

## ArevaEPRDCPEm Resource

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**From:** WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]  
**Sent:** Tuesday, July 23, 2013 5:28 PM  
**To:** Snyder, Amy  
**Cc:** Miernicki, Michael; ANDERSON Katherine (EXTERNAL AREVA); DELANO Karen (AREVA); LEIGHLITER John (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); KANE Steve (EXTERNAL AREVA)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 17

Amy,

AREVA NP Inc. letter NRC:13:060 dated July 23, 2013 provides a technically correct and complete final response to Question 03.08.04-15 in RAI 445. The response also includes a redline-strikeout version of the affected pages of AREVA Technical Report TN-Rack.0101. AREVA Transnuclear, Inc. has determined that some of the material contained in the response is proprietary. An affidavit is provided, as required by 10 CFR 2.390(b), to support the withholding of the proprietary information from public disclosure. Proprietary and non-proprietary versions of the enclosure to this letter are provided separately.

The following table indicates the respective pages in the response that contain AREVA NP's final response to the subject question.

Question #	Start Page	End Page
RAI 445 — 03.08.04-15	2	20

The schedule for a technically correct and complete final response to the remaining two questions remains unchanged.

Question #	Response Date
RAI 445 — 03.08.04-20	August 9, 2013
RAI 445 — 03.08.04-21	July 23, 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](mailto:Dennis.Williford@areva.com)

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**From:** RYAN Tom (RS/NB)  
**Sent:** Friday, July 12, 2013 4:31 PM  
**To:** Amy.Snyder@nrc.gov  
**Cc:** Michael.Miernicki@nrc.gov; ANDERSON Katherine (External AREVA NP INC.); DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); KANE Steve M (EXT); WILLIFORD Dennis (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 16

Amy,

AREVA NP Inc. letter NRC:13:054 dated July 12, 2013 provides a technically correct and complete final response to Question 03.08.04-19 in RAI 445. The response also includes a redline-strikeout version of the affected pages of AREVA Technical Report TN-Rack.0101. AREVA Transnuclear, Inc. has determined that some of the material contained in the response is proprietary. An affidavit is provided, as required by 10 CFR 2.390(b), to support the withholding of the proprietary information from public disclosure. Proprietary and non-proprietary versions of the enclosure to this letter are provided separately.

The following table indicates the respective pages in the response that contain AREVA NP's final response to the subject question.

Question #	Start Page	End Page
RAI 445 — 03.08.04-19	2	23

The schedule for a technically correct and complete final response to remaining three questions remains unchanged.

Question #	Response Date
RAI 445 — 03.08.04-15	July 23, 2013
RAI 445 — 03.08.04-20	August 9, 2013
RAI 445 — 03.08.04-21	July 23, 2013

Sincerely,

**Tom Ryan**

Project Engineer  
Regulatory Affairs

**AREVA NP**

An AREVA and Siemens company

7207 IBM Drive - CLT2B

Charlotte, NC 28262

Phone: 704-805-2643, Cell : 704-292-5627

Fax: 434-382-6657

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**From:** WILLIFORD Dennis (RS/NB)

**Sent:** Tuesday, July 09, 2013 6:00 PM

**To:** [Amy.Snyder@nrc.gov](mailto:Amy.Snyder@nrc.gov)

**Cc:** [Michael.Miernicki@nrc.gov](mailto:Michael.Miernicki@nrc.gov); ANDERSON Katherine (External AREVA NP INC.); DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); KANE Steve M (EXT)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 15

Amy,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 445 on October 29, 2010. Supplement 1 was submitted to the NRC on January 27, 2011, Supplement 2 on February 25, 2011, and Supplement 3 on March 23, 2011 to revise the schedule. Supplement 4, submitted to the NRC on April 14, 2011, provided complete responses to 3 of the 13 remaining questions and a revised schedule for Question 03.08.04-20. Supplement 5 sent on April 22, 2011, and Supplement 6 sent on May 31, 2011, provided a revised schedule for the 10 remaining questions. Supplement 7 sent on July 8, 2011 provided final responses to 5 questions and interim responses to the remaining 5 questions. Supplement 8

sent on August 15, 2011 provided revised final responses to 3 questions (03.08.04-18, 03.08.04-25, and 03.08.04-26), and revised interim responses to 3 questions (03.08.04-19, 03.08.04-21, and 03.08.04-27). Supplement 9 sent on November 17, 2011, and Supplement 10 sent on March 16, 2012, provided a revised schedule for the remaining 5 questions. Supplement 11, which was sent on April 26, 2013, provided a schedule for two questions that were omitted from previous E-mails and provided a revised schedule for the responses to two other questions. Supplement 12 was submitted on June 13, 2013, and provided a complete final response to two questions (03.08.04-26 and 03.08.04-27). Supplement 13 provided a complete final response to Question 03.08.04-17 on June 27, 2013. Supplement 14 provided a revised schedule for the final response to two questions (03.08.04-15 and 03.08.04-21).

The schedule for a technically correct and complete final response to two questions (03.08.04-15 and 03.08.04-21) has been changed as provided below. The schedule for the other two questions remains unchanged.

<b>Question #</b>	<b>Response Date</b>
RAI 445 — 03.08.04-15	July 23, 2013
RAI 445 — 03.08.04-19	<b>July 12, 2013</b>
RAI 445 — 03.08.04-20	<b>August 9, 2013</b>
RAI 445 — 03.08.04-21	July 23, 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](mailto:Dennis.Williford@areva.com)

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**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Friday, June 28, 2013 6:46 PM  
**To:** [Amy.Snyder@nrc.gov](mailto:Amy.Snyder@nrc.gov)  
**Cc:** [Michael.Miernicki@nrc.gov](mailto:Michael.Miernicki@nrc.gov); ANDERSON Katherine (External AREVA NP INC.); DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); KANE Steve M (EXT)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 14

Amy,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 445 on October 29, 2010. Supplement 1 was submitted to the NRC on January 27, 2011, Supplement 2 on February 25, 2011, and Supplement 3 on March 23, 2011 to revise the schedule. Supplement 4, submitted to the NRC on April 14, 2011, provided complete responses to 3 of the 13 remaining questions and a revised schedule for Question 03.08.04-20. Supplement 5 sent on April 22, 2011, and Supplement 6 sent on May 31, 2011, provided a revised schedule for the 10 remaining questions. Supplement 7 sent on July 8, 2011 provided final responses to 5 questions and interim responses to the remaining 5 questions. Supplement 8 sent on August 15, 2011 provided revised final responses to 3 questions (03.08.04-18, 03.08.04-25, and 03.08.04-26), and revised interim responses to 3 questions (03.08.04-19, 03.08.04-21, and 03.08.04-27). Supplement 9 sent on November 17, 2011, and Supplement 10 sent on March 16, 2012, provided a revised schedule for the remaining 5 questions. Supplement 11, which was sent on April 26, 2013, provided a schedule for two questions that were omitted from previous E-mails and provided a revised schedule for the responses to two other questions. Supplement 12 was submitted on June 13, 2013, and provided a complete

final response to two questions (03.08.04-26 and 03.08.04-27). Supplement 13 provided a complete final response to Question 03.08.04-17 on June 27, 2013.

The table below provides a revised schedule for a final response for two questions (03.08.04-15 and 03.08.04-21). The schedule for the other two questions remains unchanged.

Question #	Response Date
RAI 445 — 03.08.04-15	<b>July 23, 2013</b>
RAI 445 — 03.08.04-19	July 9, 2013
RAI 445 — 03.08.04-20	July 9, 2013
RAI 445 — 03.08.04-21	<b>July 23, 2013</b>

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](mailto:Dennis.Williford@areva.com)

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**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Thursday, June 27, 2013 5:41 PM  
**To:** [Amy.Snyder@nrc.gov](mailto:Amy.Snyder@nrc.gov)  
**Cc:** [Michael.Miernicki@nrc.gov](mailto:Michael.Miernicki@nrc.gov); ANDERSON Katherine (External AREVA NP INC.); DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); KANE Steve M (EXT)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 13

Amy,

AREVA NP Inc. letter NRC:13:047 dated June 27, 2013 provides a technically correct and complete final response to one question in RAI 445 (Question 03.08.04-17). The response also include a redline-strikeout version of the affected pages of AREVA Technical Report TN-Rack.0101. AREVA Transnuclear, Inc. has determined that some of the material contained in the response is proprietary. The affidavit for the response is provided, as required by 10 CFR 2.390(b), to support the withholding of the information from public disclosure. Proprietary and non-proprietary versions of the enclosure to this letter are provided separately.

The following table indicates the respective pages that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 445 – 03.08.04-17	2	4

The schedule for a final response to the remaining four questions is unchanged, as shown in the following table.

Question #	Response Date
RAI 445 – 03.08.04-15	June 28, 2013
RAI 445 – 03.08.04-19	July 9, 2013
RAI 445 – 03.08.04-20	July 9, 2013
RAI 445 – 03.08.04-21	June 28, 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  
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**From:** RYAN Tom (RS/NB)  
**Sent:** Thursday, June 13, 2013 4:55 PM  
**To:** [Amy.Snyder@nrc.gov](mailto:Amy.Snyder@nrc.gov)  
**Cc:** [Michael.Miernicki@nrc.gov](mailto:Michael.Miernicki@nrc.gov); ANDERSON Katherine (External AREVA NP INC.); DELANO Karen (RS/NB); HONMA George (EXT); LEIGHLITER John (RS/NB); LEWIS Ray (External RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); SHEPHERD Tracey (RS/NB); VANCE Brian (RS/NB); GUCWA Len (External RS/NB); HARRINGTON James (EP/PE); KANE Steve M (EXT)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 12

Amy,

AREVA NP Inc. letter NRC:13:037 dated June 13, 2013 provides final responses to Questions 03.08.04-26 and 03.08.04-27. The responses also include a redline-strikeout version of the affected pages of AREVA Technical Report TN-Rack.0101. AREVA Transnuclear, Inc. has determined that some of the material contained in the responses is proprietary. The affidavit for the response is provided, as required by 10 CFR 2.390(b), to support the withholding of the information from public disclosure. A proprietary version of the enclosure to this letter is provided separately.

The following table indicates the respective pages that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 445 – 03.08.04-26	2	3
RAI 445 – 03.08.04-27	4	6

The schedule for a final response to the remaining five questions is unchanged, as shown in the following table.

Question #	Response Date
RAI 445 – 03.08.04-15	June 28, 2013
RAI 445 – 03.08.04-17	June 28, 2013
RAI 445 – 03.08.04-19	July 9, 2013
RAI 445 – 03.08.04-20	July 9, 2013
RAI 445 – 03.08.04-21	June 28, 2013

Sincerely,

**Tom Ryan**  
Project Engineer

Regulatory Affairs

**AREVA NP**

An AREVA and Siemens company

7207 IBM Drive - CLT2B

Charlotte, NC 28262

Phone: 704-805-2643, Cell : 704-292-5627

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**From:** WILLIFORD Dennis (RS/NB)

**Sent:** Friday, April 26, 2013 2:33 PM

**To:** [Amy.Snyder@nrc.gov](mailto:Amy.Snyder@nrc.gov)

**Cc:** [Michael.Miernicki@nrc.gov](mailto:Michael.Miernicki@nrc.gov); ANDERSON Katherine (External AREVA NP INC.); DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); KANE Steve M (EXT)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 11

Amy,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 445 on October 29, 2010. Supplement 1 was submitted to the NRC on January 27, 2011, Supplement 2 on February 25, 2011, and Supplement 3 on March 23, 2011 to revise the schedule. Supplement 4, submitted to the NRC on April 14, 2011, provided complete responses to 3 of the 13 remaining questions and a revised schedule for Question 03.08.04-20. Supplement 5 sent on April 22, 2011, and Supplement 6 sent on May 31, 2011, provided a revised schedule for the 10 remaining questions. Supplement 7 sent on July 8, 2011 provided final responses to 5 questions and interim responses to the remaining 5 questions. Supplement 8 sent on August 15, 2011 provided revised final responses to 3 questions (03.08.04-18, 03.08.04-25, and 03.08.04-26), and revised interim responses to 3 questions (03.08.04-19, 03.08.04-21, and 03.08.04-27). Supplement 9 sent on November 17, 2011, and Supplement 10 sent on March 16, 2012, provided a revised schedule for the remaining 5 questions.

Based on further review of prior responses to Questions 03.08.04-17 and 03.08.04-26 provided in Supplements 7 and 8, we discovered that these were interim rather than final responses and a final response to these questions was still required. The table provided below gives a schedule for a final response for these two questions. In addition, the schedule for a technically correct and complete response to Questions 03.08.04-19 and 03.08.04-20 has been changed as provided below. The schedule for the other 3 questions remains unchanged.

Question #	Response Date
RAI 445 — 03.08.04-15	June 28, 2013
RAI 445 — 03.08.04-17	<b>June 28, 2013</b>
RAI 445 — 03.08.04-19	<b>July 9, 2013</b>
RAI 445 — 03.08.04-20	<b>July 9, 2013</b>
RAI 445 — 03.08.04-21	June 28, 2013
RAI 445 — 03.08.04-26	<b>June 28, 2013</b>
RAI 445 — 03.08.04-27	June 28, 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](mailto:Dennis.Williford@areva.com)

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**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Friday, March 16, 2012 12:05 PM  
**To:** [Getachew.Tesfaye@nrc.gov](mailto:Getachew.Tesfaye@nrc.gov)  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); NOXON David (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 10

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 445 on October 29, 2010. Supplement 1 was submitted to the NRC on January 27, 2011, Supplement 2 on February 25, 2011, and Supplement 3 on March 23, 2011 to revise the schedule. Supplement 4, submitted to the NRC on April 14, 2011, provided complete responses to 3 of the 13 remaining questions and a revised schedule for Question 03.08.04-20. Supplement 5 sent on April 22, 2011, and Supplement 6 sent on May 31, 2011, provided a revised schedule for the 10 remaining questions. Supplement 7 sent on July 8, 2011 provided final responses to 5 questions and interim responses to the remaining 5 questions. Supplement 8 sent on August 15, 2011 provided revised final responses to 3 questions (03.08.04-18, 03.08.04-25, and 03.08.04-26), and revised interim responses to 3 questions (03.08.04-19, 03.08.04-21, and 03.08.04-27). Supplement 9 sent on November 17, 2011 provided a revised schedule for the remaining 5 questions.

The schedule for a technically correct and complete response to the remaining 5 questions has been changed as provided below. This schedule was transmitted to the NRC in AREVA NP letter NRC:12:008 dated February 21, 2012.

<b>Question #</b>	<b>Response Date</b>
RAI 445 — 03.08.04-15	<b>June 28, 2013</b>
RAI 445 — 03.08.04-19	<b>June 28, 2013</b>
RAI 445 — 03.08.04-20	<b>June 28, 2013</b>
RAI 445 — 03.08.04-21	<b>June 28, 2013</b>
RAI 445 — 03.08.04-27	<b>June 28, 2013</b>

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](mailto:Dennis.Williford@areva.com)

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**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Thursday, November 17, 2011 4:37 PM  
**To:** [Getachew.Tesfaye@nrc.gov](mailto:Getachew.Tesfaye@nrc.gov)  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); NOXON David (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 9

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 445 on October 29, 2010. Supplement 1 was submitted to the NRC on January 27, 2011, Supplement 2 on February 25, 2011, and Supplement 3 on March 23, 2011 to revise the schedule. Supplement 4, submitted to the NRC on April 14, 2011, provided complete responses to 3 of the 13 remaining questions and a revised schedule for Question 03.08.04-20. Supplement 5 sent on April 22, 2011, and Supplement 6 sent on May 31, 2011, provided a revised schedule for the 10 remaining questions. Supplement 7 sent on July 8, 2011 provided final responses to 5 questions and interim responses to the remaining 5 questions. Supplement 8 sent on August 15, 2011 provided revised final responses to 3 questions (03.08.04-18, 03.08.04-25, and 03.08.04-26), and revised interim responses to 3 questions (03.08.04-19, 03.08.04-21, and 03.08.04-27).

The schedule for a technically correct and complete final response to the remaining 5 questions in RAI 445 has been changed as provided below.

Question #	Response Date
RAI 445 — 03.08.04-15	<b>May 24, 2012</b>
RAI 445 — 03.08.04-19	<b>May 24, 2012</b>
RAI 445 — 03.08.04-20	<b>May 24, 2012</b>
RAI 445 — 03.08.04-21	<b>May 24, 2012</b>
RAI 445 — 03.08.04-27	<b>May 24, 2012</b>

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](mailto:Dennis.Williford@areva.com)

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**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Monday, August 15, 2011 2:48 PM  
**To:** [Getachew.Tesfaye@nrc.gov](mailto:Getachew.Tesfaye@nrc.gov)  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); NOXON David (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 8

Getachew,

AREVA NP Inc. letter NRC:11:086 dated August 15, 2011 provides technically correct and complete final responses to 3 questions (03.08.04-18, 03.08.04-25, and 03.08.04-26), and revised interim responses to 3 questions (03.08.04-19, 03.08.04-21, and 03.08.04-27). The final responses to Questions 03.08.04-18, 03.08.04-25, and 03.08.04-26 supercede the responses to these questions provided in RAI 445 Supplements 4 and 7. AREVA considers some of the material contained in the response to be proprietary information. As required by 10 CFR 2.390(b), an affidavit is provided to support the withholding of the proprietary information from public disclosure. Proprietary and non-proprietary versions of the enclosure to this letter are provided separately.

The following table indicates the respective pages in the enclosure that contain AREVA NP's response to the subject questions.

Question #	Start	End Page
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	<b>Page</b>	
RAI 445 — 03.08.04-18 (Final)	2	3
RAI 445 — 03.08.04-19 (Interim)	4	24
RAI 445 — 03.08.04-21 (Interim)	25	27
RAI 445 — 03.08.04-25 (Final)	28	28
RAI 445 — 03.08.04-26 (Final)	29	29
RAI 445 — 03.08.04-27 (Interim)	30	32

The schedule for a technically correct and complete response to the remaining 5 questions in RAI 445 is unchanged as provided below:

Question #	Response Date
RAI 445 — 03.08.04-15	November 15, 2011
RAI 445 — 03.08.04-19	November 15, 2011
RAI 445 — 03.08.04-20	November 15, 2011
RAI 445 — 03.08.04-21	November 15, 2011
RAI 445 — 03.08.04-27	November 15, 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](mailto:Dennis.Williford@areva.com)

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**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Friday, July 08, 2011 11:46 AM  
**To:** 'Tsfaye, Getachew'  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); NOXON David (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 7

Getachew,

AREVA NP Inc. letter NRC 11:071 dated June 8, 2011 provides technically correct and complete final responses to 5 questions (03.08.04-16, 03.08.04-17, 03.08.04-18, 03.08.04-22 and 03.08.04-26), and interim responses to 5 questions (03.08.04-15, 03.08.04-19, 03.08.04-20, 03.08.04-21, and 03.08.04-27). AREVA considers some of the material contained in the response to be proprietary information. As required by 10 CFR 2.390(b), an affidavit is provided to support the withholding of the proprietary information from public disclosure. Proprietary and non-proprietary versions of the enclosure to this letter are provided separately.

The following table indicates the respective pages in the enclosure that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 445 — 03.08.04-15 (Interim)	2	18
RAI 445 — 03.08.04-16 (Final)	19	19
RAI 445 — 03.08.04-17 (Final)	20	22
RAI 445 — 03.08.04-18 (Final)	23	24
RAI 445 — 03.08.04-19 (Interim)	25	45
RAI 445 — 03.08.04-20 (Interim)	46	64
RAI 445 — 03.08.04-21 (Interim)	65	67
RAI 445 — 03.08.04-22 (Final)	68	69
RAI 445 — 03.08.04-26 (Final)	70	70
RAI 445 — 03.08.04-27 (Interim)	71	73

The schedule for a technically correct and complete final response to the remaining 5 questions in RAI 445 has been changed as provided below:

<b>Question #</b>	<b>Response Date</b>
RAI 445 — 03.08.04-15 (Final)	<b>November 15, 2011</b>
RAI 445 — 03.08.04-19 (Final)	<b>November 15, 2011</b>
RAI 445 — 03.08.04-20 (Final)	<b>November 15, 2011</b>
RAI 445 — 03.08.04-21 (Final)	<b>November 15, 2011</b>
RAI 445 — 03.08.04-27 (Final)	<b>November 15, 2011</b>

The interim responses contain commitments to update Technical Report TN-Rack.0101. Revision 1 of Technical Report TN-Rack.0101 will be provided by September 16, 2011 to support the U.S. EPR design certification, Phase 2, Chapter 3 SER. Revision 2 of the Technical Report TN-Rack.0101 will be provided by November 15, 2011, to support the U.S. EPR design certification, Phase 4, Chapter 3 SER.

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](mailto:Dennis.Williford@areva.com)

---

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Tuesday, May 31, 2011 1:45 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. 445, FSAR Ch. 3, Supplement 6

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 445 on October 29, 2010. Supplement 1 was submitted to the NRC on January 27, 2011, Supplement 2 on February 25, 2011, and Supplement 3 on March 23, 2011 to revise the schedule. Supplement 4, submitted to the NRC on April 14, 2011, provided complete responses to 3 of the 13 remaining questions and a revised schedule for Question 03.08.04-20. Supplement 5 was submitted on April 22, 2011 to revise the schedule for 9 of the 10 questions.

To allow additional time to address NRC comments resulting from the audit of the fuel racks conducted April 27th - April 29th, the schedule for a technically correct and complete response to the remaining 10 questions in RAI 445 has been changed as provided below.

<b>Question #</b>	<b>Response Date</b>
RAI 445 — 03.08.04-15	<b>July 8, 2011</b>
RAI 445 — 03.08.04-16	<b>July 8, 2011</b>
RAI 445 — 03.08.04-17	<b>July 8, 2011</b>
RAI 445 — 03.08.04-18	<b>July 8, 2011</b>
RAI 445 — 03.08.04-19	<b>July 8, 2011</b>
RAI 445 — 03.08.04-20	<b>July 8, 2011</b>
RAI 445 — 03.08.04-21	<b>July 8, 2011</b>
RAI 445 — 03.08.04-22	<b>July 8, 2011</b>
RAI 445 — 03.08.04-26	<b>July 8, 2011</b>

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](mailto:Dennis.Williford@areva.com)

---

**From:** WELLS Russell (RS/NB)  
**Sent:** Friday, April 22, 2011 4:01 PM  
**To:** 'Tesfaye, Getachew'  
**Cc:** WILLIFORD Dennis (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. 445, FSAR Ch. 3, Supplement 5

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 445 on October 29, 2010. Supplement 1 was submitted to the NRC on January 27, 2011, Supplement 2 on February 25, 2011, and Supplement 3 on March 23, 2011 to revise the schedule. Supplement 4, submitted to the NRC on April 14, 2011, provided complete responses to 3 of the 13 remaining questions and a revised schedule for Question 03.08.04-20.

To allow additional time to interact with NRC staff during the audit of the fuel racks scheduled for April 27th through April 29th, the schedule for a technically correct and complete response to 9 of the 10 questions has been changed as provided below. The schedule for a technically correct and complete response to the remaining question is unchanged as provided below.

Question #	Response Date
RAI 445 — 03.08.04-15	<b>May 31, 2011</b>
RAI 445 — 03.08.04-16	<b>May 31, 2011</b>
RAI 445 — 03.08.04-17	<b>May 31, 2011</b>
RAI 445 — 03.08.04-18	<b>May 31, 2011</b>
RAI 445 — 03.08.04-19	<b>May 31, 2011</b>
RAI 445 — 03.08.04-20	May 31, 2011
RAI 445 — 03.08.04-21	<b>May 31, 2011</b>
RAI 445 — 03.08.04-22	<b>May 31, 2011</b>
RAI 445 — 03.08.04-26	<b>May 31, 2011</b>
RAI 445 — 03.08.04-27	<b>May 31, 2011</b>

*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](mailto:Russell.Wells@Areva.com)

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**From:** WELLS Russell (RS/NB)

**Sent:** Thursday, April 14, 2011 2:00 PM

**To:** 'Tesfaye, Getachew'

**Cc:** WILLIFORD Dennis (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. 445, FSAR Ch. 3, Supplement 4

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 445 on October 29, 2010. Supplement 1 was submitted to the NRC on January 27, 2011, Supplement 2 on February 25, 2011, and Supplement 3 on March 23, 2011 to revise the schedule. The attached file, "RAI 445 Supplement 4 Response US EPR DC.pdf" provides a technically correct and complete final response to 3 of the 13 questions.

Appended to this file are affected pages of the U.S. EPR New and Spent Fuel Storage Rack Technical Report, TN-Rack.0101, in redline-strikeout format which support the response to RAI 445 Question 03.08.04-24.

The following table indicates the respective pages in the response document, "RAI 445 Supplement 4 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 445 — 03.08.04-23	2	3
RAI 445 — 03.08.04-24	4	5
RAI 445 — 03.08.04-25	6	6

To allow additional time to interact with NRC staff, the schedule for a technically correct and complete response to Question 03.08.04-20 has been changed and is provided below. The schedule for a technically correct and complete response to the remaining questions is unchanged as provided below.

Question #	Response Date
RAI 445 — 03.08.04-15	April 28, 2011
RAI 445 — 03.08.04-16	April 28, 2011
RAI 445 — 03.08.04-17	April 28, 2011
RAI 445 — 03.08.04-18	April 28, 2011
RAI 445 — 03.08.04-19	April 28, 2011
RAI 445 — 03.08.04-20	<b>May 31, 2011</b>
RAI 445 — 03.08.04-21	April 28, 2011
RAI 445 — 03.08.04-22	April 28, 2011
RAI 445 — 03.08.04-26	April 28, 2011
RAI 445 — 03.08.04-27	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*

*Phone: 434-832-3884 (work)*

*434-942-6375 (cell)*

*Fax: 434-382-3884*

[Russell.Wells@Areva.com](mailto:Russell.Wells@Areva.com)

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**From:** WELLS Russell (RS/NB)

**Sent:** Wednesday, March 23, 2011 10:53 AM

**To:** 'Tesyfaye, Getachew'

**Cc:** WILLIFORD Dennis (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. 445, FSAR Ch. 3, Supplement 3

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 445 on October 29, 2010. Supplement 1 was submitted to the NRC on January 27, 2011 and Supplement 2 on February 25, 2011 to revise the schedule. To allow additional time to interact with NRC staff, the schedule has been revised.

The schedule for technically correct and complete responses has been revised and is provided below:

<b>Question #</b>	<b>Response Date</b>
RAI 445 — 03.08.04-15	<b>April 28, 2011</b>
RAI 445 — 03.08.04-16	<b>April 28, 2011</b>
RAI 445 — 03.08.04-17	<b>April 28, 2011</b>
RAI 445 — 03.08.04-18	<b>April 28, 2011</b>
RAI 445 — 03.08.04-19	<b>April 28, 2011</b>
RAI 445 — 03.08.04-20	April 15, 2011
RAI 445 — 03.08.04-21	<b>April 28, 2011</b>
RAI 445 — 03.08.04-22	<b>April 28, 2011</b>
RAI 445 — 03.08.04-23	<b>April 28, 2011</b>
RAI 445 — 03.08.04-24	<b>April 28, 2011</b>
RAI 445 — 03.08.04-25	<b>April 28, 2011</b>
RAI 445 — 03.08.04-26	<b>April 28, 2011</b>
RAI 445 — 03.08.04-27	<b>April 28, 2011</b>

*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](mailto:Russell.Wells@Areva.com)

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**From:** WELLS Russell (RS/NB)  
**Sent:** Friday, February 25, 2011 10:15 AM  
**To:** 'Tesfaye, Getachew'  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BRYAN Martin (External RS/NB); WILLIFORD Dennis (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 2

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 445 on October 29, 2010. Supplement 1 was submitted to the NRC on January 27, 2011 to revise the schedule. To allow additional time to interact with NRC staff, the schedule has been revised.

The schedule for technically correct and complete responses has been revised and is provided below:

<b>Question #</b>	<b>Response Date</b>
RAI 445 — 03.08.04-15	<b>March 29, 2011</b>
RAI 445 — 03.08.04-16	<b>March 29, 2011</b>
RAI 445 — 03.08.04-17	<b>March 29, 2011</b>
RAI 445 — 03.08.04-18	<b>March 29, 2011</b>
RAI 445 — 03.08.04-19	<b>March 29, 2011</b>
RAI 445 — 03.08.04-20	April 15, 2011
RAI 445 — 03.08.04-21	<b>March 29, 2011</b>
RAI 445 — 03.08.04-22	<b>March 29, 2011</b>
RAI 445 — 03.08.04-23	<b>March 29, 2011</b>
RAI 445 — 03.08.04-24	<b>March 29, 2011</b>
RAI 445 — 03.08.04-25	<b>March 29, 2011</b>
RAI 445 — 03.08.04-26	<b>March 29, 2011</b>
RAI 445 — 03.08.04-27	<b>March 29, 2011</b>

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](mailto:Russell.Wells@Areva.com)

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**From:** BRYAN Martin (External RS/NB)  
**Sent:** Thursday, January 27, 2011 12:11 PM  
**To:** 'Tesfaye, Getachew'  
**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); WILLIFORD Dennis (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 1

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 445 on October 29, 2010. To allow additional time to finalize the responses and interact with NRC staff, the schedule has been revised. The response for RAI 445, Question 03.08.04-20 has been revised to allow time to complete additional analyses and provide the results in order to address NRC concerns.

The schedule for technically correct and complete responses has been revised and is provided below:

<b>Question #</b>	<b>Response Date</b>
RAI 445 — 03.08.04-15	<b>February 28, 2011</b>
RAI 445 — 03.08.04-16	<b>February 28, 2011</b>
RAI 445 — 03.08.04-17	<b>February 28, 2011</b>
RAI 445 — 03.08.04-18	<b>February 28, 2011</b>
RAI 445 — 03.08.04-19	<b>February 28, 2011</b>
RAI 445 — 03.08.04-20	<b>April 15, 2011</b>
RAI 445 — 03.08.04-21	<b>February 28, 2011</b>
RAI 445 — 03.08.04-22	<b>February 28, 2011</b>
RAI 445 — 03.08.04-23	<b>February 28, 2011</b>
RAI 445 — 03.08.04-24	<b>February 28, 2011</b>
RAI 445 — 03.08.04-25	<b>February 28, 2011</b>
RAI 445 — 03.08.04-26	<b>February 28, 2011</b>
RAI 445 — 03.08.04-27	<b>February 28, 2011</b>

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](mailto:Martin.Bryan.ext@areva.com)

---

**From:** BRYAN Martin (External RS/NB)  
**Sent:** Friday, October 29, 2010 4:03 PM  
**To:** 'Tesfaye, Getachew'  
**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); WILLIFORD Dennis (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3

Getachew,



Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 445 Response US EPR DC.pdf" provides a schedule since a technically correct and complete response to the 13 questions can not be provided at this time.

The following table indicates the respective pages in the response document, "RAI 445 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 445 — 03.08.04-15	2	3
RAI 445 — 03.08.04-16	4	4
RAI 445 — 03.08.04-17	5	5
RAI 445 — 03.08.04-18	6	6
RAI 445 — 03.08.04-19	7	8
RAI 445 — 03.08.04-20	9	9
RAI 445 — 03.08.04-21	10	10
RAI 445 — 03.08.04-22	11	11
RAI 445 — 03.08.04-23	12	12
RAI 445 — 03.08.04-24	13	13
RAI 445 — 03.08.04-25	14	14
RAI 445 — 03.08.04-26	15	15
RAI 445 — 03.08.04-27	16	16

A complete answer is not provided for the 13 questions. The schedule for a technically correct and complete response to these questions is provided below.

<b>Question #</b>	<b>Response Date</b>
RAI 445 — 03.08.04-15	January 27, 2011
RAI 445 — 03.08.04-16	January 27, 2011
RAI 445 — 03.08.04-17	January 27, 2011
RAI 445 — 03.08.04-18	January 27, 2011
RAI 445 — 03.08.04-19	January 27, 2011
RAI 445 — 03.08.04-20	January 27, 2011
RAI 445 — 03.08.04-21	January 27, 2011
RAI 445 — 03.08.04-22	January 27, 2011
RAI 445 — 03.08.04-23	January 27, 2011
RAI 445 — 03.08.04-24	January 27, 2011
RAI 445 — 03.08.04-25	January 27, 2011
RAI 445 — 03.08.04-26	January 27, 2011
RAI 445 — 03.08.04-27	January 27, 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](mailto:Martin.Bryan.ext@areva.com)

---

**From:** Tesfaye, Getachew [<mailto:Getachew.Tesfaye@nrc.gov>]  
**Sent:** Friday, October 01, 2010 10:05 AM  
**To:** ZZ-DL-A-USEPR-DL  
**Cc:** Xu, Jim; Hawkins, Kimberly; Miernicki, Michael; Colaccino, Joseph; ArevaEPRDCPEm Resource  
**Subject:** U.S. EPR Design Certification Application RAI No. 445 (5083), FSARCh. 3

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on September 16, 2010, and on September 30, 2010, you informed us that the RAI is clear and no further clarification is needed. You also pointed out that the staff has inadvertently included proprietary information in some of the questions. As a result, Draft RAI Questions 03.08.04-17, 03.08.04-18, 03.08.04-19, 03.08.04-20, and 03.08.04-26 were modified. 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:** 4619

**Mail Envelope Properties** (554210743EFE354B8D5741BEB695E6561E0D6C)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 445, FSAR Ch. 3, Supplement 17  
**Sent Date:** 7/23/2013 5:28:24 PM  
**Received Date:** 7/23/2013 5:28:29 PM  
**From:** WILLIFORD Dennis (AREVA)

**Created By:** Dennis.Williford@areva.com

**Recipients:**

"Miernicki, Michael" <Michael.Miernicki@nrc.gov>

Tracking Status: None

"ANDERSON Katherine (EXTERNAL AREVA)" <katherine.anderson.ext@areva.com>

Tracking Status: None

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

Tracking Status: None

"LEIGHLITER John (AREVA)" <John.Leighliter@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

"KANE Steve (EXTERNAL AREVA)" <Steve.Kane.ext@areva.com>

Tracking Status: None

"Snyder, Amy" <Amy.Snyder@nrc.gov>

Tracking Status: None

**Post Office:** FUSLYNCMX03.fdom.ad.corp

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	39857	7/23/2013 5:28:29 PM

**Options**

**Priority:** Standard

**Return Notification:** No

**Reply Requested:** No

**Sensitivity:** Normal

**Expiration Date:**

**Recipients Received:**