenance and upgrade process described in U.S. EPR FSAR Tier 2, Section 19.1.2.4." This design change is one of several documented in FSAR Section 19.1.2.4.

Item 8 in Interim Staff Guidance (ISG) DC/COL-ISG-3, "PRA Information to Support Design Certification [DC] and Combined License [COL] Applications," states that "PRA maintenance should commence at the time of application for both DC and COL applicants. This means that the PRA should be updated to reflect plant modifications if there are changes to the design." In addition, Title 10 of the *Code of Federal Regulations*

(10 CFR), Section 52.47(a)(27), states that the design certification FSAR includes a "description of the design-specific [PRA] and its results." Therefore, the staff expects that the PRA be maintained during the application process such that it remains design-specific and that the FSAR at the time of certification describes this design-specific PRA. This process ensures that integrated effects of individual changes are reviewed by the staff and that the FSAR reflects both qualitative and quantitative (e.g., importance ranking) insights related to the design.

Please describe the method of tracking items for which PRA updates are needed (e.g., design changes, peer review findings, model errors). Please discuss when the next routine update of the PRA (and, as needed, to the FSAR description of the PRA and presentation of results) is planned, and at what point the revised detailed documentation will be available for the staff to audit.