

## ArevaEPRDCPEm Resource

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**From:** WELLS Russell D (AREVA NP INC) [Russell.Wells@areva.com]  
**Sent:** Friday, June 12, 2009 5:00 PM  
**To:** Tesfaye, Getachew  
**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. 57, FSAR Ch 7, Supplement 4  
**Attachments:** RAI 57 Supplement 4 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. (AREVA NP) provided responses to 9 of the 20 questions of RAI No. 57 on October 13, 2008. AREVA NP submitted Supplement 1 to the response on January 14, 2009 to address 7 of the remaining 11 questions. AREVA NP submitted Supplement 2 to the response on March 3, 2009 to address 1 of the remaining 4 questions. AREVA NP submitted Supplement 3 to the response on March 31, 2009 to address 2 of the remaining 3 questions. The attached file, "RAI 57 Supplement 4 Response US EPR DC" provides technically correct and complete response to the remaining question, as committed.

The following table indicates the respective pages in the response document, "RAI 57 Supplement 4 Response US EPR DC," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 57 — 07.07-8	2	3

This concludes the formal AREVA NP response to RAI 57, and there are no questions from this RAI for which AREVA NP has not provided responses.

Sincerely,

(Russ Wells on behalf of)

*Ronda Pederson*

[ronda.pederson@areva.com](mailto: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

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**From:** WELLS Russell D (AREVA NP INC)  
**Sent:** Tuesday, March 31, 2009 6:02 PM  
**To:** 'Getachew Tesfaye'  
**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. 57, FSAR Ch 7, Supplement 3

Getachew,

AREVA NP Inc. (AREVA NP) provided responses to 9 of the 20 questions of RAI No. 57 on October 13, 2008. AREVA NP submitted Supplement 1 to the response on January 14, 2009 to address 7 of the remaining 11 questions. AREVA NP submitted Supplement 2 to the response on March 3, 2009 to address 1 of the

remaining 4 questions. The attached file, "RAI 57 Supplement 3 Response US EPR DC" provides technically correct and complete responses to 2 of the remaining 3 questions as committed.

The following table indicates the respective pages in the response document, "RAI 57 Supplement 3 Response US EPR DC," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 57 — 07.08-1	2	3
RAI 57 — 07.08-3	4	4

Based upon feedback from the NRC staff, AREVA NP is modifying the I&C architecture. Therefore, AREVA NP is unable to provide technically correct and complete responses to the questions that were scheduled to be completed by March 31, 2009. The revised schedule for technically correct and complete response to the remaining question of RAI 57 is provided below:

Question #	Response Date
RAI 57 — 07.07-8	June 12, 2009

Sincerely,

(Russ Wells on behalf of)

*Ronda Pederson*

[ronda.pederson@areva.com](mailto:ronda.pederson@areva.com)

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**From:** Pederson Ronda M (AREVA NP INC)

**Sent:** Tuesday, March 03, 2009 11:25 AM

**To:** Getachew Tesfaye

**Cc:** DELANO Karen V (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); PANNELL George L (AREVA NP INC)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 57, Supplement 2

Getachew,

AREVA NP Inc. (AREVA NP) provided responses to 9 of the 20 questions of RAI No. 57 on October 13, 2008. AREVA NP submitted Supplement 1 to the response on January 14, 2009 to address 7 of the remaining 11 questions. The attached file, "RAI 57 Supplement 2 Response US EPR DC" provides technically correct and complete responses to 1 of the remaining 4 questions, as committed.

The following table indicates the respective page in the response document, "RAI 57 Supplement 2 Response US EPR DC," that contains AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 57 — 7.07-1	2	2

The schedule for technically correct and complete responses to the remaining 3 questions is unchanged and provided below:

Question #	Response Date
RAI 57 - 07.07-8	March 31, 2009
RAI 57 - 07.08-1	March 31, 2009
RAI 57 - 07.08-3	March 31, 2009

Sincerely,

*Ronda Pederson*

[ronda.pederson@areva.com](mailto:ronda.pederson@areva.com)

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**From:** Pederson Ronda M (AREVA NP INC)

**Sent:** Wednesday, January 14, 2009 1:44 PM

**To:** 'Getachew Tesfaye'

**Cc:** PANNELL George L (AREVA NP INC); DELANO Karen V (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 57, Supplement 1

Getachew,

AREVA NP Inc. provided responses to 9 of the 20 questions of RAI No. 57 on October 13, 2008. The attached file, "RAI 57 Supplement 1 Response USEPRDC.pdf," provides technically correct and complete responses to 7 of the remaining 11 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 57 Question 07.07-15.

The following table indicates the respective page(s) in the response document, "RAI 57 Supplement 1 Response USEPRDC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 57 - 07.07-2	2	2
RAI 57 - 07.07-3	3	3
RAI 57 - 07.07-6	4	4
RAI 57 - 07.07-7	5	5
RAI 57 - 07.07-13	6	6
RAI 57 - 07.07-15	7	7
RAI 57 - 07.07-17	8	11

The schedule for technically correct and complete responses to the remaining 4 questions is unchanged and provided below:

Question #	Response Date
RAI 57 - 07.07-1	March 3, 2009

RAI 57 - 07.07-8	March 31, 2009
RAI 57 - 07.08-1	March 31, 2009
RAI 57 - 07.08-3	March 31, 2009

Sincerely,

*Ronda Pederson*

[ronda.pederson@areva.com](mailto:ronda.pederson@areva.com)

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**From:** Pederson Ronda M (AREVA NP INC)

**Sent:** Wednesday, November 26, 2008 3:41 PM

**To:** 'Getachew Tesfaye'

**Cc:** DELANO Karen V (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); PANNELL George L (AREVA NP INC)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 57, FSAR Ch 7, Revised Schedule

Getachew,

On October 13, 2008, AREVA NP provided technically correct and complete responses to 9 of the 20 questions and a schedule for the remaining 11 questions of RAI No. 57. On October 22, 2008, a public meeting was held between AREVA NP Inc. and the NRC to discuss the U.S. EPR FSAR Chapter 7 and RAI No.'s 56 through 61.

A revised schedule for a technically correct and complete response to each of the remaining 11 questions is provided below.

<b>Question #</b>	<b>Response Date</b>
RAI 57 - 07.07-1	March 3, 2009
RAI 57 - 07.07-2	January 15, 2009
RAI 57 - 07.07-3	January 15, 2009
RAI 57 - 07.07-6	January 15, 2009
RAI 57 - 07.07-7	January 15, 2009
RAI 57 - 07.07-8	March 31, 2009
RAI 57 - 07.07-13	January 15, 2009
RAI 57 - 07.07-15	January 15, 2009
RAI 57 - 07.07-17	January 15, 2009
RAI 57 - 07.08-1	March 31, 2009
RAI 57 - 07.08-3	March 31, 2009

Sincerely,

*Ronda Pederson*

[ronda.pederson@areva.com](mailto:ronda.pederson@areva.com)

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**From:** WELLS Russell D (AREVA NP INC)

**Sent:** Monday, October 13, 2008 6:00 PM

**To:** 'Getachew Tesfaye'

**Cc:** 'John Rycyna'; 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. 57, FSAR Ch 7

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 57 Response US EPR DC.pdf" provides technically correct and complete responses to 9 of the 20 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 57 Questions 07.07-14, and 07.08-2.

The following table indicates the respective pages in the response document, "RAI 57 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

<b>Question #</b>	<b>Start Page</b>	<b>End Page</b>
RAI 57 — 07.07-1	2	2
RAI 57 — 07.07-2	3	3
RAI 57 — 07.07-3	4	4
RAI 57 — 07.07-4	5	5
RAI 57 — 07.07-5	6	6
RAI 57 — 07.07-6	7	7
RAI 57 — 07.07-7	8	8
RAI 57 — 07.07-8	9	9
RAI 57 — 07.07-9	10	10
RAI 57 — 07.07-10	11	11
RAI 57 — 07.07-11	12	12
RAI 57 — 07.07-12	13	15
RAI 57 — 07.07-13	16	16
RAI 57 — 07.07-14	17	17
RAI 57 — 07.07-15	18	18
RAI 57 — 07.07-16	19	19
RAI 57 — 07.07-17	20	20
RAI 57 — 07.08-1	21	21
RAI 57 — 07.08-2	22	22
RAI 57 — 07.08-3	23	23

A complete answer is not provided for 11 of the 20 questions. The schedule for a technically correct and complete response to this question is provided below.

Question #	Response Date
RAI 57 — 07.07-1	December 4, 2008
RAI 57 — 07.07-2	December 4, 2008
RAI 57 — 07.07-3	December 4, 2008
RAI 57 — 07.07-6	December 4, 2008
RAI 57 — 07.07-7	December 4, 2008
RAI 57 — 07.07-8	December 4, 2008
RAI 57 — 07.07-13	December 4, 2008
RAI 57 — 07.07-15	December 4, 2008
RAI 57 — 07.07-17	December 4, 2008
RAI 57 — 07.08-1	December 4, 2008
RAI 57 — 07.08-3	December 4, 2008

Sincerely,

(Russ Wells on behalf of)

*Ronda Pederson*

[ronda.pederson@areva.com](mailto:ronda.pederson@areva.com)

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

**Sent:** Friday, September 12, 2008 5:52 PM

**To:** ZZ-DL-A-USEPR-DL

**Cc:** Kenneth Mott; Terry Jackson; Michael Canova; Joseph Colaccino; John Rycyna

**Subject:** U.S. EPR Design Certification Application RAI No. 57 (951,972),FSAR Ch 7

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on August 26, 2008, and on September 5, 2008, 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:** 570

**Mail Envelope Properties** (1F1CC1BBDC66B842A46CAC03D6B1CD410195305B)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 57, FSAR Ch 7, Supplement 4  
**Sent Date:** 6/12/2009 4:59:47 PM  
**Received Date:** 6/12/2009 4:59:50 PM  
**From:** WELLS Russell D (AREVA NP INC)

**Created By:** Russell.Wells@areva.com

**Recipients:**

"Pederson Ronda M (AREVA NP INC)" <Ronda.Pederson@areva.com>

Tracking Status: None

"BENNETT Kathy A (OFR) (AREVA NP INC)" <Kathy.Bennett@areva.com>

Tracking Status: None

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

Tracking Status: None

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

Tracking Status: None

**Post Office:** AUSLYNCMX02.adom.ad.corp

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	12150	6/12/2009 4:59:50 PM
RAI 57 Supplement 4 Response US EPR DC.pdf		63859

**Options**

**Priority:** Standard

**Return Notification:** No

**Reply Requested:** No

**Sensitivity:** Normal

**Expiration Date:**

**Recipients Received:**

**Response to**

**Request for Additional Information No. 57, Supplement 4**

**9/12/2008**

**U. S. EPR Standard Design Certification**

**AREVA NP Inc.**

**Docket No. 52-020**

**SRP Section: 07.07 - Control Systems**

**SRP Section: 07.08 - Diverse Instrumentation and Control Systems**

**Application Section: FSAR Ch 7**

**ICE1 Branch**



**Question 07.07-8:**

Explain the processes, procedures, and mechanisms in place to verify that the PICS is functioning correctly. Identify where such processes, procedures, and mechanisms are explained in the U.S. EPR DC-FSAR?

10 CFR Part 50, Appendix A, General Design Criteria 13 requires, in part, that instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety, including those variables and systems that can affect the fission process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated systems. Appropriate controls shall be provided to maintain these variables and systems within prescribed operating ranges. U.S. EPR Digital Protection System Topical Report, ANP-10281P, Section 13.3, page 13-2, states that: "The PICS is the primary operator interface to the U.S. EPR I&C systems and is to be used in all plant conditions as long as it can be verified to be functioning correctly." The staff needs additional details regarding the capability to determine the functionality of PICS to complete the review.

**Response to Question 07.07-8:**

The process information and control system (PICS) meets GDC 13 as described in the U.S. EPR FSAR, Tier 2, Section 7.5.2.1.2.

The PICS is used under all plant conditions as long as it is available. The PICS is declared unavailable if less than two of the four operator workstations are usable. A PICS workstation is declared unavailable or unusable if one or more of the following conditions exist:

- Three or more monitors at a workstation are unusable. The workstation in the Shift Manager's office is not considered an operator workstation.
- Data communication is not working satisfactorily (i.e., expected feedback is not received in the expected timeframe, inputs do not respond in the expected manner, or the clock is stationary).
- Correlating information on PICS displays at the usable workstations is not consistent.
- Information on the PICS displays and the relevant safety information and control system (SICS) indications are not consistent (i.e., data on PICS differs significantly from data on SICS).

Operators will respond to these issues by procedure and training and will be alerted to perform the above verifications by the features on PICS that:

- Inform an operator through alarms or status indicators when data are not valid.
- Inform an operator through alarms or status indicators that critical instrumentation and control hardware is not working properly.
- Inform an operator through alarms or status indicators when the system logic has not produced the expected results.

**FSAR Impact:**

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