

ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Friday, July 08, 2011 8:29 AM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 35, FSAR Ch 2, Supplement 2
Attachments: RAI 35 Supplement 2 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. (AREVA NP) provided responses on August 1, 2008, to five (5) of the seven (7) questions contained in NRC Request for Additional Information (RAI) No. 35. AREVA NP submitted Supplement 1 of the response on October 7, 2008, providing the final response for the remaining 2 questions.

The response to Questions 02.05.02-1, 02.05.02-2, 02.05.02-3, and 02.05.04-2 are superseded by the response to RAI 320 Question 03.07.02-63. The attached file, "RAI 35 Supplement 2 Response US EPR DC.pdf" provides a revised response to these four questions.

The following table indicates the respective pages in the response document, "RAI 35 Supplement 2 Response US EPR DC.pdf," that contain AREVA NP's revised response to the subject questions.

Question #	Start Page	End Page
RAI 35 — 02.05.02-1	2	2
RAI 35 — 02.05.02-2	3	3
RAI 35 — 02.05.02-3	4	4
RAI 35 — 02.05.04-2	5	5

This concludes the formal AREVA NP response to RAI 35, and there are no questions from this RAI for which AREVA NP has not provided responses.

Sincerely,

Dennis Williford, P.E.
U.S. EPR Design Certification Licensing Manager

AREVA NP Inc.

7207 IBM Drive, Mail Code CLT 2B

Charlotte, NC 28262

Phone: 704-805-2223

Email: Dennis.Williford@areva.com

From: Pederson Ronda M (AREVA NP INC)
Sent: Tuesday, October 07, 2008 6:10 PM
To: 'Getachew Tesfaye'
Cc: DUNCAN Leslie E (AREVA NP INC); WELLS Russell D (AREVA NP INC); DELANO Karen V (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); VAN NOY Mark (EXT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 35, FSAR Ch 2, Supplement 1

Getachew,

AREVA NP Inc. (AREVA NP) provided responses on August 1, 2008, to five (5) of the seven (7) questions contained in NRC Request for Additional Information (RAI) No. 35. The attached file, "RAI 35 Supplement 1 Response US EPR DC.pdf," provides technically correct and complete responses to both of the remaining two (2) questions, as committed.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support AREVA NP's responses to RAI 35 Questions 02.05.02-3 and 02.05.04-2.

The following table indicates the respective pages in the response document, "RAI 35 Supplement 1 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 35 — 02.05.02-3	2	2
RAI 35 — 02.05.04-2	3	3

This concludes the formal AREVA NP response to RAI 35 and there are no questions from this RAI for which AREVA NP has not provided responses.

Ronda Pederson

ronda.pederson@areva.com

Licensing Manager, U.S. EPR Design Certification

New Plants Deployment

AREVA NP, Inc.

An AREVA and Siemens company

3315 Old Forest Road

Lynchburg, VA 24506-0935

Phone: 434-832-3694

Cell: 434-841-8788

From: WELLS Russell D (AREVA NP INC)

Sent: Thursday, August 28, 2008 6:09 PM

To: 'Getachew Tesfaye'

Cc: 'John Rycyna'; Pederson Ronda M (AREVA NP INC); RYAN Tom (AREVA NP INC); DELANO Karen V (AREVA NP INC)

Subject: Response to U.S. EPR Design Certification Application RAI No. 35, FSAR Ch 2

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 35 Response US EPR DC.pdf" provides technically correct and complete responses to 5 of the 7 questions.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 35 Question 02.05.02-4.

The following table provides the page(s) in the response document, "RAI 35 Response US EPR DC.pdf" containing the response to each question.

Question #	Start Page	End Page
RAI 35 — 02.05.02-1	2	3
RAI 35 — 02.05.02-2	4	4
RAI 35 — 02.05.02-3	5	5
RAI 35 — 02.05.02-4	6	6
RAI 35 — 02.05.04-1	7	7
RAI 35 — 02.05.04-2	8	8

A complete answer is not provided for 2 of the 7 questions. The schedule for a technically correct and complete response to this question is provided below.

Question #	Response Date
RAI 35 — 02.05.02-3	October 7, 2008
RAI 35 — 02.05.04-2	October 7, 2008

Sincerely,

(Russ Wells on behalf of)

Ronda Pederson

ronda.pederson@areva.com

Licensing Manager, U.S. EPR Design Certification
New Plants Deployment

AREVA NP, Inc.

An AREVA and Siemens company

3315 Old Forest Road

Lynchburg, VA 24506-0935

Phone: 434-832-3694

Cell: 434-841-8788

From: Getachew Tesfaye [mailto:Getachew.Tesfaye@nrc.gov]

Sent: Friday, August 01, 2008 6:20 PM

To: ZZ-DL-A-USEPR-DL

Cc: Weijun Wang; Rebecca Karas; John Rycyna; Joseph Colaccino

Subject: U.S. EPR Design Certification Application RAI No. 35, FSAR Ch 2

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on July 15, 2008, and discussed with your staff on August 1, 2008. No changes were made to the RAI questions 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,

Getachew Tesfaye

Sr. Project Manager

NRO/DNRL/NARP

(301) 415-3361

Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 3213

Mail Envelope Properties (2FBE1051AEB2E748A0F98DF9EEE5A5D47AF8A2)

Subject: Response to U.S. EPR Design Certification Application RAI No. 35, FSAR Ch 2, Supplement 2
Sent Date: 7/8/2011 8:29:09 AM
Received Date: 7/8/2011 8:29:11 AM
From: WILLIFORD Dennis (AREVA)

Created By: Dennis.Williford@areva.com

Recipients:

"BENNETT Kathy (AREVA)" <Kathy.Bennett@areva.com>
Tracking Status: None
"DELANO Karen (AREVA)" <Karen.Delano@areva.com>
Tracking Status: None
"ROMINE Judy (AREVA)" <Judy.Romine@areva.com>
Tracking Status: None
"RYAN Tom (AREVA)" <Tom.Ryan@areva.com>
Tracking Status: None
"Tesfaye, Getachew" <Getachew.Tesfaye@nrc.gov>
Tracking Status: None

Post Office: auscharm02.adom.ad.corp

Files	Size	Date & Time
MESSAGE	6016	7/8/2011 8:29:11 AM
RAI 35 Supplement 2 Response US EPR DC.pdf		64987

Options

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

Response to
Request for Additional Information No.35, Revision 0
Supplement 2

8/01/2008

U.S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 02.05.02 - Vibratory Ground Motion
SRP Section: 02.05.04 - Stability of Subsurface Materials and Foundations
Application Section: FSAR Ch. 2
RGS1 Branch

Question 02.05.02-1:

In FSAR Tier 2 Section 2.5.2 “Vibratory Ground Motion,” you state that “the certified seismic design response spectra (CSDRS) for the U.S. EPR are shown in Figure 3.7.1- 1— Design Response Spectra for EUR Control Motions (Hard, Medium, and Soft Soils).” It also states that “for soil-structure interaction (SSI) analysis for the U.S. EPR design certification, the assumed generic shear wave velocities in each profile are taken to be strain-compatible values during seismic events.” Please clarify whether the soil degradation properties were considered in the site response analyses.

Response to Question 02.05.02-1:

Site response analysis is not needed because soil properties of the soil profiles used in the SSI analysis for the U.S. EPR FSAR are taken to be strain-compatible (or degraded properties). The reconciliation process for COLA considers site-specific soil properties that are developed from a site response analysis and comparisons are made to the strain-compatible properties assumed for the FSAR as specified by guideline 5 of the COL item identified in U.S. EPR FSAR Tier 2, Section 2.5.2.6. See the Response to RAI 320, Question 03.07.02-63 and associated U.S. EPR FSAR markups.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 02.05.02-2:

In FSAR Tier 2 Section 2.5.2.6 “Ground Motion Response Spectrum,” you state that “a COL applicant that references the U.S. EPR design certification will verify that the site-specific seismic parameters are enveloped by the CSDRS (anchored at 0.3 g PGA) and the 10 generic soil profiles discussed in Section 2.5.2 and Section 3.7.1” You further state in guideline step 3 that “the applicant will demonstrate that the FIRS are enveloped by the CSDRS for the U.S. EPR using the guidance provided in Section 3.7.1.1.1.” Because CSDRS for the three site groups (soft, medium and hard sites) are provided in the FSAR, please clarify: (1) the criteria for the applicant to determine which site group their specific site belongs to, and (2) whether the site-specific response spectrum must be enveloped by the CSDRS corresponding to that site group.

Response to Question 02.05.02-2:

Refer to the Response to RAI 320, Question 03.07.02-63 and associated U.S. EPR FSAR Tier 2 Section 2.5.2.6 markups.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 02.05.02-3:

In FSAR Tier 2 Section 2.5.2.6 "Ground Motion Response Spectrum," you state, in guideline step 8, that comparison of structural seismic responses of the CSDRS with detailed site-specific SSI analyses will be made at some key locations as defined in Section 3.7.2. Please verify the control point elevation for the fuel building (FB) as defined in Section 2.5.2.6 compared with that described in Section 3.7.2.

Response to Question 02.05.02-3:

When it is necessary to perform detailed site-specific soil-structure interaction (SSI) analyses as discussed in U.S. EPR FSAR Tier 2, Section 2.5.2.6, guideline step 8; site-specific in-structure response spectra (ISRS) must be compared with U.S. EPR ISRS for the key locations identified by U.S. EPR FSAR Tier 2, Section 3.7.2.

The Fuel Building control point elevation is at +12 ft, 1-2/3 in. as specified in U.S. EPR FSAR Tier 2, Section 2.5.2.6, guideline step 8, item F.

U.S. EPR FSAR Tier 2, Section 3.7.2 has been revised to include U.S. EPR Fuel Building ISRS text and figures for elevation +12 ft, 1-2/3 inches in response to RAI 320, Question 03.07.02-63.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 02.05.04-2:

FSAR Tier 2 Section 2.5.4.10.1, states that “the maximum bearing pressure under static loading conditions for the foundation basemat beneath the NI Common Basemat Structures is 22,000 lb/ft²,” and “the maximum bearing pressure under safe shutdown earthquake loads combined with other loads, as described in Section 3.8.5, is 25,000lb/ft².” Please explain how the maximum dynamic/seismic bearing pressure was determined and justify this value with comparing maximum static bearing pressure. Please also explain why there is no maximum dynamic/seismic bearing pressure related parameter in the Tier I document.

Response to Question 02.05.04-2:

Refer to the Response to RAI 376, Question 03.08.05-28.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.