ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Monday, March 07, 2011 7:48 PM
To: 'usepr@areva.com'
Cc: Grady, Anne-Marie; Jackson, Christopher; McKirgan, John; Carneal, Jason; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 473 (5531), FSAR Ch. 6
Attachments: RAI_473_SPCV_5531.doc

Attached please find the subject request for additional information (RAI). A draft of the RAI was provided to you on February 15, 2011, and on March 4, 2011, 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,
Getachew Tesfaye
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Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 2664

Mail Envelope Properties (0A64B42AAA8FD4418CE1EB5240A6FED125D431BCEB)

Subject: U.S. EPR Design Certification Application RAI No. 473 (5531), FSAR Ch. 6
Sent Date: 3/7/2011 7:47:58 PM
Received Date: 3/7/2011 7:48:00 PM
From: Tesfaye, Getachew

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Post Office: HQCLSTR02.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	792	3/7/2011 7:48:00 PM
RAI_473_SPCV_5531.doc	32250	

Options
Priority: Standard
Return Notification: No
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Sensitivity: Normal
Expiration Date:
Recipients Received:

Request for Additional Information No. 473(5531), Revision 0

03/07/2011

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 06.02.05 - Combustible Gas Control in Containment
Application Section: 6.2.5

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

06.02.05-24

OPEN ITEM

Follow-up to RAI 372, Question 06.02.05-15

In the US EPR FSAR, chapter 19.2.4.4.5.2, the applicant lists the equipment and instrumentation in containment which must withstand the conditions expected to occur during a severe accident. This equipment is also identified in Table 19.2-2, "SAHRS Design and Operating Parameters" and in Table 19.2-3, "Severe Accident Instrumentation and Equipment", (in containment equipment and instrumentation only).

In the response to RAI 372, Question 06.02.05-15 (supplement 4), AREVA has indicated that their primary source for performance expectations of equipment similar to that described above can be found in EPRI NP-4354, "Large-Scale Hydrogen Burn Equipment Experiments," December 1985. In this report, equipment types including pressure transmitters, MOV valve operators, limit switches, containment penetrations, RTDs and electric cables were tested in the presence of hydrogen burns. The increase in temperature of the tested equipment was noted and the operability post burn was noted. The relevance of the EPRI test results depends on two factors – the similarity of the design between the AREVA specified equipment and the devices tested by EPRI, and the equivalence of the EPRI burn conditions with those of the US EPR containment temperature and pressure during hydrogen burning.

The staff asks the applicant to:

a. provide a justification, item by item, that the equipment identified above as requiring a survivability assessment is sufficiently similar to the equipment tested by EPRI in 1985, and;

b. to provide the temperature and pressure vs. time throughout the containment during a hydrogen burn in an amount equivalent to that generated from a fuel clad-coolant reaction involving 100% of the fuel cladding. Provide a description of the scenario modeled, and address whether or not the PARs were credited as functioning.