ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Wednesday, April 27, 2011 3:13 PM
To: 'usepr@areva.com'
Cc: McCann, Edward; Dreisbach, Jason; Hearn, Peter; Clark, Phyllis; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 482 (5611), FSAR Ch. 9
Attachments: RAI_482_SBPA_SFPT_5611.doc

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on April 11, 2011, and discussed with your staff on April 26, 2011. Draft RAI Question 09.05.01-81 was deleted as a result of that discussion. 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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Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 2899

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Request for Additional Information No. 482(5611), Revision 0

4/27/2011

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 09.05.01 - Fire Protection Program
Application Section: 9.5.1

QUESTIONS for Fire Protection Team (SFPT)

09.05.01-81

[Intentionally deleted.]

09.05.01-82

U.S. EPR FSAR Revision 2 Figure 9.5.1-1, Fire Water Distribution System, Sheets 4, 7, 8, and 13 have drawing errors. Sheet 4 shows that point "T" connects to Sheet 11 but it should connect to sheet 13. Sheet 7 shows that point "P" connects to Sheet 11 but it should connect to sheet 13 and that point "R" connects to Sheet 6 but it should connect to Sheet 8. Sheet 8 shows that point "R" connects to Sheet 5 but it should connect to Sheet 7. Sheet 13 shows that point "T" connects to Sheet 2 but it should connect to sheet 4 and that point "P" connects to Sheet 5 but it should connect to sheet 7. The applicant needs to revise Figure 9.5.1-1 as per above and review Figure 9.5.1-1 for any other discrepancies and revise as needed.

09.05.01-83

U.S. EPR FSAR Revision 2 Section 9.5.1.2.1 Subsection Manual Fire Suppression Systems states that "In the inner Reactor Containment Building the inboard and outboard containment isolation, motor-operated control valves are normally kept closed and are only opened during a fire emergency requiring the use of the standpipe system in the Reactor Containment Building." RG 1.189 Regulatory Position 3.5.1.3 states that the prefire plans should include fire brigade actions such as operating instructions for use of the fire suppression systems and references NFPA 1620 which states that the pre-incident plan for all standpipe systems should include location and identification of control valves. Due to fire effects inside Containment the inboard valve may not be operable and MCR indication may not be available and the fire brigade may need to manually operate this valve. Applicant needs to ensure the inboard valve can be manually operated and that the prefire plans include this fire brigade action.

09.05.01-84

The staff reviewed U.S. EPR FSAR Tier 1 Table 2.1.1-8, Reactor Building ITAAC, and finds the following ITAAC Issues:

a. There is no ITAAC identified for the separation of the RCB from the RBA for fire. This ITAAC needs to address a fire protection analysis. The fire protection analysis includes barriers, doors, dampers, and penetrations separating the RCB

from the RBA and internal features of the RCB, an as-built inspection of barriers, doors, dampers, and penetrations separating the RCB from the RBA and of the internal features of the RCB, testing of dampers, and a post-fire safe shutdown analysis that indicates that at least one success path for safe shutdown is available including the internal aspects of the RCB. The applicant needs to develop an ITAAC for the RCB and update Table 2.1.1-8 as needed or provide the justification for not providing the ITAAC.

b. ITAAC # 2.7 for the separation of the RBA from the SBs and FB does not address the mitigation of the propagation of smoke. Furthermore, it is unclear if the ITAAC item for post-fire safe shutdown analysis includes internal separation aspects of the RBA. It is also unclear if the ITAAC item for fire protection analysis includes internal fire protection features of the RBA. The applicant needs to revise this ITAAC for the separation of the RBA from the SBs and FB and update Table 2.1.1-8 as needed or provide the justification for not updating the ITAAC.

09.05.01-85

U.S. EPR FSAR Section 9.5.1.2.1 Subsection, Shutdown/Low Power Operations, states that "The U.S. EPR design provides reasonable assurance that fuel integrity is protected by permanent plant systems during refueling operations or maintenance outages. The primary fuel cooling systems are spent fuel cooling and the residual heat removal system." RG 1.189 Regulatory Position 5.6 states that " During shutdown operations (i.e., maintenance or refueling outages), fire risk may increase significantly as a result of work activities. In addition, redundant systems important to safety may not be available as allowed by plant technical specifications and plant procedures. The FPP should be reviewed to verify that fire protection systems, features, and procedures will minimize the potential for fire events to impact safety functions (e.g., reactivity control, reactor decay heat removal, spent fuel pool cooling) or result in the unacceptable release of radioactive materials, under the differing conditions that may be present during shutdown operations." U.S. EPR FSAR Section 9.5.1.2.1 Subsection, Shutdown/Low Power Operations, does not provide any FPP systems, features, and procedures that would minimize the potential for fire events to impact safety functions (e.g., reactivity control, reactor decay heat removal, spent fuel pool cooling) or result in the unacceptable release of radioactive materials, under the differing conditions that may be present during shutdown operations. The applicant needs to revise the FSAR to include any FPP systems, features, and procedures that would minimize the potential for fire events to impact safety functions (e.g., reactivity control, reactor decay heat removal, spent fuel pool cooling) or result in the unacceptable release of radioactive materials, under the differing conditions that may be present during shutdown operations.