

ArevaEPRDCPEm Resource

From: WELLS Russell (AREVA) [Russell.Wells@areva.com]
Sent: Monday, April 11, 2011 2:08 PM
To: Tesfaye, Getachew
Cc: Miernicki, Michael; NOXON David (AREVA); BENNETT Kathy (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 13
Attachments: RAI 273 Supplement 13 Response US EPR DC.PDF

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. Supplement 1 to RAI No. 273 was sent on November 6, 2009 which responded to 17 of the 32 remaining questions and provided partial responses to 4 of the remaining 32.

AREVA NP provided Supplement 2 on November 25, 2009 and Supplement 3 on December 8, 2009 to revise the commitment date for 11 of the remaining questions. AREVA NP provided Supplement 4 on December 10, 2009 to provide responses to 11 of the 15 remaining questions with a schedule to provide an FSAR markup for 9 of the questions. AREVA NP provided Supplement 5 on March 31, 2010 to provide a technically correct and complete response to 1 of the 4 remaining questions and provide FSAR markups for 3 of the 9 FSAR Markups. Supplement 6 to RAI No. 273 was sent on May 19, 2009 which responded to 1 of the 3 remaining questions. RAI 273 Supplement 7 sent on July 29, 2010, Supplement 8 sent on October 1, 2010, Supplement 9 sent on October 28, 2010, Supplement 10 sent on December 17, 2011, Supplement 11 on January 21, 2011 and Supplement 12 on March 3, 2011 provided a revised schedule for the remaining FSAR markups and responses. The attached file, "RAI 273 Supplement 13 Response US EPR DC.pdf," provides a technically correct and complete response to 2 of the 2 remaining questions. A revised schedule is provided for the remaining 6 FSAR Markups.

The following table indicates the respective pages in the response document, "RAI 273 Supplement 13 Response US EPR DC.pdf," that contain AREVA NP's responses to the subject questions.

Question #	Start Page	End Page
RAI 273 — 11.02-14	2	2
RAI 273 — 11.03-12	3	3

The schedule for the FSAR markups for the 6 remaining questions is being revised to allow more time to interact with the NRC. The revised schedule for the remaining 6 FSAR markups is provided below:

Question #	Supplement Date (providing FSAR Markup)
RAI 273 — 11.05-2	June 10, 2011
RAI 273 — 11.05-5	June 10, 2011
RAI 273 — 11.05-7	June 10, 2011
RAI 273 — 11.05-8	June 10, 2011
RAI 273 — 11.05-9	June 10, 2011
RAI 273 — 11.05-10	June 10, 2011

Sincerely,

Russ Wells

U.S. EPR Design Certification Licensing Manager

AREVA NP, Inc.

3315 Old Forest Road, P.O. Box 10935

Mail Stop OF-57

Lynchburg, VA 24506-0935

Phone: 434-832-3884 (work)

434-942-6375 (cell)

Fax: 434-382-3884

Russell.Wells@Areva.com

From: WELLS Russell (RS/NB)

Sent: Thursday, March 03, 2011 9:11 AM

To: 'Tefaye, Getachew'

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

Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 12

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. Supplement 1 to RAI No. 273 was sent on November 6, 2009 which responded to 17 of the 32 remaining questions and provided partial responses to 4 of the remaining 32.

AREVA NP provided Supplement 2 on November 25, 2009 and Supplement 3 on December 8, 2009 to revise the commitment date for 11 of the remaining questions. AREVA NP provided Supplement 4 on December 10, 2009 to provide responses to 11 of the 15 remaining questions with a schedule to provide an FSAR markup for 9 of the questions. AREVA NP provided Supplement 5 on March 31, 2010 to provide a technically correct and complete response to 1 of the 4 remaining questions and provide FSAR markups for 3 of the 9 FSAR Markups. Supplement 6 to RAI No. 273 was sent on May 19, 2009 which responded to 1 of the 3 remaining questions. RAI 273 Supplement 7 sent on July 29, 2010, Supplement 8 sent on October 1, 2010, Supplement 9 sent on October 28, 2010, Supplement 10 sent on December 17, 2011 and Supplement 11 on January 21, 2011 provided a revised schedule for the remaining FSAR markups and responses.

The schedule for the FSAR markups for the 6 remaining questions is being revised to allow more time to interact with the NRC. The revised schedule for the remaining 6 FSAR markups is provided below:

Question #	Supplement Date (providing FSAR Markup)
RAI 273 — 11.05-2	April 14, 2011
RAI 273 — 11.05-5	April 14, 2011
RAI 273 — 11.05-7	April 14, 2011
RAI 273 — 11.05-8	April 14, 2011
RAI 273 — 11.05-9	April 14, 2011
RAI 273 — 11.05-10	April 14, 2011

The schedule for a technically correct and complete response to the remaining 2 questions is being revised to allow more time to interact with the NRC. The revised schedule for the responses to the remaining 2 questions is provided below:

Question #	Response Date
RAI 273 — 11.02-14	April 14, 2011
RAI 273 — 11.03-12	April 14, 2011

Sincerely,

Russ Wells
 U.S. EPR Design Certification Licensing Manager
 AREVA NP, Inc.
 3315 Old Forest Road, P.O. Box 10935
 Mail Stop OF-57
 Lynchburg, VA 24506-0935
 Phone: 434-832-3884 (work)
 434-942-6375 (cell)
 Fax: 434-382-3884
Russell.Wells@Areva.com

From: BRYAN Martin (External RS/NB)
Sent: Friday, January 21, 2011 8:23 AM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); NOXON David (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 11

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. Supplement 1 to RAI No. 273 was sent on November 6, 2009 which responded to 17 of the 32 remaining questions and provided partial responses to 4 of the remaining 32.

AREVA NP provided Supplement 2 on November 25, 2009 and Supplement 3 on December 8, 2009 to revise the commitment date for 11 of the remaining questions. AREVA NP provided Supplement 4 on December 10, 2009 to provide responses to 11 of the 15 remaining questions with a schedule to provide an FSAR markup for 9 of the questions. AREVA NP provided Supplement 5 on March 31, 2010 to provide a technically correct and complete response to 1 of the 4 remaining questions and provide FSAR markups for 3 of the 9 FSAR Markups. Supplement 6 to RAI No. 273 was sent on May 19, 2009 which responded to 1 of the 3 remaining questions. RAI 273 Supplement 7 sent on July 29, 2010, Supplement 8 sent on October 1, 2010, Supplement 9 sent on October 28, 2010 and Supplement 10 sent on December 17, 2011 provided a revised schedule for the remaining FSAR markups and responses.

The schedule for the FSAR markups for the 6 remaining questions is being revised to allow more time to interact with the NRC. The revised schedule for the remaining 6 FSAR markups is provided below:

Question #	Supplement Date (providing FSAR Markup)
RAI 273 — 11.05-2	March 3, 2011
RAI 273 — 11.05-5	March 3, 2011
RAI 273 — 11.05-7	March 3, 2011
RAI 273 — 11.05-8	March 3, 2011
RAI 273 — 11.05-9	March 3, 2011
RAI 273 — 11.05-10	March 3, 2011

The schedule for a technically correct and complete response to the remaining 2 questions is being revised to allow more time to interact with the NRC. The revised schedule for the responses to the remaining 2 questions is provided below:

Question #	Response Date
RAI 273 — 11.02-14	March 3, 2011
RAI 273 — 11.03-12	March 3, 2011

Sincerely,

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

From: BRYAN Martin (External RS/NB)
Sent: Friday, December 17, 2010 9:51 AM
To: Tesfaye, Getachew
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); NOXON David (RS/NB); 'Carneal, Jason'
Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 10

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. Supplement 1 to RAI No. 273 was sent on November 6, 2009 which responded to 17 of the 32 remaining questions and provided partial responses to 4 of the remaining 32.

AREVA NP provided Supplement 2 on November 25, 2009 and Supplement 3 on December 8, 2009 to revise the commitment date for 11 of the remaining questions. AREVA NP provided Supplement 4 on December 10, 2009 to provide responses to 11 of the 15 remaining questions with a schedule to provide an FSAR markup for 9 of the questions. AREVA NP provided Supplement 5 on March 31, 2010 to provide a technically correct and complete response to 1 of the 4 remaining questions and provide FSAR markups for 3 of the 9 FSAR Markups. Supplement 6 to RAI No. 273 was sent on May 19, 2009 which responded to 1 of the 3 remaining questions. RAI 273 Supplement 7 sent on July 29, 2010, Supplement 8 sent on October 1, 2010 and Supplement 9 sent on October 28, 2010 provided a revised schedule for the remaining FSAR markups and responses.

The schedule for the FSAR markups for the 6 remaining questions is being revised to allow more time to interact with the NRC. The revised schedule for the remaining 6 FSAR markups is provided below:

Question #	Supplement Date (providing FSAR Markup)
RAI 273 — 11.05-2	January 21, 2011
RAI 273 — 11.05-5	January 21, 2011
RAI 273 — 11.05-7	January 21, 2011
RAI 273 — 11.05-8	January 21, 2011
RAI 273 — 11.05-9	January 21, 2011
RAI 273 — 11.05-10	January 21, 2011

The schedule for a technically correct and complete response to the remaining 2 questions is being revised to allow more time to interact with the NRC. The revised schedule for the responses to the remaining 2 questions is provided below:

Question #	Response Date
RAI 273 — 11.02-14	January 21, 2011
RAI 273 — 11.03-12	January 21, 2011

Sincerely,

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

From: BRYAN Martin (External RS/NB)
Sent: Thursday, October 28, 2010 2:23 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); NOXON David (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 9

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. Supplement 1 to RAI No. 273 was sent on November 6, 2009 which responded to 17 of the 32 remaining questions and provided partial responses to 4 of the remaining 32.

AREVA NP provided Supplement 2 on November 25, 2009 and Supplement 3 on December 8, 2009 to revise the commitment date for 11 of the remaining questions. AREVA NP provided Supplement 4 on December 10, 2009 to provide responses to 11 of the 15 remaining questions with a schedule to provide an FSAR markup for 9 of the questions. AREVA NP provided Supplement 5 on March 31, 2010 to provide a technically correct and complete response to 1 of the 4 remaining questions and provide FSAR markups for 3 of the 9 FSAR Markups. Supplement 6 to RAI No. 273 was sent on May 19, 2009 which responded to 1 of the 3 remaining questions. RAI 273 Supplement 7 sent on July 29, 2010 and Supplement 8 sent on October 1, 2010 provided a revised schedule for the remaining FSAR markups and responses.

The schedule for the FSAR markups for the 6 remaining questions is being revised to allow more time to interact with the NRC. The revised schedule for the remaining 6 FSAR markups is provided below:

Question #	Supplement Date (providing FSAR Markup)
RAI 273 — 11.05-2	December 17, 2010
RAI 273 — 11.05-5	December 17, 2010
RAI 273 — 11.05-7	December 17, 2010
RAI 273 — 11.05-8	December 17, 2010
RAI 273 — 11.05-9	December 17, 2010
RAI 273 — 11.05-10	December 17, 2010

The schedule for a technically correct and complete response to the remaining 2 questions is being revised to allow more time to interact with the NRC. The revised schedule for the responses to the remaining 2 questions is provided below:

Question #	Response Date
RAI 273 — 11.02-14	December 17, 2010
RAI 273 — 11.03-12	December 17, 2010

Sincerely,

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

From: BRYAN Martin (External RS/NB)
Sent: Friday, October 01, 2010 3:20 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); NOXON David (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 8

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. Supplement 1 to RAI No. 273 was sent on November 6, 2009 which responded to 17 of the 32 remaining questions and provided partial responses to 4 of the remaining 32.

AREVA NP provided Supplement 2 on November 25, 2009 and Supplement 3 on December 8, 2009 to revise the commitment date for 11 of the remaining questions. AREVA NP provided Supplement 4 on December 10, 2009 to provide responses to 11 of the 15 remaining questions with a schedule to provide an FSAR markup for 9 of the questions. AREVA NP provided Supplement 5 on March 31, 2010 to provide a technically correct and complete response to 1 of the 4 remaining questions and provide FSAR markups for 3 of the 9 FSAR Markups. Supplement 6 to RAI No. 273 was sent on May 19, 2009 which responded to 1 of the 3 remaining questions. Supplement 7 to RAI 273 was sent on July 29, 2010 to provide a revised schedule for the remaining FSAR markups and responses.

The schedule for the FSAR markups for the 6 remaining questions is being revised to allow more time to interact with the NRC. The revised schedule for the remaining 6 FSAR markups is provided below:

Question #	Supplement Date (providing FSAR Markup)
RAI 273 — 11.05-2	November 1, 2010
RAI 273 — 11.05-5	November 1, 2010
RAI 273 — 11.05-7	November 1, 2010
RAI 273 — 11.05-8	November 1, 2010
RAI 273 — 11.05-9	November 1, 2010
RAI 273 — 11.05-10	November 1, 2010

The schedule for a technically correct and complete response to the remaining 2 questions is being revised to allow more time to interact with the NRC. The revised schedule for the responses to the remaining 2 questions is provided below:

Question #	Response Date
RAI 273 — 11.02-14	November 1, 2010
RAI 273 — 11.03-12	November 1, 2010

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

From: BRYAN Martin (EXT)
Sent: Thursday, July 29, 2010 3:45 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); NOXON David B (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 7

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. Supplement 1 to RAI No. 273 was sent on November 6, 2009 which responded to 17 of the 32 remaining questions and provided partial responses to 4 of the remaining 32. AREVA NP provided Supplement 2 on November 25, 2009 and Supplement 3 on December 8, 2009 to revise the commitment date for 11 of the remaining questions. AREVA NP provided Supplement 4 on December 10, 2009 to provide responses to 11 of the 15 remaining questions with a schedule to provide an FSAR markup for 9 of the questions. AREVA NP provided Supplement 5 on March 31, 2010 to provide a technically correct and complete response to 1 of the 4 remaining questions and provide FSAR markups for 3 of the 9 FSAR Markups. Supplement 6 to RAI No. 273 was sent on May 19, 2009 which responded to 1 of the 3 remaining questions.

Based on the need for more time to incorporate NRC comments, a complete FSAR markup is not provided for 6 of the questions scheduled for July 29, 2010. The revised schedule for the remaining 6 FSAR markups is provided below:

Question #	Supplement Date (providing FSAR Markup)
RAI 273 — 11.05-2	October 1, 2010
RAI 273 — 11.05-5	October 1, 2010
RAI 273 — 11.05-7	October 1, 2010
RAI 273 — 11.05-8	October 1, 2010
RAI 273 — 11.05-9	October 1, 2010
RAI 273 — 11.05-10	October 1, 2010

The schedule for a technically correct and complete response to the remaining 2 questions is being revised based on the need for more time to incorporate NRC comments. The revised schedule for the responses to the remaining 2 questions is provided below:

Question #	Response Date
RAI 273 — 11.02-14	October 1, 2010
RAI 273 — 11.03-12	October 1, 2010

Sincerely,

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

From: BRYAN Martin (EXT)
Sent: Wednesday, May 19, 2010 3:08 PM
To: Tesfaye, Getachew
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); NOXON David B (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 6

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. Supplement 1 to RAI No. 273 was sent on November 6, 2009 which responded to 17 of the 32 remaining questions and provided partial responses to 4 of the remaining 32.

AREVA NP provided Supplement 2 on November 25, 2009 and Supplement 3 on December 8, 2009 to revise the commitment date for 11 of the remaining questions. AREVA NP provided Supplement 4 on December 10, 2009 to provide responses to 11 of the 15 remaining questions with a schedule to provide an FSAR markup for 9 of the questions. AREVA NP provided Supplement 5 on March 31, 2010 to provide a technically correct and complete response to 1 of the 4 remaining questions and provide FSAR markups for 3 of the 9 FSAR Markups. The attached file, "RAI 273 Supplement 6 Response US EPR DC.pdf," provides a technically correct and complete response to 1 of the 3 remaining questions. A revised schedule is provided for the remaining 6 FSAR Markups.

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 273 Question 11.04 -15.

The following table indicates the respective pages in the response document, "RAI 273 Supplement 6 Response US EPR DC.pdf," that contain AREVA NP's responses to the subject questions.

Question #	Start Page	End Page
RAI 273 — 11.04-15	1	3

Based on the April 22 and 23, 2010 Chapter 11 audit, a complete FSAR markup is not provided for 6 of the questions as originally scheduled for May 19, 2010. The revised schedule for the remaining 6 FSAR markups is provided below:

Question #	Supplement Date (providing FSAR Markup)
RAI 273 — 11.05-2	July 29, 2010
RAI 273 — 11.05-5	July 29, 2010
RAI 273 — 11.05-7	July 29, 2010
RAI 273 — 11.05-8	July 29, 2010
RAI 273 — 11.05-9	July 29, 2010
RAI 273 — 11.05-10	July 29, 2010

The schedule for a technically correct and complete response to the remaining 2 questions is revised based on the April 22 and 23, 2010 Chapter 11 audit and is provided below.

Question #	Response Date
RAI 273 — 11.02-14	July 29, 2010
RAI 273 — 11.03-12	July 29, 2010

Sincerely,

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

From: BRYAN Martin (EXT)
Sent: Wednesday, March 31, 2010 4:36 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); NOXON David B (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 5

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. Supplement 1 to RAI No. 273 was sent on November 6, 2009 which responded to 17 of the 32 remaining questions and provided partial responses to 4 of the remaining 32. AREVA NP provided Supplement 2 on November 25, 2009 and Supplement 3 on December 8, 2009 to revise the commitment date for 11 of the remaining questions. AREVA NP provided Supplement 4 on December 10, 2009 to provide response to 11 of the 15 remaining questions with a schedule to provide an FSAR markup for 9 of the questions. The attached file, "RAI 273 Supplement 5 Response US EPR DC.pdf," provides a technically correct and complete response to 1 of the 4 remaining questions and provides FSAR markups for 3 of the 9 questions.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the responses to RAI 273 Questions 11.03 -13, 11.05-01, 11.05 -04, and 11.05-6.

The following table indicates the respective pages in the response document, "RAI 273 Supplement 5 Response US EPR DC.pdf," that contain AREVA NP's responses to the subject questions.

Question #	Start Page	End Page
RAI 273 — 11.03-13	2	3
RAI 273 — 11.05-1	4	4
RAI 273 — 11.05-4	5	5
RAI 273 — 11.05-6	6	6

Based on additional time needed to update engineering source documents, a complete FSAR markup is not provided for 6 of the questions as originally scheduled for March 31, 2010. The revised schedule for the remaining 6 FSAR markups is provided below:

Question #	Supplement Date (providing FSAR Markup)
RAI 273 — 11.05-2	May 19, 2010
RAI 273 — 11.05-5	May 19, 2010
RAI 273 — 11.05-7	May 19, 2010
RAI 273 — 11.05-8	May 19, 2010
RAI 273 — 11.05-9	May 19, 2010
RAI 273 — 11.05-10	May 19, 2010

The schedule for a technically correct and complete response to the remaining 3 questions is revised based on the March 24, 2010 Chapter 11 audit and is provided below.

Question #	Response Date
RAI 273 — 11.02-14	May 19, 2010
RAI 273 — 11.03-12	May 19, 2010
RAI 273 — 11.04-15	May 19, 2010

Sincerely,

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

From: Pederson Ronda M (AREVA NP INC)
Sent: Thursday, December 10, 2009 6:29 PM
To: 'Tefsaye, Getachew'
Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); NOXON David B (AREVA NP INC); WILLIFORD Dennis C (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 4

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. Supplement 1 to RAI No. 273 was sent on November 6, 2009 which responded to 17 of the 32 remaining questions and provided partial responses to 4 of the remaining 32. Supplements 2 and Supplement 3 on revised the commitment date for 11 of the remaining questions. The attached file, "RAI 273 Supplement 4 Response US EPR DC.pdf," provides a technically correct and complete response to 11 of the 15 remaining questions, as committed.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 273 Questions 11.05 -06, 11.06-07, 11.05 -08, 11.06-09, 11.05 -10, 11.06-11, and 11.06-12.

A complete FSAR markup is not provided for the RAI 273 questions. As agreed by NRC staff during an FSAR Chapter 11 audit on October 7, 2009, FSAR markups may be submitted after Phase 2 completion to support Staff review to close confirmatory items. Therefore, a complete FSAR markup for the RAI 273 questions will be provided as indicated in the following table:

Question #	Supplement Date (providing FSAR Markup)
RAI 273 — 11.05-1	March 31, 2010
RAI 273 — 11.05-2	March 31, 2010
RAI 273 — 11.05-4	March 31, 2010
RAI 273 — 11.05-5	March 31, 2010
RAI 273 — 11.05-6	March 31, 2010
RAI 273 — 11.05-7	March 31, 2010
RAI 273 — 11.05-8	March 31, 2010
RAI 273 — 11.05-9	March 31, 2010

The following table indicates the respective pages in the response document, "RAI 273 Supplement 4 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 273 — 11.05-1	2	2
RAI 273 — 11.05-2	3	6
RAI 273 — 11.05-4	7	8
RAI 273 — 11.05-5	9	16
RAI 273 — 11.05-6	17	19
RAI 273 — 11.05-7	20	21
RAI 273 — 11.05-8	22	23
RAI 273 — 11.05-9	24	26
RAI 273 — 11.05-10	27	27
RAI 273 — 11.05-11	28	30
RAI 273 — 11.05-12	31	31

The schedule for a technically correct and complete response to the remaining 4 questions is unchanged and provided below.

Question #	Response Date
RAI 273 — 11.02-14	March 31, 2010
RAI 273 — 11.03-12	March 31, 2010
RAI 273 — 11.03-13	March 31, 2010
RAI 273 — 11.04-15	March 31, 2010

Sincerely,

Ronda Pederson

ronda.pederson@areva.com

Licensing Manager, U.S. EPR Design Certification

AREVA NP Inc.

An AREVA and Siemens company

3315 Old Forest Road

Lynchburg, VA 24506-0935

Phone: 434-832-3694

Cell: 434-841-8788

From: Pederson Ronda M (AREVA NP INC)

Sent: Tuesday, December 08, 2009 6:22 PM

To: 'Tefaye, Getachew'

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

Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 3

Getachew,

AREVA NP is unable to provide a technically correct and complete response to the 11 remaining questions for RAI 273 today, as committed, and a revised schedule for a technically correct and complete response to the remaining questions is provided below.

Question #	Response Date
RAI 273 — 11.05-1	December 11, 2009
RAI 273 — 11.05-2	December 11, 2009
RAI 273 — 11.05-4	December 11, 2009
RAI 273 — 11.05-5	December 11, 2009
RAI 273 — 11.05-6	December 11, 2009
RAI 273 — 11.05-7	December 11, 2009
RAI 273 — 11.05-8	December 11, 2009
RAI 273 — 11.05-9	December 11, 2009
RAI 273 — 11.05-10	December 11, 2009
RAI 273 — 11.05-11	December 11, 2009
RAI 273 — 11.05-12	December 11, 2009
RAI 273 — 11.02-14	March 31, 2010
RAI 273 — 11.03-12	March 31, 2010
RAI 273 — 11.03-13	March 31, 2010
RAI 273 — 11.04-15	March 31, 2010

Sincerely,

Ronda Pederson

ronda.pederson@areva.com

Licensing Manager, U.S. EPR Design Certification

AREVA NP Inc.

An AREVA and Siemens company

3315 Old Forest Road

Lynchburg, VA 24506-0935

Phone: 434-832-3694

Cell: 434-841-8788

From: WELLS Russell D (AREVA NP INC)

Sent: Wednesday, November 25, 2009 2:38 PM

To: 'Getachew Tesfaye'; 'Michael Miernicki'

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

Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch 11, Supplement 2

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. AREVA NP submitted Supplement 1 on November 6, 2009 which provided a technically correct and complete response to 17 of the remaining questions and indicated that a response to 11 of the remaining 15 questions would be provided by November 25, 2009. However, AREVA NP is unable to provide a technically correct and complete response to 11 of the 15 remaining questions for RAI 273 as committed and a revised schedule for a technically correct and complete response to the remaining 15 questions is provided below.

Question #	Response Date
RAI 273 — 11.05-1	December 8, 2009

RAI 273 — 11.05-2	December 8, 2009
RAI 273 — 11.05-4	December 8, 2009
RAI 273 — 11.05-5	December 8, 2009
RAI 273 — 11.05-6	December 8, 2009
RAI 273 — 11.05-7	December 8, 2009
RAI 273 — 11.05-8	December 8, 2009
RAI 273 — 11.05-9	December 8, 2009
RAI 273 — 11.05-10	December 8, 2009
RAI 273 — 11.05-11	December 8, 2009
RAI 273 — 11.05-12	December 8, 2009
RAI 273 — 11.02-14	March 31, 2010
RAI 273 — 11.03-12	March 31, 2010
RAI 273 — 11.03-13	March 31, 2010
RAI 273 — 11.04-15	March 31, 2010

Sincerely,

(Russ Wells on behalf of)

Ronda Pederson

ronda.pederson@areva.com

Licensing Manager, U.S. EPR Design Certification

New Plants Deployment

AREVA NP, Inc.

An AREVA and Siemens company

3315 Old Forest Road

Lynchburg, VA 24506-0935

Phone: 434-832-3694

Cell: 434-841-8788

From: Pederson Ronda M (AREVA NP INC)

Sent: Friday, November 06, 2009 9:58 PM

To: 'Tesyfaye, Getachew'

Cc: MCINTYRE Brian (AREVA NP INC); DELANO Karen V (AREVA NP INC); SLIVA Dana (AREVA NP INC); WILLIFORD Dennis C (AREVA NP INC)

Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch. 11, Supplement 1

Getachew,

AREVA NP Inc. (AREVA NP) provided technically correct and complete responses to 10 of the 42 questions of RAI No. 273 on October 14, 2009. The attached file, "RAI 273 Supplement 1 Response US EPR DC.pdf," provides a technically correct and complete response to 17 of the remaining questions and partial responses to 4 of the remaining questions.

Appended to this file are the affected pages of the U.S. EPR Final Safety Analysis Report (FSAR) in redline-strikeout format which support the response to RAI 273 Question 11.02-4, 11.02-5, 11.02-6, 11.02-7, 11.02-8, 11.02-9, 11.02-12, 11.02-13, 11.02-15, 11.03-4, 11.03-5, 11.03-8, 11.04-7, 11.04-8, 11.04-10, 11.04-14, 11.04-15, and 11.05-3.

Also included are related markups to AREVA NP's document, ANP-10292, Revision 1, "U.S. EPR Conformance with Standard Review Plan (NUREG-0800) Technical Report."

A complete FSAR markup is not provided for four of the answered questions. As agreed by NRC staff during an FSAR Chapter 11 audit on October 7, 2009, FSAR markups may be submitted after Phase 2 completion to

support Staff review to close confirmatory items. Therefore, a complete FSAR markup for the four questions will be provided as indicated in the following table:

Question #	Supplement Date (providing FSAR Markup)
RAI 273 — 11.02-14	March 31, 2010
RAI 273 — 11.03-12	March 31, 2010
RAI 273 — 11.03-13	March 31, 2010
RAI 273 — 11.04-15	March 31, 2010

The following table indicates the respective page(s) in the response document, “RAI 273 Supplement 1 Response US EPR DC.pdf,” that contain AREVA NP’s response to the subject question.

Question #	Start Page	End Page
RAI 273 — 11.02-4	2	2
RAI 273 — 11.02-5	3	4
RAI 273 — 11.02-6	5	5
RAI 273 — 11.02-7	6	6
RAI 273 — 11.02-8	7	7
RAI 273 — 11.02-9	8	9
RAI 273 — 11.02-12	10	10
RAI 273 — 11.02-13	11	11
RAI 273 — 11.02-14	12	12
RAI 273 — 11.02-15	13	14
RAI 273 — 11.03-4	15	15
RAI 273 — 11.03-5	16	16
RAI 273 — 11.03-8	17	18
RAI 273 — 11.03-12	19	19
RAI 273 — 11.03-13	20	20
RAI 273 — 11.04-7	21	22
RAI 273 — 11.04-8	23	24
RAI 273 — 11.04-10	25	25
RAI 273 — 11.04-14	26	26
RAI 273 — 11.04-15	27	27
RAI 273 — 11.05-3	28	28

A complete answer is not provided for 15 of the 42 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 273 — 11.02-14	March 31, 2010
RAI 273 — 11.03-12	March 31, 2010
RAI 273 — 11.03-13	March 31, 2010
RAI 273 — 11.04-15	March 31, 2010
RAI 273 — 11.05-1	November 25, 2009
RAI 273 — 11.05-2	November 25, 2009
RAI 273 — 11.05-4	November 25, 2009
RAI 273 — 11.05-5	November 25, 2009
RAI 273 — 11.05-6	November 25, 2009
RAI 273 — 11.05-7	November 25, 2009
RAI 273 — 11.05-8	November 25, 2009
RAI 273 — 11.05-9	November 25, 2009

RAI 273 — 11.05-10	November 25, 2009
RAI 273 — 11.05-11	November 25, 2009
RAI 273 — 11.05-12	November 25, 2009

Sincerely,

Ronda Pederson

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3315 Old Forest Road

Lynchburg, VA 24506-0935

Phone: 434-832-3694

Cell: 434-841-8788

From: Pederson Ronda M (AREVA NP INC)

Sent: Wednesday, October 14, 2009 5:45 PM

To: 'Tefaye, Getachew'

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

Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch. 11

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 273 Response US EPR DC.pdf" provides technically correct and complete responses to 10 of the 42 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 273, Questions 11.02-11, 11.03-7, 11.03-9, 11.03-10, 11.04-10, 11.04-11 and 11.04-12.

The following table indicates the respective pages in the response document, "RAI 273 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 273 — 11.02-4	2	2
RAI 273 — 11.02-5	3	3
RAI 273 — 11.02-6	4	4
RAI 273 — 11.02-7	5	5
RAI 273 — 11.02-8	6	6
RAI 273 — 11.02-9	7	7
RAI 273 — 11.02-10	8	8
RAI 273 — 11.02-11	9	9
RAI 273 — 11.02-12	10	10
RAI 273 — 11.02-13	11	11

RAI 273 — 11.02-14	12	12
RAI 273 — 11.02-15	13	13
RAI 273 — 11.03-4	14	14
RAI 273 — 11.03-5	15	15
RAI 273 — 11.03-6	16	16
RAI 273 — 11.03-7	17	17
RAI 273 — 11.03-8	18	18
RAI 273 — 11.03-9	19	19
RAI 273 — 11.03-10	20	21
RAI 273 — 11.03-11	22	22
RAI 273 — 11.03-12	23	23
RAI 273 — 11.03-13	24	24
RAI 273 — 11.04-7	25	25
RAI 273 — 11.04-8	26	26
RAI 273 — 11.04-10	27	28
RAI 273 — 11.04-11	29	29
RAI 273 — 11.04-12	30	30
RAI 273 — 11.04-13	31	31
RAI 273 — 11.04-14	32	32
RAI 273 — 11.04-15	33	33
RAI 273 — 11.05-1	34	34
RAI 273 — 11.05-2	35	36
RAI 273 — 11.05-3	37	37
RAI 273 — 11.05-4	38	38
RAI 273 — 11.05-5	39	40
RAI 273 — 11.05-6	41	41
RAI 273 — 11.05-7	42	42
RAI 273 — 11.05-8	43	43
RAI 273 — 11.05-9	44	44
RAI 273 — 11.05-10	45	45
RAI 273 — 11.05-11	46	47
RAI 273 — 11.05-12	48	48

A complete answer is not provided for 32 of the 42 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 273 — 11.02-4	November 6, 2009
RAI 273 — 11.02-5	November 6, 2009
RAI 273 — 11.02-6	November 6, 2009
RAI 273 — 11.02-7	November 6, 2009
RAI 273 — 11.02-8	November 6, 2009
RAI 273 — 11.02-9	November 6, 2009
RAI 273 — 11.02-12	November 6, 2009
RAI 273 — 11.02-13	November 6, 2009
RAI 273 — 11.02-14	November 6, 2009
RAI 273 — 11.02-15	November 6, 2009
RAI 273 — 11.03-4	November 6, 2009

RAI 273 — 11.03-5	November 6, 2009
RAI 273 — 11.03-8	November 6, 2009
RAI 273 — 11.03-12	November 6, 2009
RAI 273 — 11.03-13	November 6, 2009
RAI 273 — 11.04-7	November 6, 2009
RAI 273 — 11.04-8	November 6, 2009
RAI 273 — 11.04-10 (Part 3)	November 6, 2009
RAI 273 — 11.04-14	November 6, 2009
RAI 273 — 11.04-15	November 6, 2009
RAI 273 — 11.05-1	November 6, 2009
RAI 273 — 11.05-2	November 6, 2009
RAI 273 — 11.05-3	November 6, 2009
RAI 273 — 11.05-4	November 6, 2009
RAI 273 — 11.05-5	November 6, 2009
RAI 273 — 11.05-6	November 6, 2009
RAI 273 — 11.05-7	November 6, 2009
RAI 273 — 11.05-8	November 6, 2009
RAI 273 — 11.05-9	November 6, 2009
RAI 273 — 11.05-10	November 6, 2009
RAI 273 — 11.05-11	November 6, 2009
RAI 273 — 11.05-12	November 6, 2009

Sincerely,

Ronda Pederson

ronda.pederson@areva.com

Licensing Manager, U.S. EPR Design Certification

AREVA NP Inc.

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3315 Old Forest Road

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

Sent: Monday, September 14, 2009 3:12 PM

To: ZZ-DL-A-USEPR-DL

Cc: Dehmel, Jean-Claude; Frye, Timothy; Jennings, Jason; Colaccino, Joseph; ArevaEPRDCPEm Resource

Subject: U.S. EPR Design Certification Application RAI No. 273 (3450, 3459,3460, 3462), FSAR Ch. 11

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on August 11, 2009, and discussed with your staff on August 25, 2009. Draft RAI Question 11.04-9 was deleted, and Draft RAI Questions 11.02-4, 11.02-14, 11.03-4, 11.03-12, 11.03-13, 11.04-7, 11.04-12, 11.05-1, 11.05-4, and 11.05-5 were 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: 2828

Mail Envelope Properties (1F1CC1BBDC66B842A46CAC03D6B1CD4104365B89)

Subject: Response to U.S. EPR Design Certification Application RAI No. 273, FSAR Ch
11, Supplement 13
Sent Date: 4/11/2011 2:07:35 PM
Received Date: 4/11/2011 2:07:39 PM
From: WELLS Russell (AREVA)

Created By: Russell.Wells@areva.com

Recipients:

"Miernicki, Michael" <Michael.Miernicki@nrc.gov>
Tracking Status: None
"NOXON David (AREVA)" <David.Noxon@areva.com>
Tracking Status: None
"BENNETT Kathy (AREVA)" <Kathy.Bennett@areva.com>
Tracking Status: None
"DELANO Karen (AREVA)" <Karen.Delano@areva.com>
Tracking Status: None
"ROMINE Judy (AREVA)" <Judy.Romine@areva.com>
Tracking Status: None
"RYAN Tom (AREVA)" <Tom.Ryan@areva.com>
Tracking Status: None
"Teschfaye, Getachew" <Getachew.Teschfaye@nrc.gov>
Tracking Status: None

Post Office: AUSLYNCMX02.adom.ad.corp

Files	Size	Date & Time
MESSAGE	40382	4/11/2011 2:07:39 PM
RAI 273 Supplement 13 Response US EPR DC.PDF		16480

Options

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

Response to

Request for Additional Information No. 273, Supplement 13

9/14/2009

U.S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 11.02 - Liquid Waste Management System

SRP Section: 11.03 - Gaseous Waste Management System

SRP Section: 11.04 - Solid Waste Management System

**SRP Section: 11.05 - Process and Effluent Radiological Monitoring
Instrumentation and Sampling Systems**

Application Section: Chapter 11

QUESTIONS for Health Physics Branch (CHPB)

Question 11.02-14:

In Section 11.2.4, the FSAR presents the results of a cost-benefit analysis (CBA) in justifying that no system augmentation is needed given the requirements of Appendix I to Part 50. A review of the assumptions indicates that a 60-year life cycle was applied in the analysis for the selected radwaste processing equipment, while RG 1.110 applies a 30-year life cycle. Given the heavy duty operational cycle of such equipment, the CBA should provide the technical justification for an expected operational life of 60 years. Also, the CBA should provide the processing capacity rate of the supplemental demineralizer subsystem. The applicant is requested to provide sufficient information to enable the staff to conduct an independent confirmation of the CBA results.

Response to Question 11.02-14:

The CBA has been removed from U.S. EPR FSAR Tier 2, Section 11.2.4, and a COL item has been added requiring a COL applicant to perform a site-specific CBA. See the Response to RAI 301, Supplement 2, Question 11.02-17(4) and associated U.S. EPR FSAR markups.

FSAR Impact:

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

Question 11.03-12:

In Section 11.3.4, the FSAR presents the results of a cost-benefit analysis (CBA) in justifying that no system augmentation is needed given the requirements of Appendix I to Part 50. A review of the assumptions indicates that a 60-year life cycle was applied in the analysis for the selected GWMS processing equipment, while RG 1.110 applies a 30-year life cycle. Given the heavy duty operational cycle of such equipment and possibility for the contamination of charcoal by chemicals or water damage, the CBA should provide the technical justification for an expected operational life of 60 years. The applicant is requested to provide sufficient information to enable the staff to conduct an independent confirmation of the CBA results.

Response to Question 11.03-12:

The CBA has been removed from U.S. EPR FSAR Tier 2, Section 11.3.4, and a COL item has been added requiring a COL applicant to perform a site-specific CBA. See the Response to RAI 301, Supplement 2, Question 11.03-15(c) and associated U.S. EPR FSAR markups.

FSAR Impact:

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