

ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Thursday, July 07, 2011 11:35 AM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); WELLS Russell (AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 467, FSAR Ch. 3, Supplement 5
Attachments: RAI 467 Supplement 5 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for the 14 questions of RAI No. 467 on February 24, 2011. AREVA NP submitted Supplement 1 on April 1, 2011 to provide technically correct and complete responses to 4 of the remaining 14 questions. AREVA NP submitted Supplement 2 on April 15, 2011, Supplement 3 on May 27, 2011, and Supplement 4 on June 22, 2011, to provide a revised schedule for 9 of the 10 remaining questions.

The attached file, "RAI 467 Supplement 5 Response US EPR DC.pdf" provides a technically correct and complete response to 1 of the remaining 10 questions.

The following table indicates the respective pages in the response document, "RAI 467 Supplement 5 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 467 — 03.09.02-167	2	2

The schedule for technically correct and complete responses to the remaining 9 questions is unchanged as provided below.

Question #	Response Date
RAI 467 — 03.06.03-28	August 15, 2011
RAI 467 — 03.09.02-155	July 27, 2011
RAI 467 — 03.09.02-156	July 27, 2011
RAI 467 — 03.09.02-157	July 27, 2011
RAI 467 — 03.09.02-160	July 27, 2011
RAI 467 — 03.09.02-161	July 27, 2011
RAI 467 — 03.09.02-162	July 27, 2011
RAI 467 — 03.09.02-163	July 27, 2011
RAI 467 — 03.09.02-165	July 27, 2011

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: WILLIFORD Dennis (RS/NB)
Sent: Wednesday, June 22, 2011 12:57 PM
To: 'Teskaye, Getachew'
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 467, FSAR Ch. 3, Supplement 4

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for the 14 questions of RAI No. 467 on February 24, 2011. AREVA NP submitted Supplement 1 on April 1, 2011 to provide technically correct and complete responses to 4 of the remaining 14 questions. AREVA NP submitted Supplement 2 on April 15, 2011 and Supplement 3 on May 27, 2011, to provide a revised schedule for 9 of the 10 remaining questions

The schedule for 9 of the 10 questions, shown in bold below, has been changed. The schedule for the remaining question is unchanged. The schedule for technically correct and complete responses to the remaining questions is provided below.

Question #	Response Date
RAI 467 — 03.06.03-28	August 15, 2011
RAI 467 — 03.09.02-155	July 27, 2011
RAI 467 — 03.09.02-156	July 27, 2011
RAI 467 — 03.09.02-157	July 27, 2011
RAI 467 — 03.09.02-160	July 27, 2011
RAI 467 — 03.09.02-161	July 27, 2011
RAI 467 — 03.09.02-162	July 27, 2011
RAI 467 — 03.09.02-163	July 27, 2011
RAI 467 — 03.09.02-165	July 27, 2011
RAI 467 — 03.09.02-167	July 27, 2011

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: WILLIFORD Dennis (RS/NB)
Sent: Friday, May 27, 2011 11:11 AM
To: Teskaye, Getachew
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB); CORNELL Veronica (External RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 467, FSAR Ch. 3, Supplement 3

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for the 14 questions of RAI No. 467 on February 24, 2011. AREVA NP submitted Supplement 1 on April 1, 2011 to provide technically correct and complete responses to 4 of the remaining 14 questions. AREVA NP submitted Supplement 2 on April 15, 2011 to provide a revised schedule for 9 of the 10 remaining questions

The schedule for 9 of the 10 questions, shown in bold below, has been changed. The schedule for the remaining question is unchanged. The schedule for technically correct and complete responses to the remaining questions is provided below.

Question #	Response Date
RAI 467 — 03.06.03-28	August 15, 2011
RAI 467 — 03.09.02-155	June 27, 2011
RAI 467 — 03.09.02-156	June 27, 2011
RAI 467 — 03.09.02-157	June 27, 2011
RAI 467 — 03.09.02-160	June 27, 2011
RAI 467 — 03.09.02-161	June 27, 2011
RAI 467 — 03.09.02-162	June 27, 2011
RAI 467 — 03.09.02-163	June 27, 2011
RAI 467 — 03.09.02-165	June 27, 2011
RAI 467 — 03.09.02-167	June 27, 2011

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: WELLS Russell (RS/NB)
Sent: Friday, April 15, 2011 4:15 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 467, FSAR Ch. 3, Supplement 2

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for the 14 questions of RAI No. 467 on February 24, 2011. AREVA NP submitted Supplement 1 on April 1, 2011 to provide technically correct and complete responses to 4 of the remaining 14 questions.

To allow additional time to interact with NRC staff, the schedule for technically correct and complete responses to 9 of the 10 has been changed and is provided below. The schedule for a technically correct and complete response to the remaining question is unchanged and is provided below:

Question #	Response Date
RAI 467 — 03.06.03-28	August 15, 2011
RAI 467 — 03.09.02-155	May 27, 2011
RAI 467 — 03.09.02-156	May 27, 2011
RAI 467 — 03.09.02-157	May 27, 2011
RAI 467 — 03.09.02-160	May 27, 2011
RAI 467 — 03.09.02-161	May 27, 2011
RAI 467 — 03.09.02-162	May 27, 2011
RAI 467 — 03.09.02-163	May 27, 2011
RAI 467 — 03.09.02-165	May 27, 2011

Sincerely,

Russ Wells

U.S. EPR Design Certification Licensing Manager

AREVA NP, Inc.

3315 Old Forest Road, P.O. Box 10935

Mail Stop OF-57

Lynchburg, VA 24506-0935

Phone: 434-832-3884 (work)

434-942-6375 (cell)

Fax: 434-382-3884

Russell.Wells@Areva.com

From: WELLS Russell (RS/NB)

Sent: Friday, April 01, 2011 1:24 PM

To: 'Tesfaye, Getachew'

Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB)

Subject: Response to U.S. EPR Design Certification Application RAI No. 467, FSAR Ch. 3, Supplement 1

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for the 14 questions of RAI No. 467 on February 24, 2011. The attached file, "RAI 467 Supplement 1 Response US EPR DC.pdf" provides technically correct and complete responses to 4 of the remaining 14 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 the response to RAI 467 Questions 03.09.02-158, 03.09.02-159, and 03.09.02-164.

The following table indicates the respective pages in the response document, "RAI 467 Supplement 1 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 467 — 03.09.02-158	6	6
RAI 467 — 03.09.02-159	7	7
RAI 467 — 03.09.02-164	12	12
RAI 467 — 03.09.02-166	14	14

The schedule for technically correct and complete responses to the remaining questions is unchanged and is provided below:

Question #	Response Date
RAI 467 — 03.06.03-28	August 15, 2011
RAI 467 — 03.09.02-155	April 28, 2011
RAI 467 — 03.09.02-156	April 28, 2011
RAI 467 — 03.09.02-157	April 28, 2011
RAI 467 — 03.09.02-160	April 28, 2011
RAI 467 — 03.09.02-161	April 28, 2011
RAI 467 — 03.09.02-162	April 28, 2011
RAI 467 — 03.09.02-163	April 28, 2011

RAI 467 — 03.09.02-165	April 28, 2011
RAI 467 — 03.09.02-167	April 28, 2011

Sincerely,

Russ Wells

U.S. EPR Design Certification Licensing Manager

AREVA NP, Inc.

3315 Old Forest Road, P.O. Box 10935

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Russell.Wells@Areva.com

From: WELLS Russell (RS/NB)

Sent: Thursday, February 24, 2011 2:08 PM

To: 'Tesfaye, Getachew'

Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); BRYAN Martin (External RS/NB)

Subject: Response to U.S. EPR Design Certification Application RAI No. 467, FSAR Ch. 3

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 467 Response US EPR DC.pdf" provides a schedule for a technically correct and complete response to the 14 questions.

The following table indicates the respective pages in the response document, "RAI 467 Response US EPR DC.pdf" that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 467 — 03.06.03-28	2	2
RAI 467 — 03.09.02-155	3	3
RAI 467 — 03.09.02-156	4	4
RAI 467 — 03.09.02-157	5	5
RAI 467 — 03.09.02-158	6	6
RAI 467 — 03.09.02-159	7	7
RAI 467 — 03.09.02-160	8	8
RAI 467 — 03.09.02-161	9	9
RAI 467 — 03.09.02-162	10	10
RAI 467 — 03.09.02-163	11	11
RAI 467 — 03.09.02-164	12	12
RAI 467 — 03.09.02-165	13	13
RAI 467 — 03.09.02-166	14	14
RAI 467 — 03.09.02-167	15	15

A complete answer is not provided for the 14 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 467 — 03.06.03-28	August 15, 2011
RAI 467 — 03.09.02-155	April 28, 2011
RAI 467 — 03.09.02-156	April 28, 2011
RAI 467 — 03.09.02-157	April 28, 2011
RAI 467 — 03.09.02-158	April 28, 2011
RAI 467 — 03.09.02-159	April 28, 2011
RAI 467 — 03.09.02-160	April 28, 2011
RAI 467 — 03.09.02-161	April 28, 2011
RAI 467 — 03.09.02-162	April 28, 2011
RAI 467 — 03.09.02-163	April 28, 2011
RAI 467 — 03.09.02-164	April 28, 2011
RAI 467 — 03.09.02-165	April 28, 2011
RAI 467 — 03.09.02-166	April 28, 2011
RAI 467 — 03.09.02-167	April 28, 2011

Sincerely,

Russ Wells

*U.S. EPR Design Certification Licensing Manager
AREVA NP, Inc.*

3315 Old Forest Road, P.O. Box 10935

Mail Stop OF-57

Lynchburg, VA 24506-0935

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Russell.Wells@Areva.com

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

Sent: Wednesday, January 26, 2011 3:34 PM

To: ZZ-DL-A-USEPR-DL

Cc: Reichelt, Eric; Terao, David; Wong, Yuken; Dixon-Herrity, Jennifer; Miernicki, Michael; Colaccino, Joseph; ArevaEPRDCPEM Resource

Subject: U.S. EPR Design Certification Application RAI No. 467 (5333, 5344), FSAR Ch. 3

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on January 6, 2011, and discussed with your staff on January 20 and 24, 2011. No change is made to the draft RAI as a result of those discussions. 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: 3217

Mail Envelope Properties (2FBE1051AEB2E748A0F98DF9EEE5A5D47AF7FD)

Subject: Response to U.S. EPR Design Certification Application RAI No. 467, FSAR Ch. 3, Supplement 5
Sent Date: 7/7/2011 11:34:35 AM
Received Date: 7/7/2011 11:34:40 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

"WELLS Russell (AREVA)" <Russell.Wells@areva.com>

Tracking Status: None

"Tsfaye, Getachew" <Getachew.Tsfaye@nrc.gov>

Tracking Status: None

Post Office: auscharm02.adom.ad.corp

Files	Size	Date & Time
MESSAGE	12692	7/7/2011 11:34:40 AM
RAI 467 Supplement 5 Response US EPR DC.pdf		64240

Options

Priority: Standard

Return Notification: No

Reply Requested: No

Sensitivity: Normal

Expiration Date:

Recipients Received:

Response to

Request for Additional Information No. 467, Supplement 5

1/26/2011

U.S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 03.06.03 - Leak-Before-Break Evaluation Procedures

**SRP Section: 03.09.02 - Dynamic Testing and Analysis of Systems Structures and
Components**

Application Section: FSAR Chapter 3

**QUESTIONS for Component Integrity, Performance, and Testing Branch 1
(AP1000/EPR Projects) (CIB1)**

**QUESTIONS for Engineering Mechanics Branch 2 (ESBWR/ABWR Projects)
(EMB2)**

Question 03.09.02-167:

The staff reviewed FSAR Appendix 3C, and did not find any information if and how the applicant has addressed the following critical and relatively fragile components:

1. Adapter Thermal Sleeves
2. Level Monitoring Probe (LMP)
3. Instrument Guide Tube
4. Rod Cluster Control Assembly (RCCA)
5. Irradiation Specimen Basket.

The applicant is requested to explain how the structural integrity of the above components has been investigated.

Response to Question 03.09.02-167:

U.S. EPR FSAR Tier 2, Table 3.9.5-1 classifies the following components as “Internal Structures” per ASME Boiler and Pressure Vessel Code, Section III, Subsection NG-1122.

- Adapter Thermal Sleeves.
- Instrument Guide Tube.
- Irradiation Specimen Basket.

U.S. EPR FSAR Tier 2, Section 3.9.5.2 states that those components classified as “Internal Structures” are designed to meet the guidelines of NG-3000 and are in accordance with ASME Code Section III, Subsection NG-1122(c) per U.S. EPR FSAR Tier 2, Section 3.9.5.2.

Steady-state and transient loads for various design and service level conditions are applied to the components being designed and resultant stresses are calculated. These stresses are compared with appropriate allowable limits established in NG-3000.

The level measurement probe (LMP) is considered as instrumentation. The pressure retaining components of the LMP are designed to meet the guidelines of NB-3000. The non-pressure retaining structural components of the LMP are designed to meet the guidelines of NG-3000.

U.S. EPR FSAR Tier 2, Section 4.2.16 provides details about the design and analysis of the rod cluster control assemblies (RCCA).

FSAR Impact:

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