

ArevaEPRDCPEm Resource

From: HOTTLE Nathan (AREVA) [Nathan.Hottle@areva.com]
Sent: Thursday, September 05, 2013 3:22 PM
To: Snyder, Amy
Cc: Buckberg, Perry; GUCWA Len (EXTERNAL AREVA); LEIGHLITER John (AREVA); RANSOM Jim (AREVA); UYEDA Graydon (AREVA); RYAN Tom (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); LOSEKE Brian (AREVA)
Subject: Response to U.S. EPR Design Certification Application FINAL RAI 592, Chapter 14, Section 14.03.02, Structural and Systems Engineering - ITAAC, Supplement 2
Attachments: RAI 592 Supplement 2 Response US EPR DC.pdf

Amy,

AREVA NP Inc. provided a schedule for the response to the one question in RAI 592 on July 19, 2013. AREVA NP submitted Supplement 1 to the response on August 22, 2013 to provide a revised schedule for a technically correct and complete response to Question 14.03.02-63.

The attached file, "RAI 592 Supplement 2 Response US EPR DC.pdf," provides a final response to Question 14.03.02-63. 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 Question 14.03.02-63.

The following table indicates the pages in the response document, "RAI 592 Supplement 2 Response US EPR DC.pdf" that contain AREVA NP's final response to the subject question.

Question #	Start Page	End Page
RAI 592 — 14.03.02-63	2	2

This concludes the formal AREVA NP response to RAI 592, and there are no questions from this RAI for which AREVA NP has not provided responses.

Sincerely,

Nathan Hottle

AREVA Inc.
3315 Old Forest Road
Lynchburg, VA 24501
Phone 434-832-3864
Mobile 434-485-4239
nathan.hottle@areva.com

From: HOTTLE Nathan (EP/PE)
Sent: Thursday, August 22, 2013 4:38 PM
To: Snyder, Amy (Amy.Snyder@nrc.gov)
Cc: perry.buckberg@nrc.gov; GUCWA Len (External RS/NB); LEIGHLITER John (RS/NB); RANSOM Jim (RS/NB); RYAN Tom (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB)
Subject: Response to U.S. EPR Design Certification Application FINAL RAI 592, Chapter 14, Section 14.03.02, Structural and Systems Engineering - ITAAC

Amy,

AREVA NP Inc. provided a schedule for the response to the one question in RAI 592 on July 19, 2013.

The schedule for a technically correct and complete final response to this question has been changed as provided below. I will work with you to set up a call to discuss NRC's comments on the Advanced Response.

Question #	Final Response Date
RAI 592 — 14.03.02-63	September 27, 2013

Sincerely,

Nathan Hottle

AREVA Inc.
3315 Old Forest Road
Lynchburg, VA 24501
Phone 434-832-3864
Mobile 434-485-4239
nathan.hottle@areva.com

From: WILLIFORD Dennis (RS/NB)
Sent: Friday, July 19, 2013 4:36 PM
To: Snyder, Amy
Cc: Buckberg, Perry <Perry.Buckberg@nrc.gov> (Perry.Buckberg@nrc.gov); ANDERSON Katherine (External AREVA NP INC.); DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); MONTAGUE Kelvin (External AREVA NP INC.); LENTZ Tony (External RS/NB)
Subject: Response to U.S. EPR Design Certification Application FINAL RAI 592, Chapter 14, Section 14.03.02, Structural and Systems Engineering - ITAAC

Amy,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 592 Response US EPR DC.pdf," provides a schedule since a technically correct and complete response to the one question cannot be provided at this time.

The following table indicates the respective pages in the response document, "RAI 592 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 592 — 14.03.02-63	2	2

The schedule for a technically correct and complete response to this question is provided below.

Question #	Advanced Response Date	NRC Comment Request Date	Final Response Date
RAI 592 — 14.03.02-63	July 19, 2013	August 15, 2013	August 22, 2013

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: Snyder, Amy [<mailto:Amy.Snyder@nrc.gov>]
Sent: Thursday, July 11, 2013 10:09 AM
To: ZZ-DL-A-USEPR-DL
Cc: Chakravorty, Manas; Xu, Jim; Buckberg, Perry; Segala, John; Welch, Christopher; Kowal, Mark
Subject: U.S. EPR Design Certification Application FINAL RAI 592, Chapter 14, Section 14.03.02, Structural and Systems Engineering - ITAAC

Attached please find the subject request for additional information (RAI). A draft RAI was provided to you on July 3, 2013. On July 8, 2013, you informed us that the draft RAI does not contain proprietary information and that the draft RAI is clear and no further clarification is needed. As result, the RAI was not changed.

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 or August 12, 2013**, 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.

Thank You,

Amy

Amy Snyder, U.S. EPR Design Certification Lead Project Manager
Licensing Branch 1 (LB1)
Division of New Reactor Licensing
Office of New Reactors
U.S. Nuclear Regulatory Commission
 Office: (301) 415-6822
 Fax: (301) 415-6406
 Mail Stop: T6-C20M
 E-mail: Amy.Snyder@nrc.gov

Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 4675

Mail Envelope Properties (8D35DF68A379A34E8526B758FDCFC042186450)

Subject: Response to U.S. EPR Design Certification Application FINAL RAI 592, Chapter 14, Section 14.03.02, Structural and Systems Engineering - ITAAC, Supplement 2
Sent Date: 9/5/2013 3:22:01 PM
Received Date: 9/5/2013 3:22:26 PM
From: HOTTLE Nathan (AREVA)

Created By: Nathan.Hottle@areva.com

Recipients:

"Buckberg, Perry" <Perry.Buckberg@nrc.gov>
Tracking Status: None
"GUCWA Len (EXTERNAL AREVA)" <Len.Gucwa.ext@areva.com>
Tracking Status: None
"LEIGHLITER John (AREVA)" <John.Leighliter@areva.com>
Tracking Status: None
"RANSOM Jim (AREVA)" <James.Ransom@areva.com>
Tracking Status: None
"UYEDA Graydon (AREVA)" <Graydon.Uyeda@areva.com>
Tracking Status: None
"RYAN Tom (AREVA)" <Tom.Ryan@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
"LOSEKE Brian (AREVA)" <Brian.Loseke@areva.com>
Tracking Status: None
"Snyder, Amy" <Amy.Snyder@nrc.gov>
Tracking Status: None

Post Office: FUSLYNCMX03.fdom.ad.corp

Files	Size	Date & Time
MESSAGE	5629	9/5/2013 3:22:26 PM
RAI 592 Supplement 2 Response US EPR DC.pdf		590000

Options

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

Response to

Request for Additional Information No. 592, Supplement 2

7/11/2013

U.S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

**SRP Section: 14.03.02 - Structural and Systems Engineering - Inspections, Tests,
Analyses, and Acceptance Criteria**

Application Section: 14.03.02

Question 14.03.02-63:**Follow-up Question to RAI 557, Question 14.03.07-39**

In item a of RAI 527, Question 14.03.02-62 the staff had requested that the applicant revise Tier 1, Table 2.1.3-1 to reflect that the NAB will withstand design basis SSE and tornado wind loading without loss of structural integrity and have a margin of safety equivalent to that of a Category I structure. In its response the applicant stated that the U.S. EPR FSAR Tier 1, Section 2.1.3 and Table 2.1.3-1, Item 3.1 would be revised in the response to RAI 557, Question 14.03.07-39 in which the staff had requested a commitment by the applicant to apply the guidance of Regulatory Guide (RG) 1.143 for natural phenomena and man-induced hazards to the design of the NAB.

While the FSAR mark-up of Tier 1, Section 2.1.3, and Table 2.1.3-1 provided with the RAI 557, Question 14.03.07-39 response reflects verification of RG 1.143 commitments, it does not provide for verification of Seismic Category (SC) II design commitments for the NAB to withstand the design basis tornado and SSE loading described in FSAR Sections 3.3.2.3 and 3.7.2.8. Note that Revision 4 to FSAR Tier 2 Section 3.7.2.8 for the NAB (classified as SC II) states, *"The NAB is analyzed to SSE load conditions and designed to the codes and standards associated with Seismic Category I structures so that the margin of safety is equivalent to that of a Category I structure with the exception of sliding and overturning criteria."* Revision 4 to FSAR Section 3.3.2.3 also states, *"The NAB is a non-Seismic Category I structure. However, due to the proximity of this structure to Seismic Category I structures, there is potential for tornado wind load induced interaction. Therefore, this structure is analyzed using RG 1.76 tornado wind characteristics and designed to the codes and standards associated with Seismic Category I structures so that the margin of safety is equivalent to that of a Category I structure with the exception of sliding and overturning criteria."* Note that the earthquake load of RG 1.143 is one-half the SSE while the tornado load is three-fifths of the criteria in RG 1.76. As such, in addition to meeting the design guidance of RG 1.143 for RW-IIa structures, the licensing basis for the NAB should also meet the SC II commitments specified in the FSAR Sections 3.3.2.3 and 3.7.2.8. As the markups of Tier 1 Section 2.1.3 and Table 2.1.3-1 only address the RG 1.143 guidance and fail to address the SC II design commitments, the staff finds the response to be unacceptable.

The applicant is requested to address this issue and revise the U.S. EPR FSAR Tier 1, Section 2.1.3, "Mechanical Design Features" and Table 2.1.3-1, Item 3.1 markup accordingly to reflect verification of both RG 1.143 and SC II commitments regarding the design basis SSE and tornado wind loading.

Response to Question 14.03.02-63:

U.S. EPR FSAR Tier 1, Section 2.1.3 and Table 2.1.3-1, Item 3.1 will be revised to include commitments for the Nuclear Auxiliary Building regarding design basis loads.

FSAR Impact:

U.S. EPR FSAR Tier 1, Section 2.1.3 and Table 2.1.3-1, Item 3.1 will be revised as described in the response and indicated on the enclosed markup.

U.S. EPR
Final Safety Analysis Report
MARKUPS

2.1.3 Nuclear Auxiliary Building

Design Description

1.0 System Description

The Nuclear Auxiliary Building (NAB) is a reinforced-concrete structure that houses non-safety related auxiliary systems required for normal power operation. There are no structures, systems, or components (SSC) required for safe shutdown located in the NAB. The NAB is located adjacent to the Fuel Building (FB), Safeguard Building (SB) Division 4, and Radioactive Processing Waste Building (RWB), as shown on Figure 2.1.3-1.

2.0 Arrangement

2.1 The basic configuration of the NAB is as shown on Figure 2.1.3-1—Nuclear Auxiliary Building Location.

3.0 Mechanical Design Features

3.1 The NAB is a Seismic Category II and RW-IIa structure and will withstand design basis loads, as specified below, ~~listed in Regulatory Guide 1.143~~ without loss of structural integrity:

- Seismic load equal to a Safe Shutdown Earthquake.
- Tornado wind load as specified in Regulatory Guide 1.76.
- Hurricane wind load as specified in Regulatory Guide 1.221.
- Other loads as specified in Regulatory Guide 1.143.

3.2 Deleted.

Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.1.3-1 lists the NAB ITAAC.



Table 2.1.3-1—Nuclear Auxiliary Building ITAAC

	Commitment Wording	Inspections, Tests, Analyses	Acceptance Criteria
2.1	The basic configuration of the NAB is as shown on Figure 2.1.3-1.	An inspection of the basic configuration of the as-built NAB will be performed.	The basic configuration of the NAB is as shown on Figure 2.1.3-1.
3.1	<p>The NAB is a Seismic Category II and RW-IIa structure and will withstand design basis loads, <u>as specified below</u>, listed in Regulatory Guide 1.143 without loss of structural integrity:-</p> <ul style="list-style-type: none"> • <u>Seismic load equal to a Safe Shutdown Earthquake.</u> • <u>Tornado wind load as specified in Regulatory Guide 1.76.</u> • <u>Hurricane wind load as specified in Regulatory Guide 1.221.</u> • <u>Other loads as specified in Regulatory Guide 1.143.</u> 	An inspection and analysis will be performed to verify the as-built NAB structure will withstand design basis loads.	<p>A report concludes that the NAB structure will withstand design basis loads, <u>as specified below</u>, listed in Regulatory Guide 1.143 without loss of structural integrity:-</p> <ul style="list-style-type: none"> • <u>Seismic load equal to a Safe Shutdown Earthquake.</u> • <u>Tornado wind load as specified in Regulatory Guide 1.76.</u> • <u>Hurricane wind load as specified in Regulatory Guide 1.221.</u> • <u>Other loads as specified in Regulatory Guide 1.143.</u>
3.2	Deleted.	Deleted.	Deleted.

Next File