

## ArevaEPRDCPEm Resource

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**From:** Miernicki, Michael  
**Sent:** Tuesday, November 12, 2013 2:12 PM  
**To:** ArevaEPRDCPEm Resource  
**Subject:** FW: Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 42 (Part 2 of 3)  
**Attachments:** RAI 354 Supplement 42 Response - US EPR DC Part 2 of 3.pdf

Michael J. Miernicki  
Sr. Project Manager  
NRC/NRO/DNRL/LB1  
301-415-2304

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**From:** HOTTLE Nathan (AREVA) [mailto:Nathan.Hottle@areva.com]  
**Sent:** Tuesday, October 29, 2013 11:19 AM  
**To:** Miernicki, Michael  
**Cc:** Gleaves, Bill; RANSOM Jim (AREVA); LEIGHLITER John (AREVA); UYEDA Graydon (AREVA); GUCWA Len (EXTERNAL AREVA); RYAN Tom (AREVA); LOSEKE Brian (AREVA); ROMINE Judy (AREVA); DELANO Karen (AREVA)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 42 (Part 2 of 3)

Mike,

Attached is Part 2 of 3 of the Response for RAI 354, Question 03.08.05-22.

Sincerely,

*Nathan Hottle*

AREVA Inc.  
3315 Old Forest Road  
Lynchburg, VA 24501  
Phone 434-832-3864  
Mobile 434-485-4239  
[nathan.hottle@areva.com](mailto:nathan.hottle@areva.com)

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**From:** HOTTLE Nathan (EP/PE)  
**Sent:** Tuesday, October 29, 2013 11:17 AM  
**To:** [michael.miernicki@nrc.gov](mailto:michael.miernicki@nrc.gov)  
**Cc:** [bill.gleaves@nrc.gov](mailto:bill.gleaves@nrc.gov); RANSOM Jim (RS/NB); LEIGHLITER John (RS/NB); UYEDA Graydon (EP/PE); GUCWA Len (External RS/NB); RYAN Tom (RS/NB); LOSEKE Brian (EP/PE); ROMINE Judy (RS/NB); DELANO Karen (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 42 (Part 1 of 3)

Mike,

The attached file, "RAI 354 Supplement 42 Response - US EPR DC Part 1 of 3.pdf," and the subsequent 2 e-mails provide a technically correct and complete response to one question in RAI 354 (Question 03.08.05-22). Due to the file size, the remaining parts will be provided in two subsequent e-mails. Appended to this file are the affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 354 Question 03.08.05-22.

The following table indicates the respective pages in the response document, "RAI 354 Supplement 42 Response - US EPR DC Part 1 of 3.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 — 03.08.05-22	2	10

This completes the formal AREVA NP response to RAI 354. There are no additional questions associated with this RAI.

Sincerely,

*Nathan Hottle*

AREVA Inc.

3315 Old Forest Road

Lynchburg, VA 24501

Phone 434-832-3864

Mobile 434-485-4239

[nathan.hottle@areva.com](mailto:nathan.hottle@areva.com)

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

**Sent:** Monday, July 29, 2013 5:46 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); HONMA George (EXT); HOTTLE Nathan (EP/PE); KOWALSKI David (RS/NB); LENTZ Tony (External RS/NB); GUCWA Len (External RS/NB)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 41

Amy,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement

21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35). On October 28, 2011, AREVA NP submitted Supplement 30 to provide a revised schedule for the final response to the remaining question. On December 12, 2011, AREVA NP submitted Supplement 31; on January 31, 2012, AREVA NP submitted Supplement 32; and on February 21, 2012, AREVA NP submitted Supplement 33 to provide a revised schedule for the final response to the remaining question. On March 14, 2012, AREVA NP submitted Supplement 34 to provide a revised final response to Question 03.08.05-22. On June 5, 2012, AREVA NP submitted Supplement 35 to provide a revised schedule for the remaining question (Question 03.06.02-35). On February 26, 2013, AREVA NP submitted Supplement 36 to provide a schedule date for a revised Question 03.08.02-11. On June 14, 2013, AREVA NP submitted Supplement 37 to provide a schedule for a revised response to Question 03.08.02-12. On June 25, 2013, AREVA NP submitted Supplement 38 to provide a revised schedule for supplemental responses to Questions 03.08.02-13 and 03.08.05-22. On July 23, 2013, AREVA NP submitted Supplement 39 to provide a technically correct and complete response to two questions in RAI 354 (Question 03.08.02-11 and Question 03.08.02-13). On July 29, 2013, AREVA NP submitted Supplement 40 to provide a technically correct and complete response to Question 03.06.02-35.

The attached file, "RAI 354 Supplement 41 Response US EPR DC.pdf," provides a technically correct and complete response to one question in RAI 354 (Question 03.08.02-12).

The following table indicates the respective pages in the response document, "RAI 354 Supplement 41 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 — 03.08.02-12	2	3

The schedule for the final response to the remaining question is unchanged as shown below.

Question #	Final Response Date
RAI 354 — 03.08.05-22	August 30, 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)

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Monday, July 29, 2013 5:39 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); HONMA George (EXT); HOTTLE Nathan (EP/PE); KOWALSKI David (RS/NB); LENTZ Tony (External RS/NB); GUCWA Len (External RS/NB)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 40

Amy,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, 2011, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35). On October 28, 2011, AREVA NP submitted Supplement 30 to provide a revised schedule for the final response to the remaining question. On December 12, 2011, AREVA NP submitted Supplement 31; on January 31, 2012, AREVA NP submitted Supplement 32; and on February 21, 2012, AREVA NP submitted Supplement 33 to provide a revised schedule for the final response to the remaining question. On March 14, 2012, AREVA NP submitted Supplement 34 to provide a revised final response to Question 03.08.05-22. On June 5, 2012, AREVA NP submitted Supplement 35 to provide a revised schedule for the remaining question (Question 03.06.02-35). On February 26, 2013, AREVA NP submitted Supplement 36 to provide a schedule date for a revised Question 03.08.02-11. On June 14, 2013, AREVA NP submitted Supplement 37 to provide a schedule for a revised response to Question 03.08.02-12. On June 25, 2013, AREVA NP submitted Supplement 38 to provide a revised schedule for supplemental responses to Questions 03.08.02-13 and 03.08.05-22. On July 23, 2013, AREVA NP submitted Supplement 39 to provide

a technically correct and complete response to two questions in RAI 354 (Question 03.08.02-11 and Question 03.08.02-13).

The attached file, "RAI 354 Supplement 40 Response US EPR DC.pdf," provides a technically correct and complete response to one question in RAI 354 (Question 03.06.02-35). 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 354, Question 03.06.02-35.

The following table indicates the respective pages in the response document, "RAI 354 Supplement 40 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 — 03.06.02-35	2	5

The schedule for the final response to the remaining two questions is unchanged as shown below.

Question #	Final Response Date
RAI 354 — 03.08.02-12	August 1, 2013
RAI 354 — 03.08.05-22	August 30, 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)

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Tuesday, July 23, 2013 5:15 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); HONMA George (EXT)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 39

Amy,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010,

AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35). On October 28, 2011, AREVA NP submitted Supplement 30 to provide a revised schedule for the final response to the remaining question. On December 12, 2011, AREVA NP submitted Supplement 31; on January 31, 2012, AREVA NP submitted Supplement 32; and on February 21, 2012, AREVA NP submitted Supplement 33 to provide a revised schedule for the final response to the remaining question. On March 14, 2012, AREVA NP submitted Supplement 34 to provide a revised final response to Question 03.08.05-22. On June 5, 2012, AREVA NP submitted Supplement 35 to provide a revised schedule for the remaining question (Question 03.06.02-35). On February 26, 2013, AREVA NP submitted Supplement 36 to provide a schedule date for a revised Question 03.08.02-11. On June 14, 2013, AREVA NP submitted Supplement 37 to provide a schedule for a revised response to Question 03.08.02-12. On June 25, 2013, AREVA NP submitted Supplement 38 to provide a revised schedule for supplemental responses to Questions 03.08.02-13 and 03.08.05-22.

The attached file, "RAI 354 Supplement 39 Response US EPR DC - PUBLIC.pdf" provides a technically correct and complete response to two questions in RAI 354 (Question 03.08.02-11 and Question 03.08.02-13). Because the response file contains security-related sensitive information that should be withheld from public disclosure in accordance with 10 CFR 2.390, a public version is provided with the security-related sensitive information redacted. This email and attached file do not contain any security-related information. An unredacted security-related version is provided under separate email.

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 354, Question 03.08.02-11.

The following table indicates the respective pages in the response document, "RAI 354 Supplement 39 Response US EPR DC - PUBLIC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 354 — 03.08.02-11	2	5
RAI 354 — 03.08.02-13	6	11

The schedule for the response to the remaining three questions is unchanged as shown below.

Question #	Advanced Response Date	NRC Comment Request Date	Final Response Date
RAI 354 — 03.06.02-35	N/A	N/A	July 30, 2013
RAI 354 — 03.08.02-12	June 28, 2013	July 24, 2013	August 1, 2013
RAI 354 — 03.08.05-22	June 28, 2013	August 15, 2013	August 30, 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)

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Tuesday, June 25, 2013 1:47 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); HONMA George (EXT)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 38

Amy,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement

22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35). On October 28, 2011, AREVA NP submitted Supplement 30 to provide a revised schedule for the final response to the remaining question. On December 12, 2011, AREVA NP submitted Supplement 31; on January 31, 2012, AREVA NP submitted Supplement 32; and on February 21, 2012, AREVA NP submitted Supplement 33 to provide a revised schedule for the final response to the remaining question. On March 14, 2012, AREVA NP submitted Supplement 34 to provide a revised final response to Question 03.08.05-22. On June 5, 2012, AREVA NP submitted Supplement 35 to provide a revised schedule for the remaining question (Question 03.06.02-35). On February 26, 2013, AREVA NP submitted Supplement 36 to provide a schedule date for a revised Question 03.08.02-11. On June 14, 2013, AREVA NP submitted Supplement 37 to provide a schedule for a revised response to Question 03.08.02-12.

As discussed with NRC staff during a conference call on June 11, 2013, AREVA NP committed to provide NRC a revised schedule and response for Questions 03.08.02-13 and 03.08.05-22.

The schedule for a technically correct and complete revised response to Questions 03.08.02-13 and 03.08.05-22 is provided below. The schedule for the response to the other questions remains unchanged.

Question #	Advanced Response Date	NRC Comment Request Date	Final Response Date
RAI 354 — 03.06.02-35	N/A	N/A	July 30, 2013
RAI 354 — 03.08.02-11	June 28, 2013	July 24, 2013	August 1, 2013
RAI 354 — 03.08.02-12	June 28, 2013	July 24, 2013	August 1, 2013
RAI 354 — 03.08.02-13	<b>June 28, 2013</b>	<b>July 24, 2013</b>	<b>August 1, 2013</b>
RAI 354 — 03.08.05-22	<b>June 28, 2013</b>	<b>August 15, 2013</b>	<b>August 30, 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)

**From:** RYAN Tom (RS/NB)  
**Sent:** Friday, June 14, 2013 3:42 PM  
**To:** [Amy.Snyder@nrc.gov](mailto:Amy.Snyder@nrc.gov)  
**Cc:** ANDERSON Katherine (External AREVA NP INC.); DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WILLIFORD Dennis (RS/NB); HONMA George (EXT); Miernicki, Michael; HARRINGTON James (EP/PE)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 37

Amy,



AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, 2011, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35). On October 28, 2011, AREVA NP submitted Supplement 30 to provide a revised schedule for the final response to the remaining question. On December 12, 2011, AREVA NP submitted Supplement 31; on January 31, 2012, AREVA NP submitted Supplement 32; and on February 21, 2012, AREVA NP submitted Supplement 33 to provide a revised schedule for the final response to the remaining question. On March 14, 2012, AREVA NP submitted Supplement 34 to provide a revised final response to Question 03.08.05-22. On June 5, 2012, AREVA NP submitted Supplement 35 to provide a revised schedule for the remaining question (Question 03.06.02-35). On February 26, 2013, AREVA NP submitted Supplement 36 to provide a schedule date for a revised Question 03.08.02-11.

As discussed with NRC during a conference call on June 11, 2013, AREVA NP committed to provide NRC a revised schedule and response for Question 03.08.02-12.

The schedule for a technically correct and complete revised response to Question 03.08.02-12 is provided below. The schedule for the response to the other questions remains unchanged as shown below.

Question #	Advanced Response Date	NRC Comment Request Date	Final Response Date
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Question #	Advanced Response Date	NRC Comment Request Date	Final Response Date
RAI 354 — 03.06.02-35	N/A	N/A	July 30, 2013
RAI 354 — 03.08.02-11	June 28, 2013	July 24	August 1, 2013
RAI 354 — 03.08.02-12	<b>June 28, 2013</b>	<b>July 24</b>	August 1, 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)

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Tuesday, February 26, 2013 8:15 PM  
**To:** [Amy.Snyder@nrc.gov](mailto:Amy.Snyder@nrc.gov)  
**Cc:** [Michael.Miernicki@nrc.gov](mailto:Michael.Miernicki@nrc.gov); DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WILLS Tiffany (CORP/QP)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 36

Amy,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement

22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35). On October 28, 2011, AREVA NP submitted Supplement 30 to provide a revised schedule for the final response to the remaining question. On December 12, 2011, AREVA NP submitted Supplement 31; on January 31, 2012, AREVA NP submitted Supplement 32; and on February 21, 2012, AREVA NP submitted Supplement 33 to provide a revised schedule for the final response to the remaining question. On March 14, 2012, AREVA NP submitted Supplement 34 to provide a revised final response to Question 03.08.05-22. On June 5, 2012, AREVA NP submitted Supplement 35 to provide a revised schedule for the remaining question (Question 03.06.02-35).

As provided in AREVA NP Inc. letter NRC:12:072 dated December 20, 2012 which transmitted the U.S. EPR Revised Closure Plan for Civil/Structural Open Items, AREVA NP committed to provide NRC a revised schedule and response for Question 03.08.02-11.

The schedule for a technically correct and complete revised response to Question 03.08.02-11 is provided below. The schedule for the response to the other question remains unchanged as shown below.

Question #	Interim Response Date	Response Date
RAI 354 — 03.06.02-35	August 30, 2011 (actual)	July 30, 2013
RAI 354 — 03.08.02-11	N/A	<b>August 1, 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)

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Tuesday, June 05, 2012 1:36 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); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 35

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33

through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, 2011, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35). On October 28, 2011, AREVA NP submitted Supplement 30 to provide a revised schedule for the final response to the remaining question. On December 12, 2011, AREVA NP submitted Supplement 31; on January 31, 2012, AREVA NP submitted Supplement 32; and on February 21, 2012, AREVA NP submitted Supplement 33 to provide a revised schedule for the final response to the remaining question. On March 14, 2012, AREVA NP submitted Supplement 34 to provide a revised final response to Question 03.08.05-22.

The schedule for the response to the remaining question has been changed as shown below. This schedule was transmitted to the NRC in AREVA NP letter NRC:12:024 dated May 10, 2012.

Question #	Interim Response Date	Response Date
RAI 354 — 03.06.02-35	August 30, 2011 (actual)	<b>July 30, 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)

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

**Sent:** Wednesday, March 14, 2012 2:17 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)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 34

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, 2011, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35). On October 28, 2011, AREVA NP submitted Supplement 30 to provide a revised schedule for the final response to the remaining question. On December 12, 2011, AREVA NP submitted Supplement 31; on January 31, 2012, AREVA NP submitted Supplement 32; and on February 21, 2012, AREVA NP submitted Supplement 33 to provide a revised schedule for the final response to the remaining question.

The attached file, "RAI 354 Supplement 34 Response US EPR DC.pdf" provides a technically correct revised response to Question 03.08.05-22. Appended to this file are the affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 354 Question 03.08.05-22.

The following table indicates the respective pages in the response document, "RAI 354 Supplement 34 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 — 03.08.05-22	2	2

The schedule for the response to the remaining question is unchanged as shown below.

Question #	Interim Response Date	Response Date
RAI 354 — 03.06.02-35	August 30, 2011 (actual)	August 30, 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)

---

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Tuesday, February 21, 2012 5:42 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); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 33

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question

03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35). On October 28, 2011, AREVA NP submitted Supplement 30 to provide a revised schedule for the final response to the remaining question. On December 12, 2011, AREVA NP submitted Supplement 31 and on January 31, 2012, AREVA NP submitted Supplement 32 to provide a revised schedule for the final response to the remaining question.

The schedule for the response to the remaining question has been changed as provided below. This schedule was transmitted to the NRC in AREVA NP letter 12:008 dated February 21, 2012.

Question #	Interim Response Date	Response Date
RAI 354 — 03.06.02-35	August 30, 2011 (actual)	<b>August 30, 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)

---

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Tuesday, January 31, 2012 4:44 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); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 32

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33

through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, 2011, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35). On October 28, 2011, AREVA NP submitted Supplement 30 to provide a revised schedule for the final response to the remaining question. On December 12, 2011, AREVA NP submitted Supplement 31 to provide a revised schedule for the final response to the remaining question.

The schedule for the response to the remaining question has been changed as provided below. This is a preliminary revised schedule that is being reevaluated and a new supplement with a revised schedule will be transmitted by February 21, 2012.

Question #	Interim Response Date	Response Date
RAI 354 — 03.06.02-35	August 30, 2011 (actual)	<b>February 21, 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)

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Monday, December 12, 2011 1:39 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); WELLS Russell (RS/NB)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 31

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, 2011, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35). On October 28, 2011, AREVA NP submitted Supplement 30 to provide a revised schedule for the final response to the remaining question.

The schedule for the response to the remaining question has been changed as provided below. This is a preliminary revised schedule that is being reevaluated and a new supplement with a revised schedule will be transmitted by January 31, 2012.

Question #	Interim Response Date	Response Date
RAI 354 — 03.06.02-35	August 30, 2011 (actual)	January 31, 2012

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, October 28, 2011 5:28 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); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 30

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, 2011, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule. On July 14, 2011, AREVA NP submitted Supplement 27 which provided a technically correct and complete response to Question 03.08.02-13. On July 22, 2011, AREVA NP submitted Supplement 28 which provided a technically correct and complete final response to 7 of

the 8 remaining questions of RAI 354. On August 30, 2011, AREVA NP submitted Supplement 29 which provided a technically correct and complete revised final response to Question 03.06.02-33 and an INTERIM response to the 1 remaining question (03.06.02-35).

The schedule for the response to the remaining question has been changed as provided below. This is a preliminary revised schedule for a technically correct and complete response to the remaining question. This schedule is being reevaluated and a new supplement with a revised schedule will be transmitted by December 14, 2011.

Question #	Interim Response Date	Response Date
RAI 354 — 03.06.02-35	<b>August 30, 2011 (actual)</b> (Note: E-mail transmitting Supplement 29 incorrectly stated August 25, 2011 as the actual date)	<b>December 14, 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)

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**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Tuesday, August 30, 2011 11:49 AM  
**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); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 29

Getachew,

AREVA NP Inc. letter NRC 11:094 dated August 30, 2011 provides a technically correct and complete revised final response to RAI 354 Question 03.06.02-33 and an INTERIM response to Question 03.06.02-35 to describe the AREVA NP methodology for determining applied blast loads on target structures. AREVA NP 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.

Also enclosed with this response are affected pages of the U.S. EPR Final Safety Analysis Report and ANP-10318P, "Pipe Rupture External Loading Effects on U.S. EPR Essential Structures, Systems, and Components Technical Report," in redline-strikeout format which support the response to RAI 354 Question 03.06.02-33.

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

Question #	Start Page	End Page
RAI 354 — 03.06.02-33 (FINAL)	2	16
RAI 354 — 03.06.02-35 (INTERIM)	17	23

The schedule for the technically correct and complete final response to the remaining question is unchanged and is provided below.

Question #	Interim Response Date	Response Date
RAI 354 — 03.06.02-35	August 25, 2011 (actual)	October 28, 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)

---

**From:** WELLS Russell (RS/NB)  
**Sent:** Friday, July 22, 2011 4:35 PM  
**To:** Tesfaye, Getachew  
**Cc:** MCFADEN Sherry (CORP/QP); ROMINE Judy (RS/NB); WILLIFORD Dennis (RS/NB); BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); RYAN Tom (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 28

Getachew,

AREVA NP Inc. letter NRC 11:076 dated July 22, 2011 provides a technically correct and complete final response to 7 of the 8 remaining questions of RAI 354, as shown in the below table. AREVA NP 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.

Also enclosed with this response are affected pages of the U.S. EPR Final Safety Analysis Report and ANP-10318P, "Pipe Rupture External Loading Effects on U.S. EPR Essential Structures, Systems, and Components Technical Report," in redline-strikeout format which support the response to RAI 354 Question 03.06.02-33.

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

Question #	Start Page	End Page
RAI 354 — 03.06.02-33	2	16
RAI 354 — 03.06.02-34	17	18
RAI 354 — 03.06.02-36	19	21
RAI 354 — 03.06.02-37	22	22
RAI 354 — 03.06.02-38	23	25
RAI 354 — 03.06.02-39	26	26
RAI 354 — 03.06.02-40	27	28

The schedule for the technically correct and complete final response to the remaining question has been revised and is provided below.

Question #	Response Date
RAI 354 — 03.06.02-35	October 28, 2011

Sincerely,

*Russ Wells 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](mailto:Dennis.Williford@areva.com)

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**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Thursday, July 14, 2011 10:24 AM  
**To:** Tesfaye, Getachew  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); Miernicki, Michael  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 27

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement

22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13. On June 29, 2011, AREVA NP submitted Supplement 26 to provide a revised schedule.

The attached file, "RAI 354 Supplement 27 Response US EPR DC.pdf" provides a technically correct and complete response to Question 03.08.02-13, as committed. Appended to this file are the affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 354 Question 03.08.02-13.

The following table indicates the respective pages in the response document, "RAI 354 Supplement 27 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 — 03.08.02-13	2	6

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

Question #	Response Date
RAI 354 - 03.06.02-33	July 28, 2011
RAI 354 - 03.06.02-34	July 28, 2011
RAI 354 - 03.06.02-35	July 28, 2011
RAI 354 - 03.06.02-36	July 28, 2011
RAI 354 - 03.06.02-37	July 28, 2011
RAI 354 - 03.06.02-38	July 28, 2011
RAI 354 - 03.06.02-39	July 28, 2011
RAI 354 - 03.06.02-40	July 28, 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)

---

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Wednesday, June 29, 2011 2:32 PM  
**To:** Tesfaye, Getachew  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB); CORNELL Veronica (External RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 26

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the

remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to Question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40. On June 13, AREVA NP submitted Supplement 25 to provide a revised schedule for Question 03.08.02-13.

The schedule for the response to Questions 03.06.02-33, -34, -36 through -40 is being revised. The schedule for the remaining questions is unchanged. The schedule for technically correct and complete responses to the remaining questions is provided below.

<b>Question #</b>	<b>Response Date</b>
RAI 354 - 03.08.02-13	July 14, 2011
RAI 354 - 03.06.02-33	<b>July 28, 2011</b>
RAI 354 - 03.06.02-34	<b>July 28, 2011</b>
RAI 354 - 03.06.02-35	July 28, 2011
RAI 354 - 03.06.02-36	<b>July 28, 2011</b>
RAI 354 - 03.06.02-37	<b>July 28, 2011</b>
RAI 354 - 03.06.02-38	<b>July 28, 2011</b>
RAI 354 - 03.06.02-39	<b>July 28, 2011</b>
RAI 354 - 03.06.02-40	<b>July 28, 2011</b>

Sincerely,

**Dennis Williford, P.E.**  
**U.S. EPR Design Certification Licensing Manager**  
**AREVA NP Inc.**

7207 IBM Drive, Mail Code CLT 2B

---

**From:** RYAN Tom (RS/NB)  
**Sent:** Monday, June 13, 2011 6:24 PM  
**To:** 'Tesfaye, Getachew'  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); WELLS Russell (RS/NB); CORNELL Veronica (External RS/NB); WILLIFORD Dennis (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 25

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23 in Supplement 23. On May 27, 2011, AREVA NP submitted Supplement 24 to provide revised schedules for Questions 03.06.02-33, -34, -36 through -40.

The schedule for the response to Question 03.08.02-13 is being revised. The schedule for the remaining questions is unchanged. The schedule for the technically correct and complete responses to the remaining questions is provided below.

Question #	Response Date
RAI 354 - 03.08.02-13	July 14, 2011
RAI 354 - 03.06.02-33	June 30, 2011
RAI 354 - 03.06.02-34	June 30, 2011



Question #	Response Date
RAI 354 - 03.06.02-35	July 28, 2011
RAI 354 - 03.06.02-36	June 30, 2011
RAI 354 - 03.06.02-37	June 30, 2011
RAI 354 - 03.06.02-38	June 30, 2011
RAI 354 - 03.06.02-39	June 30, 2011
RAI 354 - 03.06.02-40	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](mailto:Dennis.Williford@areva.com)

---

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Friday, May 27, 2011 10:49 AM  
**To:** Tesfaye, Getachew  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB); CORNELL Veronica (External RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 24

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-

22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011. On May 4, 2011, AREVA NP submitted a technically correct and complete response to Question 03.08.05-23.

The schedule for the response to questions 03.06.02-33, -34, -36 through -40 is being revised as noted in bold below. The schedule for the response to questions 03.06.02-35 and 03.08.02-13 is unchanged. The schedule for technically correct and complete responses to the remaining questions is provided below.

Question #	Response Date
RAI 354 - 03.08.02-13	June 14, 2011
RAI 354 - 03.06.02-33	<b>June 30, 2011</b>
RAI 354 - 03.06.02-34	<b>June 30, 2011</b>
RAI 354 - 03.06.02-35	July 28, 2011
RAI 354 - 03.06.02-36	<b>June 30, 2011</b>
RAI 354 - 03.06.02-37	<b>June 30, 2011</b>
RAI 354 - 03.06.02-38	<b>June 30, 2011</b>
RAI 354 - 03.06.02-39	<b>June 30, 2011</b>
RAI 354 - 03.06.02-40	<b>June 30, 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:** Wednesday, May 04, 2011 12:48 PM  
**To:** 'Tefaye, Getachew'  
**Cc:** CORNELL Veronica (External 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. 354, FSAR Ch. 3, Supplement 23

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33

through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to question 03.08.02-11. On April 28, 2011, in Supplement 22, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on April 28, 2011.

The attached file, "RAI 354 Supplement 23 Response US EPR DC.pdf" provides a technically correct and complete response to Question 03.08.05-23, as committed. Appended to this file are the affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 354 Question 03.08.05-23.

The following table indicates the respective pages in the response document, "RAI 354 Supplement 23 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 — 03.08.05-23	2	4

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-13		June 14, 2011
RAI 354 - 03.06.02-33		May 30, 2011
RAI 354 - 03.06.02-34		May 30, 2011
RAI 354 - 03.06.02-35		July 28, 2011
RAI 354 - 03.06.02-36		May 30, 2011
RAI 354 - 03.06.02-37		May 30, 2011
RAI 354 - 03.06.02-38		May 30, 2011
RAI 354 - 03.06.02-39		May 30, 2011
RAI 354 - 03.06.02-40		May 30, 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)

---

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

**Sent:** Thursday, April 28, 2011 3:18 PM

**To:** 'Tesfaye, Getachew'

**Cc:** CORNELL Veronica (External 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. 354, FSAR Ch. 3, Supplement 22

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22. On April 18, 2011, AREVA NP also submitted Supplement 21 to provide a technically correct and complete response to question 03.08.02-11.

The schedule for the response to questions 03.06.02-33 through 03.06.02-40 is being revised to allow AREVA NP additional time to address NRC comments. The schedule for the technically correct and complete responses to the remaining questions is unchanged and provided below.

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-13		June 14, 2011
RAI 354 - 03.08.05-23		May 10, 2011
RAI 354 - 03.06.02-33		<b>May 30, 2011</b>
RAI 354 - 03.06.02-34		<b>May 30, 2011</b>
RAI 354 - 03.06.02-35		<b>July 28, 2011</b>
RAI 354 - 03.06.02-36		<b>May 30, 2011</b>
RAI 354 - 03.06.02-37		<b>May 30, 2011</b>
RAI 354 - 03.06.02-38		<b>May 30, 2011</b>
RAI 354 - 03.06.02-39		<b>May 30, 2011</b>
RAI 354 - 03.06.02-40		<b>May 30, 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)*

---

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

**Sent:** Monday, April 18, 2011 10:04 AM

**To:** Tesfaye, Getachew

**Cc:** CORNELL Veronica (External 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. 354, FSAR Ch. 3, Supplement 21

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement

14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23. On April 18, 2011, AREVA NP submitted Supplement 20 to provide a technically correct and complete FINAL response to Question 03.08.05-22.

The attached file, "RAI 354 Supplement 21 Response US EPR DC - PUBLIC.pdf" provides a technically correct and complete response to question 03.08.02-11, as committed. Because the response file contains security-related sensitive information that should be withheld from public disclosure in accordance with 10 CFR 2.390, a public version is provided with the security-related sensitive information redacted. This email and attached file do not contain any security-related information. An unredacted security-related version is provided under separate email.

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 354 Question 03.08.02-11.

The following table indicates the respective pages in the response document, "RAI 354 Supplement 21 Response US EPR DC - PUBLIC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 — 03.08.02-11	2	5

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-13		June 14, 2011
RAI 354 - 03.08.05-23		May 10, 2011
RAI 354 - 03.06.02-33		April 29, 2011
RAI 354 - 03.06.02-34		April 29, 2011
RAI 354 - 03.06.02-35		April 29, 2011
RAI 354 - 03.06.02-36		April 29, 2011
RAI 354 - 03.06.02-37		April 29, 2011
RAI 354 - 03.06.02-38		April 29, 2011
RAI 354 - 03.06.02-39		April 29, 2011
RAI 354 - 03.06.02-40		April 29, 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)

---

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

**Sent:** Monday, April 18, 2011 9:55 AM

**To:** 'Tesfaye, Getachew'

**Cc:** CORNELL Veronica (External 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. 354, FSAR Ch. 3, Supplement 20 (Part 3 of 3)

Getachew

Attached is part 3 of 3 for a response of RAI No. 354, FSAR Ch 3, Supplement 20

*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)

---

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

**Sent:** Monday, April 18, 2011 9:54 AM

**To:** 'Tesfaye, Getachew'

**Cc:** CORNELL Veronica (External 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. 354, FSAR Ch. 3, Supplement 20 (Part 2 of 3)

Getachew

Attached is part 2 of 3 for a response of RAI No. 354, FSAR Ch 3, Supplement 20

*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)

---

**From:** WELLS Russell (RS/NB)  
**Sent:** Monday, April 18, 2011 9:52 AM  
**To:** 'Tesfaye, Getachew'  
**Cc:** CORNELL Veronica (External 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. 354, FSAR Ch. 3, Supplement 20 (Part 1 of 3)

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011. On March 29, 2011, AREVA NP submitted Supplement 19 to provide revised schedules for Question 03.08.05-22 and Question 03.08.05-23.

The attached file, "RAI 354 Supplement 20 Response US EPR DC (1 of 3).pdf" provides a technically correct and complete response to question 03.08.05-22, as committed. Due to file size, the remaining parts will be provided in subsequent e-mails.

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 354 Question 03.08.05-22.

The following table indicates the respective pages in the response document, "RAI 354 Supplement 20 Response US EPR DC (1 of 3).pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 — 03.08.05-22	2	9

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



Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-11		April 28, 2011
RAI 354 - 03.08.02-13		June 14, 2011
RAI 354 - 03.08.05-23		May 10, 2011
RAI 354 - 03.06.02-33		April 29, 2011
RAI 354 - 03.06.02-34		April 29, 2011
RAI 354 - 03.06.02-35		April 29, 2011
RAI 354 - 03.06.02-36		April 29, 2011
RAI 354 - 03.06.02-37		April 29, 2011
RAI 354 - 03.06.02-38		April 29, 2011
RAI 354 - 03.06.02-39		April 29, 2011
RAI 354 - 03.06.02-40		April 29, 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)*

---

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

**Sent:** Tuesday, March 29, 2011 10:11 AM

**To:** 'Tefaye, Getachew'

**Cc:** CORNELL Veronica (External 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. 354, FSAR Ch. 3, Supplement 19

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question

03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13. In Supplement 18, AREVA NP submitted a revised schedule for Questions 03.06.02-33 through 03.06.02-40 on March 17, 2011.

The schedule for Question 03.08.05-22 is being revised to allow AREVA NP additional time to interact with the NRC. In addition, Question 03.08.05-23 is being revised to allow AREVA NP additional time to address NRC audit comments. The schedule for the remaining questions is unchanged.

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-11		April 28, 2011
RAI 354 - 03.08.02-13		June 14, 2011
RAI 354 - 03.08.05-22	September 15, 2010 (Actual September 13, 2010 ) November 22, 2010 (Actual)	<b>May 10, 2011</b>
RAI 354 - 03.08.05-23		<b>May 10, 2011</b>
RAI 354 - 03.06.02-33		April 29, 2011
RAI 354 - 03.06.02-34		April 29, 2011
RAI 354 - 03.06.02-35		April 29, 2011
RAI 354 - 03.06.02-36		April 29, 2011
RAI 354 - 03.06.02-37		April 29, 2011
RAI 354 - 03.06.02-38		April 29, 2011
RAI 354 - 03.06.02-39		April 29, 2011
RAI 354 - 03.06.02-40		April 29, 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)*

---

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

**Sent:** Thursday, March 17, 2011 4:46 PM

**To:** 'Tefaye, Getachew'

**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); CORNELL Veronica (External RS/NB)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 18

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23. On March 3, 2011, AREVA NP submitted Supplement 17 to provide a technically correct and complete FINAL response to Question 03.08.02-12 and a revised schedule for Questions 03.08.02-11 and Question 03.08.02-13.

The schedule for Questions 03.06.02-33 through 03.06.02-40 has been revised in order to allow time for interaction with the NRC. The schedule for the remaining questions is unchanged.

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

<b>Question #</b>	<b>Interim Response Date</b>	<b>Response Date</b>
RAI 354 - 03.08.02-11		April 28, 2011
RAI 354 - 03.08.02-13		June 14, 2011
RAI 354 - 03.08.05-22	September 15, 2010 (Actual) September 13, 2010 ) November 22, 2010 (Actual)	March 31, 2011
RAI 354 - 03.08.05-23		March 31, 2011
RAI 354 - 03.06.02-33		<b>April 29, 2011</b>
RAI 354 - 03.06.02-34		<b>April 29, 2011</b>
RAI 354 - 03.06.02-35		<b>April 29, 2011</b>
RAI 354 - 03.06.02-36		<b>April 29, 2011</b>
RAI 354 - 03.06.02-37		<b>April 29, 2011</b>
RAI 354 - 03.06.02-38		<b>April 29, 2011</b>
RAI 354 - 03.06.02-39		<b>April 29, 2011</b>
RAI 354 - 03.06.02-40		<b>April 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)

---

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

**Sent:** Thursday, March 03, 2011 6:10 PM

**To:** 'Tesfaye, Getachew'

**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); CORNELL Veronica (External RS/NB)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 17

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011. On February 11, 2011, AREVA NP submitted Supplement 16 to provide a revised schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, 03.08.05-22 and 03.08.05-23.

The attached file, "RAI 354 Supplement 17 Response US EPR DC.pdf" provides a technically correct and complete FINAL response to the Question 03.08.02-12, as committed.

The following table indicates the page in the response document, "RAI 354 Supplement 17 Response US EPR DC.pdf" that contains AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 – 03.08.02-12	2	3

The schedule for Question 03.08.02-11 and Question 03.08.02-13 is being revised to allow AREVA NP additional time to address NRC audit comments. The schedule for the remaining question is unchanged.

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-11		<b>April 28, 2011</b>
RAI 354 - 03.08.02-13		<b>June 14, 2011</b>
RAI 354 - 03.08.05-22	September 15, 2010 (Actual September 13, 2010 ) November 22, 2010 (Actual)	March 31, 2011
RAI 354 - 03.08.05-23		March 31, 2011
RAI 354 - 03.06.02-33		March 31, 2011
RAI 354 - 03.06.02-34		March 31, 2011
RAI 354 - 03.06.02-35		March 31, 2011
RAI 354 - 03.06.02-36		March 31, 2011
RAI 354 - 03.06.02-37		March 31, 2011
RAI 354 - 03.06.02-38		March 31, 2011
RAI 354 - 03.06.02-39		March 31, 2011
RAI 354 - 03.06.02-40		March 31, 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)*

---

**From:** BRYAN Martin (External RS/NB)

**Sent:** Friday, February 11, 2011 1:20 PM

**To:** 'Tesfaye, Getachew'

**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (External RS/NB)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 16

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to

Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 14, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011. In Supplement 15, AREVA NP submitted a revised schedule for Question 03.08.05-22 on January 13, 2011.

The schedule for Questions 03.08.02-11, 03.08.02-12, 03.08.02-13, and 03.08.05-22 has changed. The schedule for Question 03.08.05-23 is being revised to allow AREVA NP additional time to address NRC comments. The schedule for the remaining questions is unchanged.

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-11		March 4, 2011
RAI 354 - 03.08.02-12		March 4, 2011
RAI 354 - 03.08.02-13		March 4, 2011
RAI 354 - 03.08.05-22	September 15, 2010 (Actual September 13, 2010 ) November 22, 2010 (Actual)	March 31, 2011
RAI 354 - 03.08.05-23		March 31, 2011
RAI 354 - 03.06.02-33		March 31, 2011
RAI 354 - 03.06.02-34		March 31, 2011
RAI 354 - 03.06.02-35		March 31, 2011
RAI 354 - 03.06.02-36		March 31, 2011
RAI 354 - 03.06.02-37		March 31, 2011
RAI 354 - 03.06.02-38		March 31, 2011
RAI 354 - 03.06.02-39		March 31, 2011
RAI 354 - 03.06.02-40		March 31, 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:** BRYAN Martin (External RS/NB)  
**Sent:** Thursday, January 13, 2011 5:34 PM  
**To:** 'Tesfaye, Getachew'  
**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (External RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 15

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on January 7, 2011.

The schedule for Question 03.08.05-22 is being revised to allow AREVA NP additional time for to address NRC feedback. The schedule for the remaining questions is unchanged.

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-11		February 15, 2011
RAI 354 - 03.08.02-12		February 15, 2011
RAI 354 - 03.08.02-13		February 15, 2011
RAI 354 - 03.08.05-22	September 15, 2010 (Actual September 13, 2010 ) November 22, 2010	March 17, 2011
RAI 354 - 03.08.05-23		February 15, 2011
RAI 354 - 03.06.02-33		March 31, 2011
RAI 354 - 03.06.02-34		March 31, 2011
RAI 354 - 03.06.02-35		March 31, 2011
RAI 354 - 03.06.02-36		March 31, 2011
RAI 354 - 03.06.02-37		March 31, 2011
RAI 354 - 03.06.02-38		March 31, 2011
RAI 354 - 03.06.02-39		March 31, 2011
RAI 354 - 03.06.02-40		March 31, 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:** BRYAN Martin (External RS/NB)

**Sent:** Friday, January 07, 2011 2:57 PM

**To:** Tesfaye, Getachew

**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (External RS/NB)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 14

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23. On November 22, 2010, AREVA NP submitted Supplement 13 to provide an INTERIM response to Question 03.08.05-22 and a new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12.

The schedule for Question 03.08.05-23 is being revised to allow additional time for AREVA NP to interact with the NRC. The schedule for the remaining questions is unchanged. Please note that in Supplement 13 the information for Questions 03.06.02-33 through 40 was inadvertently not included in the table, but it has been now been added back.

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

<b>Question #</b>	<b>Interim Response Date</b>	<b>Response Date</b>
RAI 354 - 03.08.02-11		February 15, 2011
RAI 354 - 03.08.02-12		February 15, 2011
RAI 354 - 03.08.02-13		February 15, 2011
RAI 354 - 03.08.05-22	September 15, 2010 (Actual September 13, 2010 ) November 22, 2010	January 13, 2011
RAI 354 - 03.08.05-23		February 15, 2011
RAI 354 - 03.06.02-33		March 31, 2011
RAI 354 - 03.06.02-34		March 31, 2011
RAI 354 - 03.06.02-35		March 31, 2011
RAI 354 - 03.06.02-36		March 31, 2011
RAI 354 - 03.06.02-37		March 31, 2011



Question #	Interim Response Date	Response Date
RAI 354 - 03.06.02-38		March 31, 2011
RAI 354 - 03.06.02-39		March 31, 2011
RAI 354 - 03.06.02-40		March 31, 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:** BRYAN Martin (External RS/NB)  
**Sent:** Monday, November 22, 2010 7:40 PM  
**To:** 'Tefsaye, Getachew'  
**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (External RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 13

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13. On November 17, 2010, AREVA NP submitted Supplement 12 to provide a revised schedule for Questions 03.06.02-33 through 03.06.02-40 and 03.08.05-23.

The attached file, "RAI 354 Supplement 13 Response US EPR DC-INTERIM.pdf" provides a technically correct and complete INTERIM response to question 03.08.05-22, as committed.

Appended to this file are the affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which supports the response to RAI 354 Supplement 13 question 03.08.05-22.

The following table indicates the respective pages in the response document, "RAI 354 Supplement 13 Response US EPR DC-INTERIM.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 — 03.08.05-22	2	11

A new schedule for supplemental responses to Questions 03.08.02-11 and 03.08.02-12 is added. The supplemental responses will address open items identified during the NRC October 28-29, 2010, containment appurtenances audit. The schedule for the remaining questions is unchanged.

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-11		February 15, 2011
RAI 354 - 03.08.02-12		February 15, 2011
RAI 354 - 03.08.02-13		February 15, 2011
RAI 354 - 03.08.05-22	September 15, 2010 (Actual September 13, 2010 ) November 22, 2010 (Actual)	January 13, 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:** BRYAN Martin (External RS/NB)  
**Sent:** Wednesday, November 17, 2010 11:35 AM  
**To:** 'Tesfaye, Getachew'  
**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); WELLS Russell (RS/NB); 'Miernicki, Michael'  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 12

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010 and Supplement 11 on November 1, 2010 to provide a revised schedule for the response to Question 03.08.02-13.

A meeting with NRC regarding Questions 03.06.02-33 through 03.06.02-40 was held on November 1, 2010. As a result of that meeting the schedule for the final response to Questions 03.06.02-33 through 03.06.02-40 is being revised to allow additional time for AREVA NP to address NRC comments. Additionally, AREVA plans to prepare a technical report to be submitted with the final response to reflect the information on jet impingement that has been provided to NRC in the RAI responses and the meeting on November 1, 2010. The schedule for Question 03.08.05-23 is also being revised to allow additional time for AREVA NP to interact with the NRC. The schedule for the remaining questions is unchanged.

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-13		February 15, 2011
RAI 354 - 03.08.05-22	September 15, 2010 (Actual September 13, 2010 ) November 22, 2010	January 13, 2011
RAI 354 - 03.08.05-23		January 7, 2011
RAI 354 - 03.06.02-33		March 31, 2011
RAI 354 - 03.06.02-34		March 31, 2011
RAI 354 - 03.06.02-35		March 31, 2011
RAI 354 - 03.06.02-36		March 31, 2011
RAI 354 - 03.06.02-37		March 31, 2011
RAI 354 - 03.06.02-38		March 31, 2011
RAI 354 - 03.06.02-39		March 31, 2011
RAI 354 - 03.06.02-40		March 31, 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:** BRYAN Martin (External RS/NB)  
**Sent:** Monday, November 01, 2010 5:39 PM  
**To:** 'Tefaye, Getachew'  
**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (External RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 11

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the

remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010. AREVA NP submitted Supplement 10 on October 7, 2010, to provide a revised schedule for the response to Question 03.08.02-13.

The schedule for Question 03.08.02-13 is being revised to allow additional time for AREVA NP to address NRC comments. The schedule for the remaining questions is unchanged.

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-13		February 15, 2011
RAI 354 - 03.08.05-22	September 15, 2010 (Actual September 13, 2010 ) November 22, 2010	January 13, 2011
RAI 354 - 03.08.05-23		November 18, 2010
RAI 354 - 03.06.02-33		November 18, 2010
RAI 354 - 03.06.02-34		November 18, 2010
RAI 354 - 03.06.02-35		November 18, 2010
RAI 354 - 03.06.02-36		November 18, 2010
RAI 354 - 03.06.02-37		November 18, 2010
RAI 354 - 03.06.02-38		November 18, 2010
RAI 354 - 03.06.02-39		November 18, 2010
RAI 354 - 03.06.02-40		November 18, 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](mailto:Martin.Bryan.ext@areva.com)

---

**From:** BRYAN Martin (External RS/NB)  
**Sent:** Thursday, October 07, 2010 2:41 PM  
**To:** 'Tefaye, Getachew'  
**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (External RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 10

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8. In Supplement 9, AREVA NP submitted a revised schedule for Question 03.08.05-23 on October 1, 2010.

The attached file, "RAI 354 Supplement 10 Response US EPR DC.pdf" provides a technically correct and complete FINAL response to Question 03.08.05-21, as committed. The following table indicates the respective pages in the response document, "RAI 354 Supplement 10 Response US EPR DC.pdf," that contains AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 - 03.08.05-21	2	3

The schedule for a revised INTERIM response to Question 03.08.05-22 is added to provide the NRC additional information on AREVA NP's settlement approach. The schedule for the remaining questions is unchanged.

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-13		November 1, 2010
RAI 354 - 03.08.05-22	September 15, 2010 (Actual September 13, 2010 ) <b>November 22, 2010</b>	January 13, 2011
RAI 354 - 03.08.05-23		November 18, 2010
RAI 354 - 03.06.02-33		November 18, 2010
RAI 354 - 03.06.02-34		November 18, 2010
RAI 354 - 03.06.02-35		November 18, 2010
RAI 354 - 03.06.02-36		November 18, 2010
RAI 354 - 03.06.02-37		November 18, 2010
RAI 354 - 03.06.02-38		November 18, 2010
RAI 354 - 03.06.02-39		November 18, 2010
RAI 354 - 03.06.02-40		November 18, 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](mailto:Martin.Bryan.ext@areva.com)

---

**From:** BRYAN Martin (External RS/NB)  
**Sent:** Friday, October 01, 2010 2:31 PM  
**To:** 'Tesfaye, Getachew'  
**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (External RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 9

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21. On September 13, 2010, AREVA NP provided an INTERIM response to Question 03.08.05-22 in Supplement 8.

The schedule for Question 03.08.05-23 is being revised to allow additional time for AREVA NP to interact with the NRC. The schedule for the remaining questions is unchanged.

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-13		November 1, 2010
RAI 354 - 03.08.05-21		October 7, 2010
RAI 354 - 03.08.05-22	September 15, 2010 (Actual September 13, 2010 )	January 13, 2011
RAI 354 - 03.08.05-23		November 18, 2010
RAI 354 - 03.06.02-33		November 18, 2010
RAI 354 - 03.06.02-34		November 18, 2010
RAI 354 - 03.06.02-35		November 18, 2010
RAI 354 - 03.06.02-36		November 18, 2010
RAI 354 - 03.06.02-37		November 18, 2010
RAI 354 - 03.06.02-38		November 18, 2010
RAI 354 - 03.06.02-39		November 18, 2010
RAI 354 - 03.06.02-40		November 18, 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](mailto:Martin.Bryan.ext@areva.com)

**From:** BRYAN Martin (External RS/NB)

**Sent:** Monday, September 13, 2010 5:09 PM

**To:** 'Tesfaye, Getachew'

**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (External RS/NB)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 8

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010, AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. AREVA NP submitted Supplement 6 on August 31, 2010, to provide final responses to 5 of the remaining 17 questions. On September 8, 2010, AREVA NP submitted Supplement 7 to provide a revised schedule for the response to Question 03.08.05-21.

AREVA NP recently notified the NRC of its intent to submit an INTERIM response to Question 03.08.05-22. The attached file, "RAI 354 Supplement 8 Response US EPR DC-INTERIM.pdf" provides a technically correct and complete INTERIM response to Question 03.08.05-22, as committed. The schedule for the remaining questions is unchanged.

The following table indicates the respective pages in the response document, RAI 354 Supplement 8 Response US EPR DC - INTERIM.pdf," that contains AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 - 03.08.05-22	2	3

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

Question #	Interim Response Date	Response Date
RAI 354 - 03.08.02-13		November 1, 2010
RAI 354 - 03.08.05-21		October 7, 2010
RAI 354 - 03.08.05-22	September 15, 2010 (Actual September 13, 2010 )	January 13, 2011
RAI 354 - 03.08.05-23		October 1, 2010
RAI 354 - 03.06.02-33		November 18, 2010
RAI 354 - 03.06.02-34		November 18, 2010
RAI 354 - 03.06.02-35		November 18, 2010
RAI 354 - 03.06.02-36		November 18, 2010
RAI 354 - 03.06.02-37		November 18, 2010
RAI 354 - 03.06.02-38		November 18, 2010
RAI 354 - 03.06.02-39		November 18, 2010
RAI 354 - 03.06.02-40		November 18, 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](mailto:Martin.Bryan.ext@areva.com)

---

**From:** BRYAN Martin (External RS/NB)  
**Sent:** Wednesday, September 08, 2010 6:09 PM  
**To:** Tesfaye, Getachew  
**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); 'Miernicki, Michael'; CORNELL Veronica (External RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 7

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010 AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5. On August 31, 2010, AREVA NP submitted final responses to 5 of the remaining 17 questions.

The schedule for Question 03.08.05-21 is being revised to allow additional time for AREVA NP to interact with the NRC on the draft response. The schedule for the remaining questions is unchanged.

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

Question #	Response Date
RAI 354 - 03.08.02-13	November 1, 2010
RAI 354 - 03.08.05-21	<b>October 7, 2010</b>
RAI 354 - 03.08.05-22	January 13, 2011
RAI 354 - 03.08.05-23	October 1, 2010
RAI 354 - 03.06.02-33	November 18, 2010
RAI 354 - 03.06.02-34	November 18, 2010
RAI 354 - 03.06.02-35	November 18, 2010
RAI 354 - 03.06.02-36	November 18, 2010
RAI 354 - 03.06.02-37	November 18, 2010
RAI 354 - 03.06.02-38	November 18, 2010
RAI 354 - 03.06.02-39	November 18, 2010
RAI 354 - 03.06.02-40	November 18, 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](mailto:Martin.Bryan.ext@areva.com)



**From:** BRYAN Martin (External RS/NB)  
**Sent:** Tuesday, August 31, 2010 4:28 PM  
**To:** 'Tesfaye, Getachew'  
**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (External RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 6

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40. On August 5, 2010 AREVA NP provided a revised schedule for Questions 03.06.02-42 and 03.08.05-23 in Supplement 5.

The attached file, "RAI 354 Supplement 6 Response US EPR DC.pdf" provides technically correct and complete FINAL responses to Questions 03.06.02-42 and 03.08.02-11 to 03.08.02-15, as committed. Because the response file contains security-related sensitive information that should be withheld from public disclosure in accordance with 10 CFR 2.390, a public version is provided with the security-related sensitive information redacted. This email and attached file do not contain any security-related information. An unredacted security-related version is provided under separate email.

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 354 Supplement 6.

The schedule for Question 03.08.02-13 is being revised to allow additional time for AREVA NP to address NRC comments. The schedule for the remaining questions is unchanged.

The following table indicates the respective pages in the response document, RAI 354 Supplement 6 Response US EPR DC.pdf," that contains AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 354 - 03.08.02-11	2	4
RAI 354 - 03.08.02-12	5	6
RAI 354 - 03.08.02-14	7	8
RAI 354 - 03.08.02-15	9	10
RAI 354 - 03.06.02-42	11	12

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

Question #	Response Date
RAI 354 - 03.08.02-13	<b>November 1, 2010</b>
RAI 354 - 03.08.05-21	September 8, 2010
RAI 354 - 03.08.05-22	January 13, 2011
RAI 354 - 03.08.05-23	October 1, 2010
RAI 354 - 03.06.02-33	November 18, 2010
RAI 354 - 03.06.02-34	November 18, 2010
RAI 354 - 03.06.02-35	November 18, 2010

Question #	Response Date
RAI 354 - 03.06.02-36	November 18, 2010
RAI 354 - 03.06.02-37	November 18, 2010
RAI 354 - 03.06.02-38	November 18, 2010
RAI 354 - 03.06.02-39	November 18, 2010
RAI 354 - 03.06.02-40	November 18, 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](mailto:Martin.Bryan.ext@areva.com)

---

**From:** BRYAN Martin (EXT)  
**Sent:** Thursday, August 05, 2010 6:23 PM  
**To:** 'Tesyfaye, Getachew'  
**Cc:** DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (EXT); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 5

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions. AREVA NP submitted Supplement 4 on July 30, 2010, to provide final responses to Questions 03.06.02-32, 03.06.02-41 and 03.08.02-16 and a revised schedule for Questions 03.06.02-33 through 03.06.02-40.

The schedule for Questions 03.06.02-42 and 03.08.05-23 is being revised to allow additional time for AREVA NP to address NRC comments. The schedule for the remaining 15 questions is unchanged.

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

Question #	Response Date
RAI 354 - 03.08.02-11	August 31, 2010
RAI 354 - 03.08.02-12	August 31, 2010
RAI 354 - 03.08.02-13	August 31, 2010
RAI 354 - 03.08.02-14	August 31, 2010
RAI 354 - 03.08.02-15	August 31, 2010
RAI 354 - 03.08.05-21	September 8, 2010
RAI 354 - 03.08.05-22	January 13, 2011
RAI 354 - 03.08.05-23	<b>October 1, 2010</b>
RAI 354 - 03.06.02-33	November 18, 2010
RAI 354 - 03.06.02-34	November 18, 2010
RAI 354 - 03.06.02-35	November 18, 2010
RAI 354 - 03.06.02-36	November 18, 2010

Question #	Response Date
RAI 354 - 03.06.02-37	November 18, 2010
RAI 354 - 03.06.02-38	November 18, 2010
RAI 354 - 03.06.02-39	November 18, 2010
RAI 354 - 03.06.02-40	November 18, 2010
RAI 354 - 03.06.02-42	<b>August 31, 2010</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 (EXT)  
**Sent:** Thursday, July 29, 2010 7:40 PM  
**To:** 'Tsfaye, Getachew'  
**Cc:** DELANO Karen V (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); ROMINE Judy (AREVA NP INC); CORNELL Veronica (EXT)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 4

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions. Supplement 2 was submitted on June 24, 2010, and included a revised schedule for Questions 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23. AREVA NP submitted Supplement 3 on July 7, 2010, responding to 1 of the remaining 21 questions.

The attached file, "RAI 354 Supplement 4 Response U.S. EPR DC.pdf" provides technically correct and complete responses to Questions 03.06.02-32, 03.06.02-41, and 03.08.02-16. Because the response file contains security-related sensitive information that should be withheld from public disclosure in accordance with 10 CFR 2.390, a public version is provided with the security-related sensitive information redacted. This email and attached file do not contain any security-related information. An unredacted security-related version is provided under separate email.

The schedules for Questions 03.06.02-33 through 03.06.02-40 are being revised to allow additional time for AREVA NP to address NRC comments. The schedule for the remaining 9 questions is unchanged.

The following table indicates the respective pages in the response document, "RAI 354 Supplement 4 Response U.S. EPR DC," that contain the AREVA NP response to the subject questions.

Question #	Start Page	End Page
RAI 354 - 03.06.02-32	2	3
RAI 354 - 03.06.02-41	4	6
RAI 354 - 03.08.02-16	7	7

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

Question #	Response Date
RAI 354 - 03.08.02-11	August 31, 2010
RAI 354 - 03.08.02-12	August 31, 2010
RAI 354 - 03.08.02-13	August 31, 2010
RAI 354 - 03.08.02-14	August 31, 2010
RAI 354 - 03.08.02-15	August 31, 2010
RAI 354 - 03.08.05-21	September 8, 2010
RAI 354 - 03.08.05-22	January 13, 2011
RAI 354 - 03.08.05-23	August 10, 2010
RAI 354 - 03.06.02-33	November 18, 2010
RAI 354 - 03.06.02-34	November 18, 2010
RAI 354 - 03.06.02-35	November 18, 2010
RAI 354 - 03.06.02-36	November 18, 2010
RAI 354 - 03.06.02-37	November 18, 2010
RAI 354 - 03.06.02-38	November 18, 2010
RAI 354 - 03.06.02-39	November 18, 2010
RAI 354 - 03.06.02-40	November 18, 2010
RAI 354 - 03.06.02-42	August 5, 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](mailto:Martin.Bryan.ext@areva.com)

---

**From:** BRYAN Martin (EXT)  
**Sent:** Wednesday, July 07, 2010 5:27 PM  
**To:** 'Tefaye, Getachew'  
**Cc:** DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); CORNELL Veronica (EXT); VAN NOY Mark (EXT)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 3

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 on June 3, 2010, to provide a schedule for the remaining 21 questions.

On June 9, 2010, AREVA NP submitted draft Supplement 2 responses to questions 03.08.05-20, 03.08.05-21, 03.06.02-32, 03.06.02-41 and 03.06.02-42. Supplement 2 was submitted on June 24, 2010, and included a revised schedule to reflect the civil/structural re-planning activities and time allowance to interact with the NRC on the responses for 03.08.02-11, 12, 13, 14, 15, 16; 03.08.05-22 and 03.08.05-23.

The attached file, "RAI 354 Response U.S. EPR DC.pdf" provides a technically correct and complete response to Question 03.08.05-20.

The schedule for Question 03.08.05-21 is being revised to accommodate development of a revised response and to allow time to interact with the NRC on the response. The schedule for Questions 03.06.02-32, 03.06.02-41 and 03.06.02-42 is also being revised to provide additional time to interact with the NRC on the responses. The schedule for the remaining 16 questions is unchanged.

The following table indicates the respective pages in the response document, "RAI 354 Response U.S. EPR DC," that contain the AREVA NP response to the subject questions.

Question #	Start Page	End Page
RAI 354 — 03.08.05-20	2	3

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

Question #	Response Date
RAI 354 - 03.08.02-11	August 31, 2010
RAI 354 - 03.08.02-12	August 31, 2010
RAI 354 - 03.08.02-13	August 31, 2010
RAI 354 - 03.08.02-14	August 31, 2010
RAI 354 - 03.08.02-15	August 31, 2010
RAI 354 - 03.08.02-16	August 10, 2010
RAI 354 - 03.08.05-21	September 8, 2010
RAI 354 - 03.08.05-22	January 13, 2011
RAI 354 - 03.08.05-23	August 10, 2010
RAI 354 - 03.06.02-32	August 5, 2010
RAI 354 - 03.06.02-33	July 30, 2010
RAI 354 - 03.06.02-34	July 30, 2010
RAI 354 - 03.06.02-35	July 30, 2010
RAI 354 - 03.06.02-36	July 30, 2010
RAI 354 - 03.06.02-37	July 30, 2010
RAI 354 - 03.06.02-38	July 30, 2010
RAI 354 - 03.06.02-39	July 30, 2010
RAI 354 - 03.06.02-40	July 30, 2010
RAI 354 - 03.06.02-41	August 5, 2010
RAI 354 - 03.06.02-42	August 5, 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](mailto:Martin.Bryan.ext@areva.com)

---

**From:** BRYAN Martin (EXT)  
**Sent:** Thursday, June 24, 2010 12:29 PM

**To:** 'Tesfaye, Getachew'

**Cc:** ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); CORNELL Veronica (EXT); VAN NOY Mark (EXT); RYAN Tom (AREVA NP INC); GARDNER George Darrell (AREVA NP INC); DELANO Karen V (AREVA NP INC)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 2

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. AREVA NP submitted Supplement 1 to the response on June 3, 2010, to provide a schedule for the remaining 21 questions, one of which was affected by the work underway to address NRC comments from the April 26, 2010, audit.

Based upon the civil/structural re-planning activities and revised RAI response schedule presented to the NRC during the June 9, 2010, Public Meeting, and to allow time to interact with the NRC on the responses, the schedule for questions 03.08.02-11, 12, 13, 14, 15, 16, 03.08.05-22 and 03.08.05-23 has been changed. The schedule for the remaining 13 questions remains unchanged.

The revised schedule for the technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 354 - 03.08.02-11	August 31
RAI 354 - 03.08.02-12	August 31
RAI 354 - 03.08.02-13	August 31
RAI 354 - 03.08.02-14	August 31
RAI 354 - 03.08.02-15	August 31
RAI 354 - 03.08.02-16	August 10, 2010
RAI 354 - 03.08.05-20	July 7, 2010
RAI 354 - 03.08.05-21	July 7, 2010
RAI 354 - 03.08.05-22	January 13, 2011
RAI 354 - 03.08.05-23	August 10, 2010
RAI 354 - 03.06.02-32	July 7, 2010
RAI 354 - 03.06.02-33	July 30, 2010
RAI 354 - 03.06.02-34	July 30, 2010
RAI 354 - 03.06.02-35	July 30, 2010
RAI 354 - 03.06.02-36	July 30, 2010
RAI 354 - 03.06.02-37	July 30, 2010
RAI 354 - 03.06.02-38	July 30, 2010
RAI 354 - 03.06.02-39	July 30, 2010
RAI 354 - 03.06.02-40	July 30, 2010
RAI 354 - 03.06.02-41	July 7, 2010
RAI 354 - 03.06.02-42	July 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](mailto:Martin.Bryan.ext@areva.com)

---

**From:** BRYAN Martin (EXT)  
**Sent:** Thursday, June 03, 2010 6:39 PM  
**To:** 'Tesfaye, Getachew'  
**Cc:** DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); VAN NOY Mark (EXT); CORNELL Veronica (EXT)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3, Supplement 1

Getachew,

AREVA NP Inc. (AREVA NP) provided a response to 1 of the 22 questions of RAI No. 354 on April 15, 2010, and a schedule for the remaining 21 questions. The schedule for questions 03.08.02-11 through 15 is not being changed by this supplement. To allow time to interact with the NRC, the schedule for 16 questions is being changed. The date provided below for question 03.08.05-22 will be revised based on the information that will be presented at the June 9, 2010 public meeting and subsequent NRC feedback.

Question #	Response Date
RAI 354 - 03.08.02-11	July 30, 2010
RAI 354 - 03.08.02-12	July 30, 2010
RAI 354 - 03.08.02-13	July 30, 2010
RAI 354 - 03.08.02-14	July 30, 2010
RAI 354 - 03.08.02-15	July 30, 2010
RAI 354 - 03.08.02-16	July 30, 2010
RAI 354 - 03.08.05-20	July 7, 2010
RAI 354 - 03.08.05-21	July 7, 2010
RAI 354 - 03.08.05-22	July 30, 2010
RAI 354 - 03.08.05-23	July 30, 2010
RAI 354 - 03.06.02-32	July 7, 2010
RAI 354 - 03.06.02-33	July 30, 2010
RAI 354 - 03.06.02-34	July 30, 2010
RAI 354 - 03.06.02-35	July 30, 2010
RAI 354 - 03.06.02-36	July 30, 2010
RAI 354 - 03.06.02-37	July 30, 2010
RAI 354 - 03.06.02-38	July 30, 2010
RAI 354 - 03.06.02-39	July 30, 2010
RAI 354 - 03.06.02-40	July 30, 2010
RAI 354 - 03.06.02-41	July 7, 2010
RAI 354 - 03.06.02-42	July 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](mailto:Martin.Bryan.ext@areva.com)

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**From:** BRYAN Martin (EXT)  
**Sent:** Thursday, April 15, 2010 5:46 PM  
**To:** 'Tesfaye, Getachew'  
**Cc:** DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); VAN NOY Mark (EXT)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 354, FSAR Ch. 3

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 354 Response US EPR DC.pdf" provides technically correct and complete responses to 1 of the 22 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 354 Question 03.08.05-19.

The following table indicates the respective pages in the response document, "RAI 354 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 354 - 03.08.02-11	2	2
RAI 354 - 03.08.02-12	3	3
RAI 354 - 03.08.02-13	4	4
RAI 354 - 03.08.02-14	5	5
RAI 354 - 03.08.02-15	6	6
RAI 354 - 03.08.02-16	7	7
RAI 354 - 03.08.05-19	8	8
RAI 354 - 03.08.05-20	9	9
RAI 354 - 03.08.05-21	10	10
RAI 354 - 03.08.05-22	11	11
RAI 354 - 03.08.05-23	12	12
RAI 354 - 03.06.02-32	13	13
RAI 354 - 03.06.02-33	14	14
RAI 354 - 03.06.02-34	15	15
RAI 354 - 03.06.02-35	16	16
RAI 354 - 03.06.02-36	17	17
RAI 354 - 03.06.02-37	18	18
RAI 354 - 03.06.02-38	19	19
RAI 354 - 03.06.02-39	20	20
RAI 354 - 03.06.02-40	21	21
RAI 354 - 03.06.02-41	22	22
RAI 354 - 03.06.02-42	23	24

A complete answer is not provided for 21 of the 22 questions. The schedule for a technically correct and complete response to these questions is provided below.



Question #	Response Date
RAI 354 - 03.08.02-11	July 30, 2010
RAI 354 - 03.08.02-12	July 30, 2010
RAI 354 - 03.08.02-13	July 30, 2010
RAI 354 - 03.08.02-14	July 30, 2010
RAI 354 - 03.08.02-15	July 30, 2010
RAI 354 - 03.08.02-16	June 3, 2010
RAI 354 - 03.08.05-20	June 3, 2010
RAI 354 - 03.08.05-21	June 3, 2010
RAI 354 - 03.08.05-22	June 3, 2010
RAI 354 - 03.08.05-23	June 3, 2010
RAI 354 - 03.06.02-32	June 3, 2010
RAI 354 - 03.06.02-33	June 3, 2010
RAI 354 - 03.06.02-34	June 3, 2010
RAI 354 - 03.06.02-35	June 3, 2010
RAI 354 - 03.06.02-36	June 3, 2010
RAI 354 - 03.06.02-37	June 3, 2010
RAI 354 - 03.06.02-38	June 3, 2010
RAI 354 - 03.06.02-39	June 3, 2010
RAI 354 - 03.06.02-40	June 3, 2010
RAI 354 - 03.06.02-41	June 3, 2010
RAI 354 - 03.06.02-42	June 3, 2010

Sincerely,

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

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

**Sent:** Tuesday, March 16, 2010 12:29 PM

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

**Cc:** Xu, Jim; Hawkins, Kimberly; Ng, Ching; Dixon-Herrity, Jennifer; Miernicki, Michael; Patel, Jay; Colaccino, Joseph; ArevaEPRDCPEM Resource

**Subject:** U.S. EPR Design Certification Application RAI No. 354 (4106,4107,4220), FSAR Ch. 3

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on January 8, 2010, and discussed with your staff on February 25, 2010. Drat RAI Questions 03.08.05-23 was modified as a result of that discussion. 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:** 4731

**Mail Envelope Properties** (9C2386A0C0BC584684916F7A0482B6CAF320C143C0)

**Subject:** FW: Response to U.S. EPR Design Certification Application RAI No. 354, FSAR  
Ch. 3, Supplement 42 (Part 2 of 3)  
**Sent Date:** 11/12/2013 2:11:48 PM  
**Received Date:** 11/12/2013 2:12:00 PM  
**From:** Miernicki, Michael

**Created By:** Michael.Miernicki@nrc.gov

**Recipients:**  
"ArevaEPRDCPEm Resource" <ArevaEPRDCPEm.Resource@nrc.gov>  
Tracking Status: None

**Post Office:** HQCLSTR02.nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	185642	11/12/2013 2:12:00 PM
RAI 354 Supplement 42 Response - US EPR DC Part 2 of 3.pdf		5717402

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

Figure 3.8-129—Relative Differential Settlement Step 6, Walls up to Elevation 55 feet

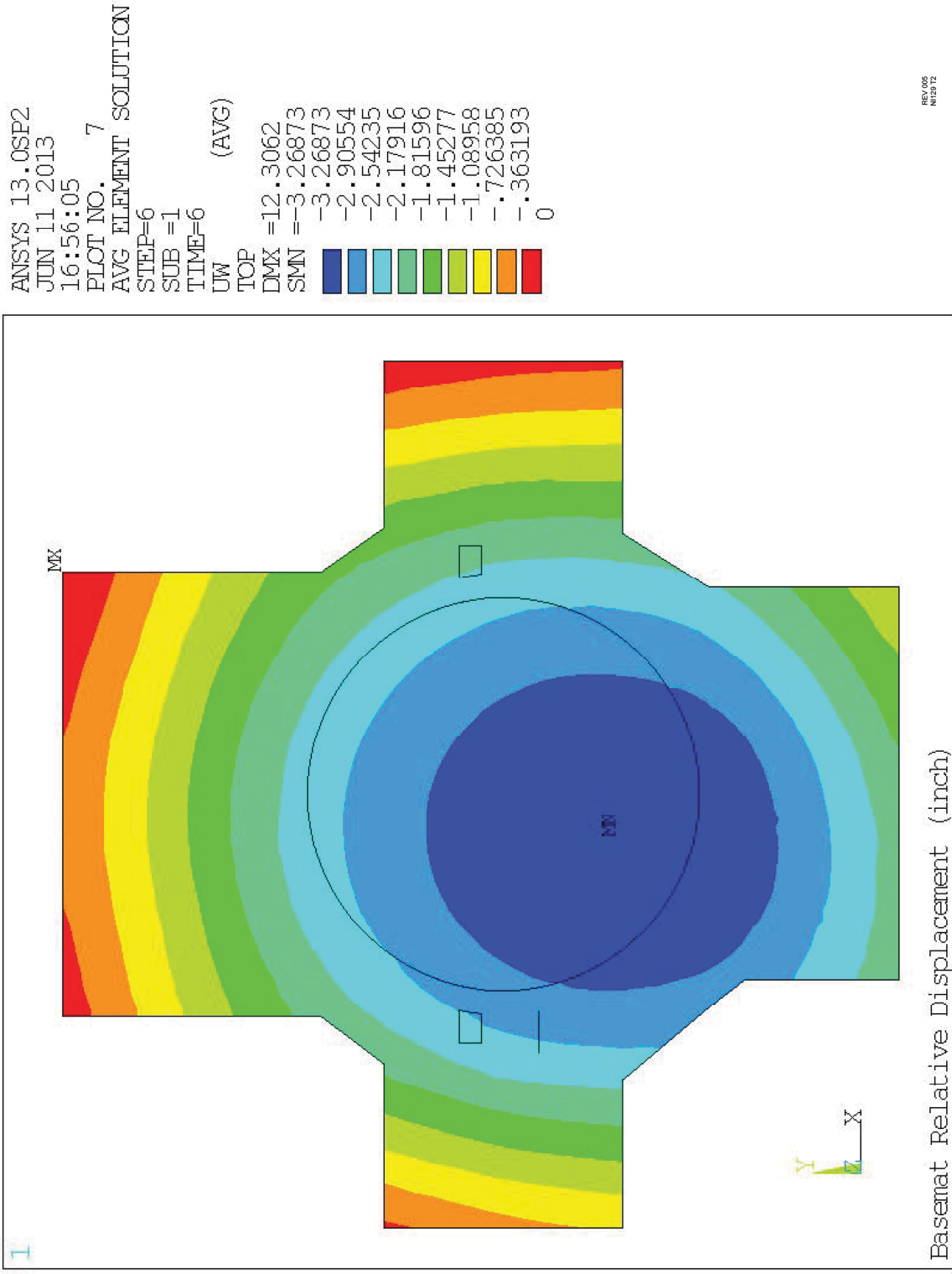


Figure 3.8-130—Relative Differential Settlement Step 7, Floor Slabs at Elevation 55 feet

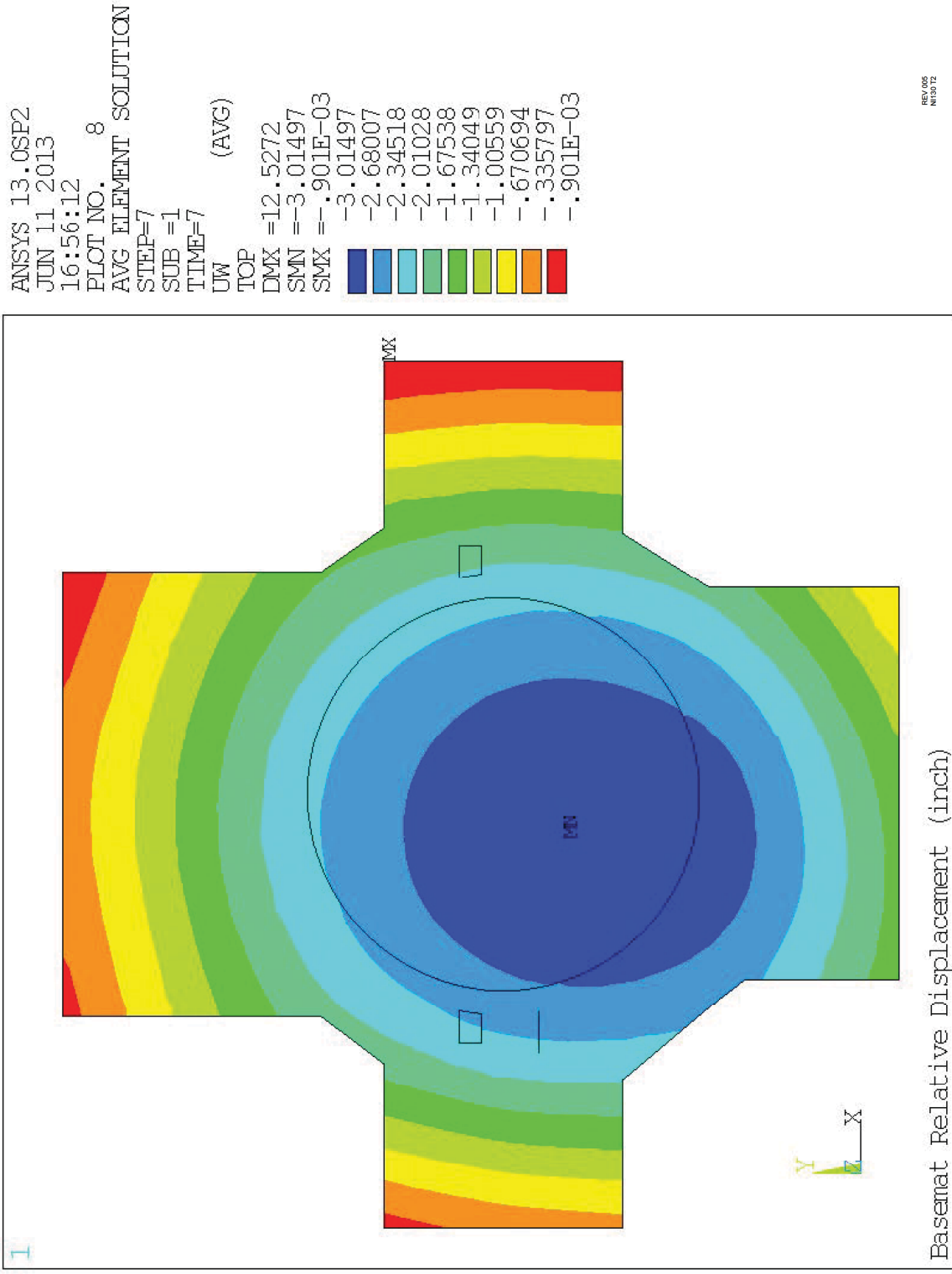


Figure 3.8-131—Relative Differential Settlement Step 8, Walls up to Elevation 96 feet

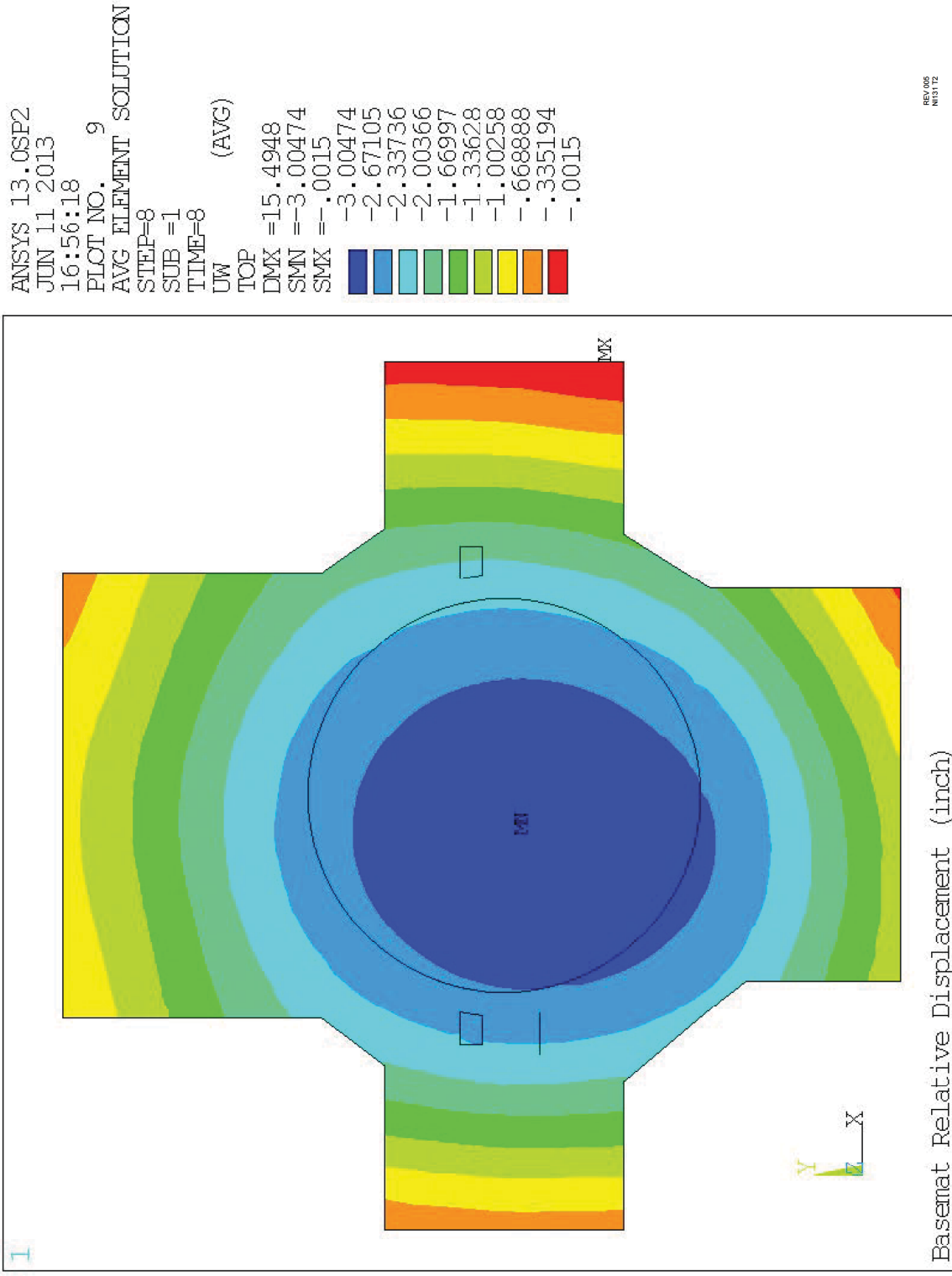


Figure 3.8-132—Relative Differential Settlement Step 9, Floor Slabs at Elevation 96 feet

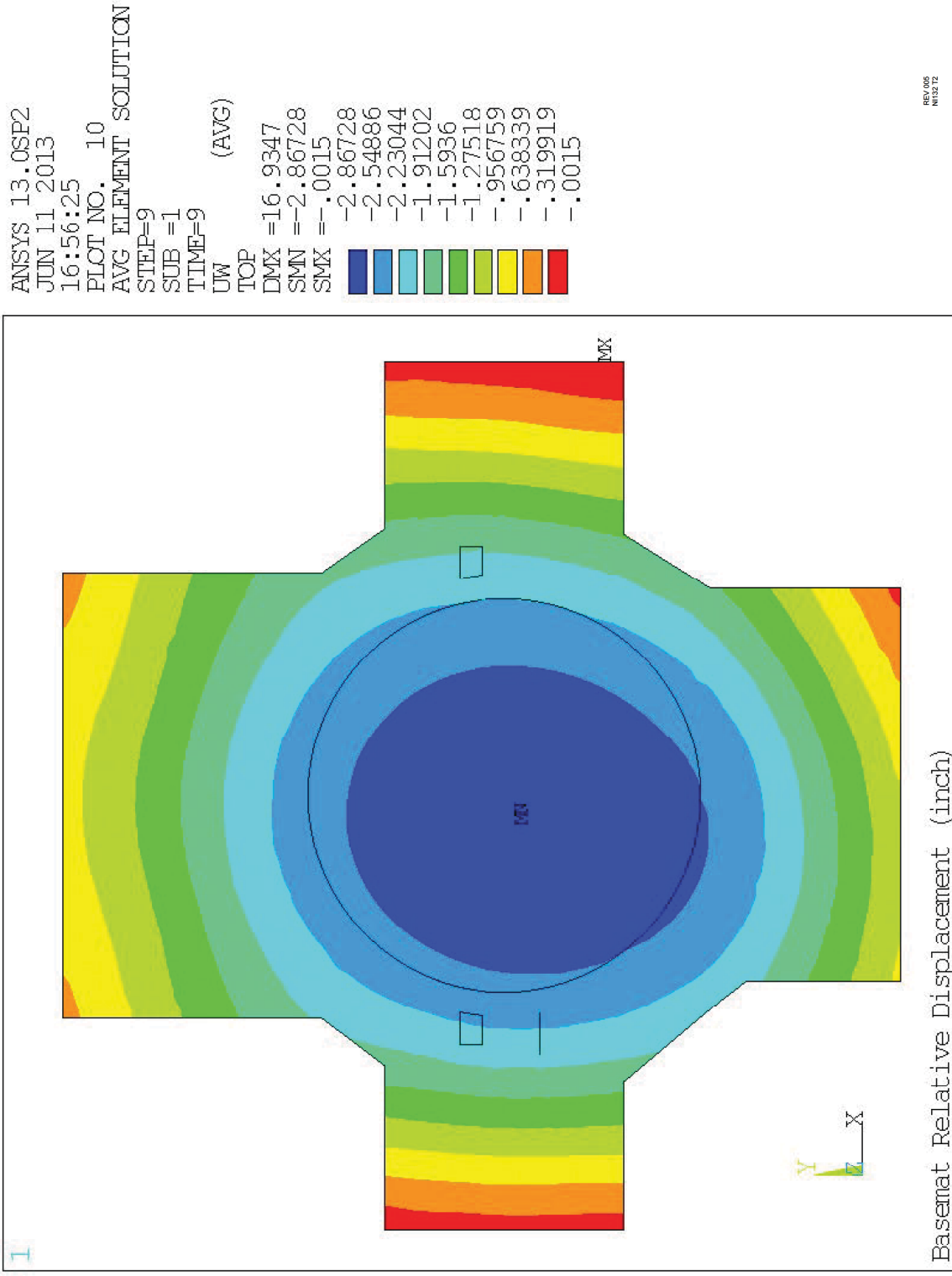


Figure 3.8-133—Relative Differential Settlement Step 10, Walls up to Elevation 144 feet

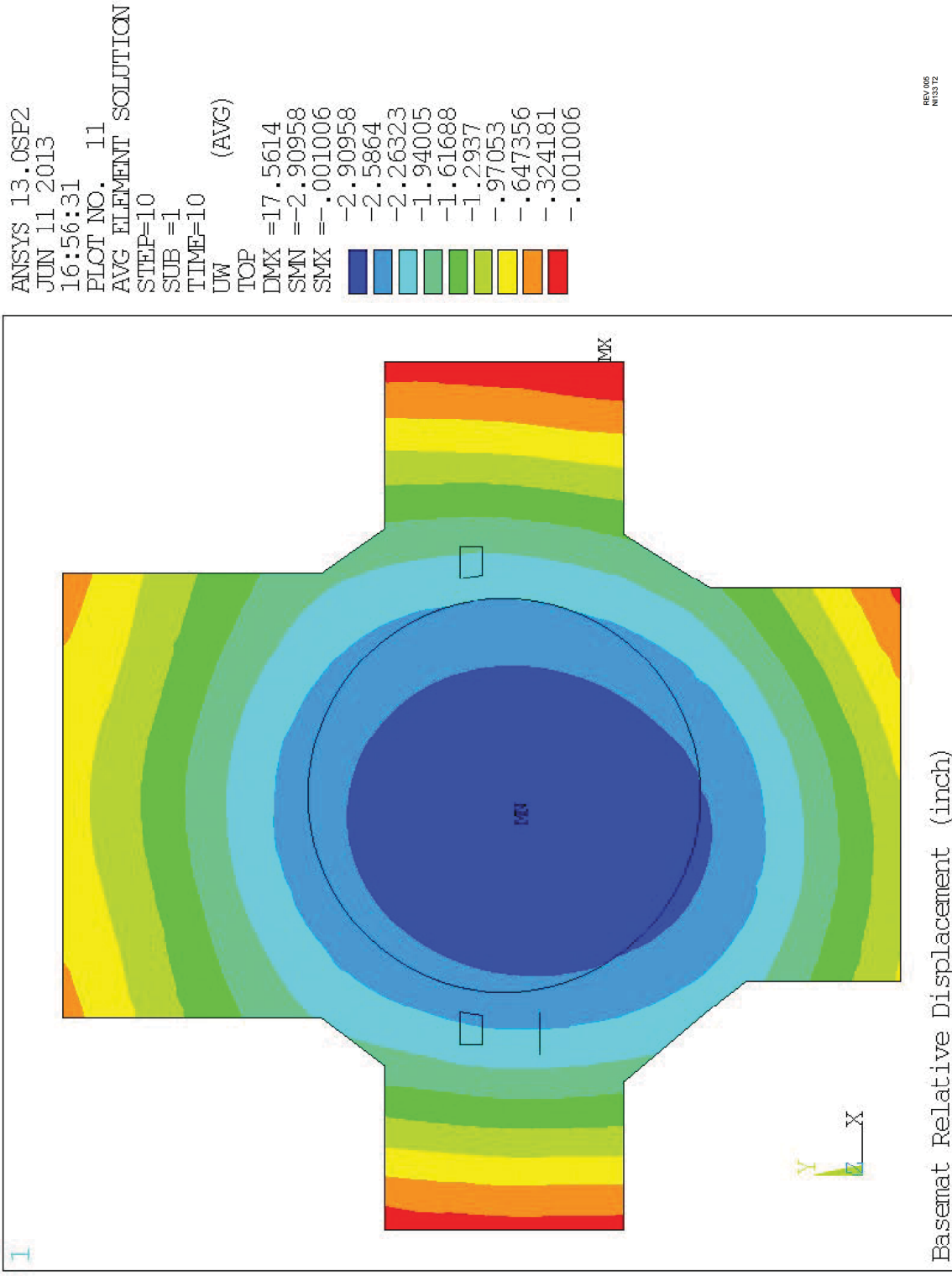




Figure 3.8-134—Relative Differential Settlement Step 11, Full NI Common Basemat Structure

