

ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Thursday, June 30, 2011 7:59 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (AREVA); DELANO Karen (AREVA); HALLINGER Pat (EXTERNAL AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); KOWALSKI David (AREVA); PATTON Jeff (AREVA); BALLARD Bob (AREVA); HARRINGTON James (AREVA)
Subject: DRAFT Response to U.S. EPR Design Certification Application RAI No. 398, FSAR Ch. 9, Question 09.01.04-18
Attachments: RAI 398 Question 09.01.04-18 Response US EPR DC - DRAFT.pdf

Getachew,

Attached is a draft response to RAI 398, Question 09.01.04-18. Earlier today, AREVA submitted Supplement 11 that provided a date for the final response as August 18, 2011. Let us know if you have any questions or if we can submit this response as final.

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: Thursday, June 30, 2011 4:48 PM
To: 'Tesfaye, Getachew'
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); KOWALSKI David (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 398, FSAR Ch. 9, Supplement 11

Getachew,

AREVA NP Inc. provided a schedule for a technically correct and complete response to the question in RAI No. 398 on July 21, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, Supplement 5, Supplement 6, Supplement 7, Supplement 8, Supplement 9 and Supplement 10 responses to RAI No. 398 were sent on August 31, 2010, October 5, 2010, October 26, 2010, November 22, 2010, January 6, 2011, February 9, 2011, March 2, 2011, April 5, 2011, May 4, 2011 and June 3, 2011, respectively, to provide a revised schedule.

The schedule for a technically correct and complete response to the question has been changed as provided below.

Question #	Response Date
RAI 398 — 09.01.04-18	August 18, 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: RYAN Tom (RS/NB)
Sent: Friday, June 03, 2011 9:40 AM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WILLIFORD Dennis (RS/NB); KOWALSKI David (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 398, FSAR Ch. 9, Supplement 10

Getachew,

AREVA NP Inc. provided a schedule for a technically correct and complete response to the question in RAI No. 398 on July 21, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, Supplement 5, Supplement 6, Supplement 7, Supplement 8 and Supplement 9 responses to RAI No. 398 were sent on August 31, 2010, October 5, 2010, October 26, 2010, November 22, 2010, January 6, 2011, February 9, 2011, March 2, 2011, April 5, 2011 and May 4, 2011, respectively, to provide a revised schedule.

The schedule for a technically correct and complete response to the question has been changed and is provided below.

Question #	Response Date
RAI 398 — 09.01.04-18	June 30, 2011

Sincerely,

Tom Ryan for
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: Wednesday, May 04, 2011 1:10 PM
To: 'Tesfaye, Getachew'
Cc: KOWALSKI David (RS/NB); 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. 398, FSARCh. 9, Supplement 9

Getachew,

AREVA NP Inc. provided a schedule for a technically correct and complete response to the question in RAI No. 398 on July 21, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, Supplement 5, Supplement 6, Supplement 7 and Supplement 8 responses to RAI No. 398 were sent on August 31, 2010, October 5, 2010, October 26, 2010, November 22, 2010, January 6, 2011, February 9, 2011, March 2, 2011 and April 5, 2011, respectively, to provide a revised schedule.

To provide additional time to interact with the NRC, a revised schedule is provided in this e-mail.

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

Question #	Response Date
RAI 398 — 09.01.04-18	June 3, 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: Tuesday, April 05, 2011 8:52 AM

To: 'Getachew.Tesfaye@nrc.gov'

Cc: KOWALSKI David (RS/NB); 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. 398, FSARCh. 9, Supplement 8

Getachew,

AREVA NP Inc. provided a schedule for a technically correct and complete response to the question in RAI No. 398 on July 21, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, Supplement 5, Supplement 6 and Supplement 7 responses to RAI No. 398 were sent on August 31, 2010, October 5, 2010, October 26, 2010, November 22, 2010, January 6, 2011, February 9, 2011 and March 2, 2011, respectively, to provide a revised schedule.

To provide additional time to interact with the NRC, a revised schedule is provided in this e-mail.

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

Question #	Response Date
RAI 398 — 09.01.04-18	May 6, 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: Wednesday, March 02, 2011 10:10 AM

To: 'Tesfaye, Getachew'

Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); KOWALSKI David (RS/NB)

Subject: Response to U.S. EPR Design Certification Application RAI No. 398, FSARCh. 9, Supplement 7

Getachew,

AREVA NP Inc. provided a schedule for a technically correct and complete response to the question in RAI No. 398 on July 21, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, Supplement 5 and Supplement 6 responses to RAI No. 398 were sent on August 31, 2010, October 5, 2010, October 26, 2010, November 22, 2010, January 6, 2011 and February 9, 2011, respectively, to provide a revised schedule.

To provide additional time to interact with the NRC, a revised schedule is provided in this e-mail.

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

Question #	Response Date
RAI 398 — 09.01.04-18	April 7, 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: BRYAN Martin (External RS/NB)

Sent: Wednesday, February 09, 2011 3:41 PM

To: 'Tesfaye, Getachew'

Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); KOWALSKI David (RS/NB)

Subject: Response to U.S. EPR Design Certification Application RAI No. 398, FSARCh. 9, Supplement 6

Getachew,

AREVA NP Inc. provided a schedule for a technically correct and complete response to the question in RAI No. 398 on July 21, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4 and Supplement 5 responses to RAI No. 398 were sent on August 31, 2010, October 5, 2010, October 26, 2010, November 22, 2010 and January 6, 2011, respectively, to provide a revised schedule.

To provide additional time to interact with the NRC, a revised schedule is provided in this e-mail.

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

Question #	Response Date
RAI 398 — 09.01.04-18	March 9, 2011

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: BRYAN Martin (External RS/NB)
Sent: Thursday, January 06, 2011 9:41 AM
To: Tesfaye, Getachew
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); KOWALSKI David (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 398, FSARCh. 9, Supplement 5

Getachew,

AREVA NP Inc. provided a schedule for a technically correct and complete response to the question in RAI No. 398 on July 21, 2010. Supplement 1, Supplement 2, Supplement 3 and Supplement 4 responses to RAI No. 398 were sent on August 31, 2010, October 5, 2010, October 26, 2010 and November 22, 2010, respectively, to provide a revised schedule.

To provide additional time to interact with the NRC, a revised schedule is provided in this e-mail.

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

Question #	Response Date
RAI 398 — 09.01.04-18	February 10, 2011

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: BRYAN Martin (External RS/NB)
Sent: Monday, November 22, 2010 4:26 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); KOWALSKI David (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 398, FSARCh. 9, Supplement 4

Getachew,

AREVA NP Inc. provided a schedule for a technically correct and complete response to the question in RAI No. 398 on July 21, 2010. Supplement 1, Supplement 2 and Supplement 3 responses to RAI No. 398 were sent on August 31, 2010, October 5, 2010 and October 26, 2010, respectively, to provide a revised schedule.

To provide additional time to interact with the NRC, a revised schedule is provided in this e-mail.

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

Question #	Response Date
RAI 398 — 09.01.04-18	January 6, 2011

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: BRYAN Martin (External RS/NB)
Sent: Tuesday, October 26, 2010 11:54 AM
To: 'Tefaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); KOWALSKI David (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 398, FSARCh. 9, Supplement 3

Getachew,

AREVA NP Inc. provided a schedule for a technically correct and complete response to the question in RAI No. 398 on July 21, 2010. The schedule was revised in Supplement 1 on August 31, 2010. The schedule was revised in Supplement 2 on October 5, 2010. To allow additional time to interact with the NRC, the schedule is being revised.

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

Question #	Response Date
RAI 398 — 09.01.04-18	November 23, 2010

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: BRYAN Martin (External RS/NB)
Sent: Tuesday, October 05, 2010 5:37 PM
To: 'Tefaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); KOWALSKI David (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 398, FSARCh. 9, Supplement 2

Getachew,

AREVA NP Inc. provided a schedule for a technically correct and complete response to the question in RAI No. 398 on July 21, 2010. The schedule was revised in Supplement 1 on August 31, 2010. To allow additional time to interact with the NRC, the schedule is being revised.

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

Question #	Response Date
RAI 398 — 09.01.04-18	October 27, 2010

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: BRYAN Martin (External RS/NB)
Sent: Tuesday, August 31, 2010 9:44 AM
To: 'Tefaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); KOWALSKI David (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 398, FSARCh. 9, Supplement 1

Getachew,

AREVA NP Inc. provided a schedule for a technically correct and complete response to the question in RAI No. 398 on July 21, 2010.

Since the response is still being processed, a revised schedule is provided in this e-mail. To facilitate the staff review, a draft is expected to be provided within two weeks.

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

Question #	Response Date
RAI 398 — 09.01.04-18	October 7, 2010

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager

AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: BRYAN Martin (EXT)
Sent: Wednesday, July 21, 2010 1:23 PM
To: 'Tsfaye, Getachew'
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); KOWALSKI David J (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 398, FSARCh. 9

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 398 Response US EPR DC," provides a schedule since a technically correct and complete response to the question is not provided.

The following table indicates the respective pages in the response document, "RAI 398 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 398 — 09.01.04-18	2	2

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

Question #	Response Date
RAI 398 — 09.01.04-18	August 31, 2010

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: Tsfaye, Getachew [mailto:Getachew.Tsfaye@nrc.gov]
Sent: Thursday, June 24, 2010 4:50 PM
To: ZZ-DL-A-USEPR-DL
Cc: Bernal, Sara; Roach, Edward; Hearn, Peter; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 398 (4660), FSARCh. 9

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on May 4, 2010, and on June 24, 2010, 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: 3177

Mail Envelope Properties (2FBE1051AEB2E748A0F98DF9EEE5A5D47AF4FA)

Subject: DRAFT Response to U.S. EPR Design Certification Application RAI No. 398, FSAR Ch. 9, Question 09.01.04-18
Sent Date: 6/30/2011 7:58:38 PM
Received Date: 6/30/2011 7:58:46 PM
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
"HALLINGER Pat (EXTERNAL AREVA)" <Pat.Hallinger.ext@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
"KOWALSKI David (AREVA)" <David.Kowalski@areva.com>
Tracking Status: None
"PATTON Jeff (AREVA)" <Jeff.Patton@areva.com>
Tracking Status: None
"BALLARD Bob (AREVA)" <Robert.Ballard@areva.com>
Tracking Status: None
"HARRINGTON James (AREVA)" <James.Harrington@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	16922	6/30/2011 7:58:46 PM	
RAI 398 Question 09.01.04-18 Response US EPR DC - DRAFT.pdf			282632

Options

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

**Response to
Request for Additional Information No. 398(4660), DRAFT
Question 09.01.04-18**

6/24/2010

**U.S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 09.01.04 - Light Load Handling System (Related to Refueling)
Application Section: 9.1.4, Fuel Handling System
QUESTIONS for Health Physics Branch (CHPB)**

DRAFT

Question 09.01.04-18:

GDC 61 states, in part, that the design of the fuel storage and handling systems shall have suitable shielding for radiation protection and appropriate containment, confinement, and filtering systems. Sufficient shielding provides protection for workers from the spent fuel so that regulatory limits are not exceeded and overexposures do not occur.

Figure 9.1.4-7, Spent Fuel Cask Transfer Facility, shows the cask loading pit with a penetration at the bottom which has an upper plate cover (UPC) and a lower plate cover (LPC). Describe any design features/interlocks that would prevent a spent fuel assembly from being moved into the cask loading pit without a spent fuel cask being connected to the pit docking flange. If such design features/interlocks do not exist for this design, state the expected radiation dose rates to personnel located in the cask loading area below the lower plate cover in the event that a spent fuel assembly were located in the flooded cask loading pit with both the lower and upper plate covers in a closed position.

Historically operating plants have used submerged filtration units (e.g., Tri-Nuclear Filter) to supplement SFP purification to improve SFP clarity during outages. If there are no design features (or license restrictions) which prevent the placement of these filtration units in the cask pit (or the placement of any other type of source in the cask pit) describe the dose rates consequences to the area below the LPC. If the dose rate analysis takes credit for water shielding between the LPC and the UPC, describe the water level alarms, drain valve interlocks or cover interlocks that would prevent removal of this shielding with both fuel and non-fuel sources present in the cask loading pit. What provisions are provided to shield or clean the penetration space drain lines and the ultimate end point of the drain lines? Cavity drain lines tend to collect debris and crud (activated corrosion products) that can result in areas where doses of 10-100 Roentgen per hour on contact are not unusual.

Because there is no available U.S. operating experience for this cask loading design, demonstrate compliance with the shielding requirements of GDC 61 by providing a dose assessment for the cask loading process, including the personnel doses associated with:

- (1) The installation and removal of seismic restraints with spent fuel in the cask
- (2) The installation of the LPC with spent fuel in the cask
- (3) Installation of the biological cover closure with spent fuel in the cask
- (4) Dewatering and sealing the cask.

10 CFR 20.1406 requires that each facility be designed so as to minimize contamination of the facility and the environment and to facilitate decommissioning. Section 9.1.4 of the FSAR states that the cask is attached to a leak tight flange, in order to prevent leakage from the cask pit. Provide more detail on the flange design, including where it is located on Figure 9.1.4-7. Please demonstrate compliance with 10 CFR 20.1406 by describing the design features that would prevent any leaks in the cask loading area from contaminating the facility, or from exiting the building to the outside environment.

Response to Question 09.01.04-18:

Additional details regarding the design, operation and associated interlocks for the Spent Fuel Cask Transfer Facility (SFCTF) have been added to U.S. EPR FSAR Tier 2, Section 9.1.4 and is provided with the Response to Question 09.01.04-15.

A response to RAI 398, Question 09.01.04-18 regarding the use of filtration units and dose assessments will be provided August 18, 2011.

FSAR Impact:

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

DRAFT