ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Monday, March 07, 2011 8:07 PM
To: 'usepr@areva.com'
Cc: Jensen, Walton; Ashley, Clinton; Jackson, Christopher; McKirgan, John; Carneal, Jason; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 475 (5558, 5557), FSAR Ch. 6
Attachments: RAI_475_SPCV_5558_5557.doc

Attached please find the subject request for additional information (RAI). A draft of the RAI was provided to you on February 22, 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
Sr. Project Manager
NRO/DNRL/NARP
(301) 415-3361

Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 2666

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From: Tesfaye, Getachew

Created By: Getachew.Tesfaye@nrc.gov

Recipients:
"Jensen, Walton" <Walton.Jensen@nrc.gov>
Tracking Status: None
"Ashley, Clinton" <Clinton.Ashley@nrc.gov>
Tracking Status: None
"Jackson, Christopher" <Christopher.Jackson@nrc.gov>
Tracking Status: None
"McKirgan, John" <John.McKirgan@nrc.gov>
Tracking Status: None
"Carneal, Jason" <Jason.Carneal@nrc.gov>
Tracking Status: None
"Colaccino, Joseph" <Joseph.Colaccino@nrc.gov>
Tracking Status: None
"ArevaEPRDCPEm Resource" <ArevaEPRDCPEm.Resource@nrc.gov>
Tracking Status: None
'"usepr@areva.com"' <usepr@areva.com>
Tracking Status: None

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Request for Additional Information No. 475 (5558), Revision 0

3/07/2011

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 06.02.01.01.A - PWR Dry Containments, Including Subatmospheric Containments
SRP Section: 06.02.02 - Containment Heat Removal Systems
Application Section: 6.2

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

06.02.01.01.A-1

During an audit held at AREVA's office in Lynchburg, VA from Feb 15-16, 2011 the staff learned that the reactor cavity is isolated from the rest of the containment by design features so that steam from the break cannot reach it. If the reactor cavity volume is isolated from the rest of the containment, provide justification for including this volume in the 30 node GOTHIC model to evaluate peak containment pressure. If this volume should not be included, provide evaluations of the increase in containment pressure and temperature that would occur for design basis LOCA and MSLB events.

06.02.02-86

During an audit of the IRWST level calculation it was discovered that some containment areas that cannot readily return water to the IRWST (sump) were not included in the IRWST water level calculation. For example, the core spreading area and the reactor cavity were not included as areas for water hold-up. Based on the containment layout review the core spreading area connects to the containment atmosphere and can collect steam/water during an accident and this water would not be able to return to the IRWST (sump) and support NPSH. Additionally, the reactor cavity area was not evaluated to hold-up water because AREVA indicated that 'design features' exist which prevent water/steam from reaching the reactor cavity during a postulated break. A description of these design features was not provided. The NRC staff request that AREVA evaluate water hold-up from the IRWST that considers the core spreading area. In addition, the staff also requests that AREVA evaluate water hold-up from the IRWST that includes the reactor cavity area; or provide a description of the design features and justification that the design features prevent water from reaching the reactor cavity.

06.02.02-87

Provide justification that the break selection used in the IRWST water retention (level) calculations is the most limiting or worst case. Please explain why other breaks, such as the largest pipe at the top of the pressurizer or pressurizer surge line, will not retain more water.