ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Friday, May 18, 2012 3:21 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); GUCWA Len (EXTERNAL AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 546 (6407), FSAR Ch. 6
Attachments: RAI 546 Response US EPR DC.pdf

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 546 Response US EPR DC.pdf," provides a schedule since a technically correct and complete response to the five questions cannot be provided at this time.

The following table indicates the respective pages in the response document, "RAI 546 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 546 — 06.02.02-129	2	2
RAI 546 — 06.02.02-130	3	3
RAI 546 — 06.02.02-131	4	4
RAI 546 — 06.02.02-132	5	5
RAI 546 — 06.02.02-133	6	6

The schedule for technically correct and complete responses to these questions is provided below.

Question #	Response Date
RAI 546 — 06.02.02-129	**October 4, 2012**
RAI 546 — 06.02.02-130	**October 4, 2012**
RAI 546 — 06.02.02-131	**October 4, 2012**
RAI 546 — 06.02.02-132	**October 4, 2012**
RAI 546 — 06.02.02-133	**October 4, 2012**

Sincerely,

Dennis Williford, P.E.
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
7207 IBM Drive, Mail Code CLT 2B
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Phone: 704-805-2223
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From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Wednesday, April 25, 2012 12:04 PM

To: ZZ-DL-A-USEPR-DL
Cc: Makar, Gregory; Terao, David; Gleaves, Bill; Segala, John; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 546 (6407), FSAR Ch. 6

Attached please find the subject request for additional information (RAI). A draft of the RAI was provided to you on April 18, 2012, and on April 25, 2012, 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/LB1
(301) 415-3361

Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 3921

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Subject: Response to U.S. EPR Design Certification Application RAI No. 546 (6407), FSAR Ch. 6
Sent Date: 5/18/2012 3:21:10 PM
Received Date: 5/18/2012 3:22:14 PM
From: WILLIFORD Dennis (AREVA)

Created By: Dennis.Williford@areva.com

Recipients:
"BENNETT Kathy (AREVA)" <Kathy.Bennett@areva.com>
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Tracking Status: None
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Post Office: auscharmx02.adom.ad.corp

Files	**Size**	**Date & Time**
MESSAGE	2504	5/18/2012 3:22:14 PM
RAI 546 Response US EPR DC.pdf	67174	

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

Response to

Request for Additional Information No. 546(6407), Revision 0

4/25/2012

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 06.02.02 - Containment Heat Removal Systems
Application Section: 6.2

QUESTIONS for Component Integrity Branch (CIB)

Question 06.02.02-129:

Follow-up to RAI 483, Question 06.02.02-90

The November 9, 2011, response to RAI 483, Question 06.02.02-90 stated that the amount of aluminum inside containment will be limited to 3000 square feet in accordance with COL information item 6.1-4 in U.S. EPR FSAR Tier 2, Table 1.8-2 and Section 6.1.1.2. The staff found no limit on aluminum in Section 6.1.1.2 and no COL item 6.1-4 in Rev. 2 or 3 of the U.S. EPR FSAR. Therefore, the staff requests that the applicant provide a revised response to identify the inspections and controls that will be in place to ensure that no more than 3,000 square feet of aluminum will be submerged during a LOCA in the recirculating sump liquid.

Response to Question 06.02.02-129:

A response to this question will be provided by October 4, 2012.

Question 06.02.02-130:

Follow-up to RAI 490, Question 06.02.02-108

The November 18, 2011, response to RAI 490, Question 06.02.02-108 describes how the chemical effects analysis for U.S. EPR considers an assumed quantity of latent fibrous insulation outside the zone of influence (ZOI). The response did not address other insulation in containment outside the ZOI that could be wetted in the post-LOCA environment and add inorganic materials to the recirculating liquid. Therefore, the staff requests that the applicant describe,

a. the effect of non-RMI insulation outside the ZOI on the chemical debris quantity, and,
b. how the quantity and type of this insulation will be limited to ensure that the assumptions in the chemical effects testing and analysis remain valid.

Response to Question 06.02.02-130:

A response to this question will be provided by October 4, 2012.

Question 06.02.02-131:

Follow-up to RAI 90 Question 06.02.02-04

The May 20, 2010, response to RAI 90 Question 06.02.02-04, parts 4 and 7, stated that the chemical effects of chlorides, nitrates, and organic materials are superseded by the details in Appendices C, D and E to ANP-10293. Since these three chemical effects are not addressed explicitly in ANP-10293P R4, the staff requests that the applicant discuss how these effects were addressed.

Response to Question 06.02.02-131:

A response to this question will be provided by October 4, 2012.

Question 06.02.02-132:

The staff requests that the applicant clarify the basis for the chemical debris quantities listed in Table F.3-7 of ANP-10293-R4. The table itself indicates that the quantities are from Appendix D, Table D.3-10. The corresponding text, Section F.3.9.1.4, states that the quantity and composition of chemical precipitates listed in Table F.3-7 represent the 30-day debris load. However, these quantities are different than the 30-day debris loads in Table D.3-10 in ANP-10293P-R4. The staff notes that the values in Table F.3-7 of Revision 4 are the values in Table D.3-10 of Revision 3 of ANP-10293P.

Response to Question 06.02.02-132:

A response to this question will be provided by October 4, 2012.

Question 06.02.02-133:

The staff requests that the applicant clarify the source the two data points labeled "WCAP-16530-NP, pH 7" on Figure D.3-5 in ANP-10293P, R4. The corrosion rates for these points, as plotted in the figure, are approximately 0.005 g/m^2-h at 150°F and 0.078 g/m^2-h at 220°F. Using WCAP-16530-NP-A, Equation 6-2, the staff calculated release rates of 0.12 g/m^2-h at 150°F and 1.49 g/m^2-h at 220°F. The figure shows good agreement between the WCAP data points and the OLI calculations, but the staff was not able to confirm this from the information in the WCAP.

The table below summarizes the discrepancy between the WCAP data points (pink squares) in Figure D.3-5 and the staff's calculations.

T, °F	Corrosion Rate Staff calculation		Corrosion Rate Figure D.3-5 of ANP-10293P-R4
	mg/m^2-min*	g/m^2-hour	g/m^2-hour (approx.)
150	2.042	0.12	0.005
220	24.87	1.49	0.078

* Eqn. 6.2 of WCAP-16530-NP-A produces release rate in mg/m^2-min

Response to Question 06.02.02-133:

A response to this question will be provided by October 4, 2012.