

ArevaEPRDCPEm Resource

From: BRYAN Martin (EXT) [Martin.Bryan.ext@areva.com]
Sent: Wednesday, March 31, 2010 5:37 PM
To: Tesfaye, Getachew
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); NOXON David B (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 290, FSAR Ch 11, Supplement 5
Attachments: RAI 290 Supplement 5 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 290 on October 14, 2009. Supplement 1 to RAI No. 290 was sent on November 6, 2009 which provided a partial response to 1 of the 3 remaining questions. AREVA NP provided Supplement 2 on November 25, 2009 and Supplement 3 on December 8, 2009 to revise the schedule for the 3 remaining questions. AREVA NP provided Supplement 4 on December 10, 2009 to address the 3 remaining questions and included a schedule to provide complete FSAR markups. The attached file, "RAI 290 Supplement 5 Response US EPR DC.pdf," provides a reference to the previously submitted response in Supplement 4 to Question 11.05-15.

Appended to this file is an affected page of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which supports the response to RAI 290 Questions 11.05 -15.

The following table indicates the respective pages in the response document, "RAI 290 Supplement 5 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 290 — 11.05-15	2	3

Based on additional time needed to update engineering source documents, a complete FSAR markup is not provided for 2 of the questions as originally scheduled for March 31, 2010. The revised schedule for the remaining 2 FSAR markups is provided below:

Question #	Supplement Date (providing FSAR Markup)
RAI 290 — 11.05-16	May 19, 2010
RAI 290 — 11.05-19	May 19, 2010

Sincerely,

Martin (Marty) C. Bryan
Licensing Advisory Engineer
AREVA NP Inc.
Tel: (434) 832-3016
Martin.Bryan.ext@areva.com

From: Pederson Ronda M (AREVA NP INC)
Sent: Thursday, December 10, 2009 6:32 PM
To: 'Tesfaye, Getachew'

Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); NOXON David B (AREVA NP INC); WILLIFORD Dennis C (AREVA NP INC)

Subject: Response to U.S. EPR Design Certification Application RAI No. 290, FSAR Ch 11, Supplement 4

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 290 on October 14, 2009. Supplement 1 to RAI No. 290 was sent on November 6, 2009 which provided a partial response to 1 of the 3 remaining questions. Supplement 2 and Supplement 3 revised the schedule for the 3 remaining questions. The attached file, "RAI 290 Supplement 4 Response US EPR DC.pdf," provides a technically correct and complete response to the 3 remaining questions, as committed.

Appended to this file are two of the affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 290 Question 11.05-15.

A complete FSAR markup is not provided for the RAI 290 questions. As agreed by NRC staff during an FSAR Chapter 11 audit on October 7, 2009, FSAR markups may be submitted after Phase 2 completion to support Staff review to close confirmatory items. Therefore, a complete FSAR markup for the RAI 290 questions will be provided as indicated in the following table:

Question #	Supplement Date (providing FSAR Markup)
RAI 290 — 11.05-15	March 31, 2010
RAI 290 — 11.05-16	March 31, 2010
RAI 290 — 11.05-19	March 31, 2010

The following table indicates the respective pages in the response document, "RAI 290 Supplement 4 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 290 — 11.05-15	2	3
RAI 290 — 11.05-16	4	6
RAI 290 — 11.05-19	7	8

This concludes the formal AREVA NP response to RAI 290, and there are no questions from this RAI for which AREVA NP has not provided responses.

Sincerely,

Ronda Pederson

ronda.pederson@areva.com

Licensing Manager, U.S. EPR Design Certification

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: Pederson Ronda M (AREVA NP INC)

Sent: Tuesday, December 08, 2009 6:39 PM

To: Tesfaye, Getachew

Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); NOXON David B (AREVA NP INC)

Subject: Response to U.S. EPR Design Certification Application RAI No. 290, FSAR Ch 11, Supplement 3

Getachew,

AREVA NP is unable to provide a technically correct and complete response to the remaining questions for RAI 290 as committed and a revised schedule for a technically correct and complete response to the remaining questions is provided below.

Question #	Response Date
RAI 290 — 11.05-15	December 11, 2009
RAI 290 — 11.05-16	December 11, 2009
RAI 290 — 11.05-19	December 11, 2009

Sincerely,

Ronda Pederson

ronda.pederson@areva.com

Licensing Manager, U.S. EPR Design Certification

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From: WELLS Russell D (AREVA NP INC)

Sent: Wednesday, November 25, 2009 2:45 PM

To: 'Getachew Tesfaye'; 'Michael Miernicki'

Cc: Pederson Ronda M (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC)

Subject: Response to U.S. EPR Design Certification Application RAI No. 290, FSAR Ch 11, Supplement 2

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 2 of the 5 questions to RAI No. 290 on October 22, 2009. AREVA NP submitted Supplement 1 on November 6, 2009 which provided a technically correct and complete response to portions of 1 of the remaining 3 questions and indicated that a complete response to the remaining 3 questions would be provided by November 25, 2009.

However, AREVA NP is unable to provide a technically correct and complete response to the remaining questions for RAI 290 as committed and a revised schedule for a technically correct and complete response to the remaining questions is provided below.

Question #	Response Date
RAI 290 — 11.05-15	December 8, 2009
RAI 290 — 11.05-16	December 8, 2009
RAI 290 — 11.05-19	December 8, 2009

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.

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3315 Old Forest Road

Lynchburg, VA 24506-0935

Phone: 434-832-3694

Cell: 434-841-8788

From: Pederson Ronda M (AREVA NP INC)

Sent: Friday, November 06, 2009 8:38 PM

To: Tesfaye, Getachew

Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); WILLIFORD Dennis C (AREVA NP INC); SLIVA Dana (AREVA NP INC)

Subject: Response to U.S. EPR Design Certification Application RAI No. 290, FSARCh. 11, Supplement 1

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 2 of the 5 questions to RAI No. 290 on October 22, 2009. The attached file, "RAI 290 Supplement 1 Response US EPR DC.pdf," provides a technically correct and complete responses to portions of 1 of the remaining 3 questions, as committed.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report (FSAR) in redline-strikeout format which support the response to RAI 290 Question 11.05 -15a.

The following table indicates the respective pages in the response document, "RAI 290 Response US EPR DC.pdf," that contains AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 290 — 11.05-15 Parts a & b	2	3

A complete answer has not been provided for 3 questions. The schedule for a technically correct and complete response to these questions has been revised as provided below.

Question #	Response Date
RAI 290 — 11.05-15 Part c	November 25, 2009
RAI 290 — 11.05-16	November 25, 2009
RAI 290 — 11.05-19	November 25, 2009

Sincerely,

Ronda Pederson

ronda.pederson@areva.com

Licensing Manager, U.S. EPR Design Certification
AREVA NP Inc.
An AREVA and Siemens company
3315 Old Forest Road
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From: Pederson Ronda M (AREVA NP INC)
Sent: Thursday, October 22, 2009 3:48 PM
To: 'Tsfaye, Getachew'
Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); WILLIFORD Dennis C (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 290, FSARCh. 11

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 290 Response US EPR DC.pdf" provides technically correct and complete responses to 2 of the 5 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 290 Questions 11.05-17 and 11.05-18.

The following table indicates the respective page in the response document, "RAI 290 Response US EPR DC.pdf," that contains AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 290 — 11.05-15	2	2
RAI 290 — 11.05-16	3	3
RAI 290 — 11.05-17	4	4
RAI 290 — 11.05-18	5	5
RAI 290 — 11.05-19	6	6

A complete answer is not provided for 3 of the 5 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 290 — 11.05-15	November 6, 2009
RAI 290 — 11.05-16	November 6, 2009
RAI 290 — 11.05-19	November 6, 2009

Sincerely,

Ronda Pederson

ronda.pederson@areva.com

Licensing Manager, U.S. EPR Design Certification
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3315 Old Forest Road
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From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Tuesday, September 22, 2009 10:17 AM
To: ZZ-DL-A-USEPR-DL
Cc: Dehmel, Jean-Claude; Frye, Timothy; Jennings, Jason; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 290 (3637), FSARCh. 11

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on September 10, 2009, and on September 22, 2009, 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: 1278

Mail Envelope Properties (BC417D9255991046A37DD56CF597DB7105B81F0A)

Subject: Response to U.S. EPR Design Certification Application RAI No. 290, FSAR Ch
11, Supplement 5
Sent Date: 3/31/2010 5:37:03 PM
Received Date: 3/31/2010 5:37:11 PM
From: BRYAN Martin (EXT)

Created By: Martin.Bryan.ext@areva.com

Recipients:

"DELANO Karen V (AREVA NP INC)" <Karen.Delano@areva.com>

Tracking Status: None

"ROMINE Judy (AREVA NP INC)" <Judy.Romine@areva.com>

Tracking Status: None

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Tracking Status: None

"NOXON David B (AREVA NP INC)" <David.Noxon@areva.com>

Tracking Status: None

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

Tracking Status: None

Post Office: AUSLYNCMX02.adom.ad.corp

Files	Size	Date & Time
MESSAGE	11601	3/31/2010 5:37:11 PM
RAI 290 Supplement 5 Response US EPR DC.pdf		59662

Options

Priority: Standard

Return Notification: No

Reply Requested: No

Sensitivity: Normal

Expiration Date:

Recipients Received:

Response to
Request for Additional Information No. 290 (3637), Supplement 5

9/22/2009

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 11.05 - Process and Effluent Radiological Monitoring
Instrumentation and Sampling Systems
Application Section: 11.5, 11.2, 9.3.3, 10.4.5
QUESTIONS for Health Physics Branch (CHPB)

Question 11.05-15:

FSAR Sections 11.5.3.2, 11.2.2.1.6, 11.2.2.3.3, and 10.4.5 and FSAR Figure 11.5-1 present information on the process and release paths that will be used to discharge liquid effluents from the plant during operation. A review of this information indicates that it is incomplete. Specifically, the following items were noted, given the FSAR's endorsement of Regulatory Guides 1.143 and 1.206:

- a. FSAR Sections 11.2.3 and 10.4.5 do not define or describe the complete process path of LWMS discharges after the isolation valves shown in Figure 11.2-1 to the discharge canal. The information does not describe the connection from the LWMS discharge line to the Circulating Water System (CWS) and discharge canal as the ultimate point of release into the environment. A review of the information presented in FSAR Section 10.4.5 and Figure 10.4.5-1 reveals there is no input stream shown for the LWMS into the CWS, and no information describing the type of blowdown system and blowdown rates of the process stream receiving discharges from the LWMS before going into the CWS. Accordingly, the applicant is requested to provide the missing information defining the boundary of the LWMS beginning at the interface starting with plant systems provided for the collection of radioactive liquid wastes to the point of discharge into the environment in complying with the requirements of Part 20, Appendix B, and Part 50, Appendix I.
- b. The applicant is requested to describe or reconcile the bases of the dilution flow rate of 100 ft³/s presented in FSAR Section 11.2.3.3 against a discharge flow rate of 39.3 ft³/s listed in FSAR Table 11.2-9, both used in characterizing radioactive effluent discharges into the environment. Update the corresponding sections of the FSAR with the revised discharge and/or dilution flow rates and supporting discussions for their use in assessing offsite doses to members of the public.
- c. A review of FSAR Section 11.5.3.2 indicates that there are no descriptions of equipment and types of potential releases occurring from the "Turbine Building Plant Drainage" (TBPD). FSAR Table 11.5-1 and Figure 11.5-1 identify a radiation monitor on the line leading to a "water source" before being released into the environment. The information does not describe the connection from the TBPD discharge line to the Circulating Water System (CWS) and discharge canal as the ultimate point of release into the environment. A review of the information presented in FSAR Sections 9.3.3 and 10.4.5, Figure 10.4.5-1, and Table 1.1-1 (U.S. EPR FSAR Acronyms) reveals the TBPD is not listed as a plant acronym, there is no input stream shown for the TBPD into the CWS, and no information describing the type of blowdown system and blowdown rates of the process stream receiving discharges from the TBPD before going to the CWS. Accordingly, the applicant is requested to provide the missing information defining the boundary of the TBPD beginning at the interface of turbine building systems provided for the collection of process streams and radioactive liquid wastes to the point of discharge into the environment in complying with the requirements of Part 20, Appendix B, and Part 50, Appendix I.

Response to Question 11.05-15:

- a. This question was addressed in the Response to RAI 290, Supplement 1.
- b. This question was addressed in the Response to RAI 290, Supplement 1.

- c. This question was addressed in the Response to RAI 290, Supplement 4.

FSAR Impact:

U.S. EPR FSAR, Tier 2, Table 11.5.1 will be revised as described in the response and indicated on the enclosed markup.

U.S. EPR Final Safety Analysis Report Markups

Table 11.5-1—Radiation Monitor Detector Parameters¹
Sheet 5 of 9

Process System ²	Monitor Provisions			Sample Provisions			Range
	In Process Continuous	ACF	In Effluent Continuous	In Process Grab sample	In Effluent Grab sample	Continuous	
Access Building Ventilation System	---	---	---	1 iodine and 1 aerosol in the ventilation exhaust	---	---	
Liquid Streams							
Liquid Radwaste (Batch) Effluent System	---	close the discharge valve on high activity	2 redundant monitors on the liquid radwaste release line	sample and analysis	sample and analysis, H-3 analysis	---	5E-6 - 1E-3 $\mu\text{Ci/ml}$
Liquid Radwaste (Continuous) Effluent System	The U.S. EPR uses a batch liquid radwaste effluent discharge, which is monitored as described above.						
Service Water System and/or Circulating Water System	For U.S. EPR, the CWS has no contact with the TBPD except that the TBPD and the cooling tower blowdown each discharge separately to the "lined retention pond."--- 11.05-15 → sample and analysis, H-3 analysis						
Component Cooling Water System	1 radiation monitor on each loop	---	---	---	sample and analysis, H-3 analysis	---	1E-6 - 1E-3 $\mu\text{Ci/ml}$