

ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Wednesday, August 10, 2011 5:03 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); NOXON David (AREVA); LENTZ Tony (EXTERNAL AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 17
Attachments: RAI 386 Supplement 17 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, and Supplement 5 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, and September 22, 2010, respectively, to provide a revised schedule. Supplement 7 was submitted to NRC on November 10, 2010 to provide technically correct and complete responses to 9 of the 24 questions and provided a revised schedule for the remaining 15 questions. Supplement 8 was submitted to NRC on November 29, 2010 and Supplement 9 was submitted to NRC on January 21, 2011 to provide a revised schedule for the response to the remaining questions. Supplement 10 was submitted to NRC on February 9, 2011 to provide a technically correct and complete response to 1 of the 15 questions and provided a revised schedule for the remaining 14 questions. Supplements 11 and 12 were submitted to the NRC on March 22, 2011 and April 22, 2011 to provide a revised schedule for the response to the remaining questions. Supplement 13 was submitted to NRC on May 6, 2011 to provide technically correct and complete responses to 2 of the remaining 14 questions. Supplement 14 was submitted to NRC on May 16, 2011 to provide a technically correct and complete response to 1 of the remaining 12 questions. Supplement 15 and Supplement 16 were submitted to the NRC on June 9, 2011 and August 5, 2011 to provide a revised schedule for the remaining 11 questions. The attached file, "RAI 386 Supplement 17 Response US EPR DC.pdf" provides technically correct and complete FINAL responses to 6 of the 11 remaining questions.

The following table indicates the respective pages in the response document, "RAI 386 Supplement 17 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 386 — 14.02-151	2	2
RAI 386 — 14.02-152	3	3
RAI 386 — 14.02-156	4	4
RAI 386 — 14.02-158	5	5
RAI 386 — 14.02-159	6	6
RAI 386 — 14.03.08-2	7	8

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

Question #	Response Date
RAI 386 — 14.03.02-44	August 30, 2011
RAI 386 — 14.03.02-45	August 30, 2011
RAI 386 — 14.03.02-49	August 30, 2011
RAI 386 — 14.03.02-50	August 30, 2011
RAI 386 — 14.03.02-51	August 30, 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

From: WILLIFORD Dennis (RS/NB)

Sent: Friday, August 05, 2011 12:36 PM

To: Getachew.Tesfaye@nrc.gov

Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); LENTZ Tony (External RS/NB)

Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 16

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, and Supplement 5 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, and September 22, 2010, respectively, to provide a revised schedule. Supplement 7 was submitted to NRC on November 10, 2010 to provide technically correct and complete responses to 9 of the 24 questions and provided a revised schedule for the remaining 15 questions. Supplement 8 was submitted to NRC on November 29, 2010 and Supplement 9 was submitted to NRC on January 21, 2011 to provide a revised schedule for the response to the remaining questions. Supplement 10 was submitted to NRC on February 9, 2011 to provide a technically correct and complete response to 1 of the 15 questions and provided a revised schedule for the remaining 14 questions. Supplements 11 and 12 were submitted to the NRC on March 22, 2011 and April 22, 2011 to provide a revised schedule for the response to the remaining questions. Supplement 13 was submitted to NRC on May 6, 2011 to provide technically correct and complete responses to 2 of the remaining 14 questions. Supplement 14 was submitted to NRC on May 16, 2011 to provide a technically correct and complete response to 1 of the remaining 12 questions. Supplement 15 was submitted to NRC on June 9, 2011 to provide a revised schedule for the remaining 11 questions.

The schedule for a technically correct and complete response to the remaining 11 questions has been revised and is provided below:

Question #	Response Date
RAI 386 — 14.02-151	August 30, 2011
RAI 386 — 14.02-152	August 30, 2011
RAI 386 — 14.02-156	August 30, 2011
RAI 386 — 14.02-158	August 30, 2011
RAI 386 — 14.02-159	August 30, 2011
RAI 386 — 14.03.02-44	August 30, 2011
RAI 386 — 14.03.02-45	August 30, 2011
RAI 386 — 14.03.02-49	August 30, 2011
RAI 386 — 14.03.02-50	August 30, 2011
RAI 386 — 14.03.02-51	August 30, 2011
RAI 386 — 14.03.08-2	August 30, 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

From: WILLIFORD Dennis (RS/NB)
Sent: Thursday, June 09, 2011 12:58 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); LENTZ Tony (External RS/NB); NOXON David (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 15

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, and Supplement 5 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, and September 22, 2010, respectively, to provide a revised schedule. Supplement 7 was submitted to NRC on November 10, 2010 which provided technically correct and complete responses to 9 of the 24 questions and provided a revised schedule for the remaining 15 questions. Supplement 8 was submitted to NRC on November 29, 2010 and Supplement 9 was submitted to NRC on January 21, 2011 to provide a revised schedule for the response to the remaining questions. Supplement 10 was submitted to NRC on February 9, 2011 which provided technically correct and complete response to 1 of the 15 questions and provided a revised schedule for the remaining 14 questions. Supplements 11 and 12 were submitted to the NRC on March 22, 2011 and April 22, 2011 to provide a revised schedule for the response to the remaining questions. Supplement 13 was submitted to NRC on May 6, 2011 which provided technically correct and complete responses to 2 of the remaining 14 questions. Supplement 14 was submitted to NRC on May 16, 2011 which provided a technically correct and complete response to 1 of the remaining 12 questions.

The schedule for a technically correct and complete response to the remaining 11 questions has been revised and is provided below:

Question #	Response Date
RAI 386 — 14.02-151	August 9, 2011
RAI 386 — 14.02-152	August 9, 2011
RAI 386 — 14.02-156	August 9, 2011
RAI 386 — 14.02-158	August 9, 2011
RAI 386 — 14.02-159	August 9, 2011
RAI 386 — 14.03.02-44	August 9, 2011
RAI 386 — 14.03.02-45	August 9, 2011
RAI 386 — 14.03.02-49	August 9, 2011
RAI 386 — 14.03.02-50	August 9, 2011
RAI 386 — 14.03.02-51	August 9, 2011
RAI 386 — 14.03.08-2	August 9, 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**From:** WELLS Russell (RS/NB)**Sent:** Monday, May 16, 2011 7:19 AM**To:** 'Tesfaye, Getachew'**Cc:** LENTZ Tony (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. 386, FSAR Ch. 14, Supplement 14

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, and Supplement 5 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, and September 22, 2010, respectively, to provide a revised schedule. Supplement 7 was submitted to NRC on November 10, 2010 which provided technically correct and complete responses to 9 of the 24 questions and provided a revised schedule for the remaining 15 questions. Supplement 8 was submitted to NRC on November 29, 2010 and Supplement 9 was submitted to NRC on January 21, 2011 to provide a revised schedule for the response to the remaining questions. Supplement 10 was submitted to NRC on February 9, 2011 which provided technically correct and complete response to 1 of the 15 questions and provided a revised schedule for the remaining 14 questions. Supplement 11 and Supplement 12 were submitted to NRC on March 22, 2011 and April 21, 2011, respectively, to provide a revised schedule for the response to the remaining questions. Supplement 13 was submitted to NRC on May 6, 2011 which provided technically correct and complete response to 1 of the 14 questions.

The attached file, "RAI 386 Supplement 14 Response US EPR DC.pdf" provides technically correct and complete FINAL responses to 2 of the remaining 13 questions, as committed.

The following table indicates the respective pages in the response document, "RAI 386 Supplement 14 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 386 — 14.02-149	2	2
RAI 386 — 14.02-150	3	3

The schedule for the remaining 11 questions has not changed and is provided below.

Question #	Response Date
RAI 386 — 14.02-151	June 9, 2011
RAI 386 — 14.02-152	June 9, 2011
RAI 386 — 14.02-156	June 9, 2011
RAI 386 — 14.02-158	June 9, 2011
RAI 386 — 14.02-159	June 9, 2011
RAI 386 — 14.03.02-44	June 9, 2011
RAI 386 — 14.03.02-45	June 9, 2011
RAI 386 — 14.03.02-49	June 9, 2011
RAI 386 — 14.03.02-50	June 9, 2011
RAI 386 — 14.03.02-51	June 9, 2011
RAI 386 — 14.03.08-2	June 9, 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: Friday, May 06, 2011 10:43 AM

To: 'Tefaye, Getachew'

Cc: LENTZ Tony (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. 386, FSAR Ch. 14, Supplement 13

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, and Supplement 5 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, and September 22, 2010, respectively, to provide a revised schedule. Supplement 7 was submitted to NRC on November 10, 2010 which provided technically correct and complete responses to 9 of the 24 questions and provided a revised schedule for the remaining 15 questions. Supplement 8 was submitted to NRC on November 29, 2010 and Supplement 9 was submitted to NRC on January 21, 2011 to provide a revised schedule for the response to the remaining questions. Supplement 10 was submitted to NRC on February 9, 2011 which provided technically correct and complete response to 1 of the 15 questions and provided a revised schedule for the remaining 14 questions. Supplement 11 and Supplement 12 were submitted to NRC on March 22, 2011 and April 21, 2011, respectively, to provide a revised schedule for the response to the remaining questions.

The attached file, "RAI 386 Supplement 13 Response US EPR DC.pdf" provides technically correct and complete responses to 1 of the remaining 14 questions.

The following table indicates the respective pages in the response document, "RAI 386 Supplement 13 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 386 — 14.03.03-46	2	3

The schedule for the remaining 13 questions has not changed and is provided below.

Question #	Response Date
RAI 386 — 14.02-149	June 9, 2011
RAI 386 — 14.02-150	June 9, 2011
RAI 386 — 14.02-151	June 9, 2011
RAI 386 — 14.02-152	June 9, 2011

RAI 386 — 14.02-156	June 9, 2011
RAI 386 — 14.02-158	June 9, 2011
RAI 386 — 14.02-159	June 9, 2011
RAI 386 — 14.03.02-44	June 9, 2011
RAI 386 — 14.03.02-45	June 9, 2011
RAI 386 — 14.03.02-49	June 9, 2011
RAI 386 — 14.03.02-50	June 9, 2011
RAI 386 — 14.03.02-51	June 9, 2011
RAI 386 — 14.03.08-2	June 9, 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, April 21, 2011 7:38 AM

To: 'Tesfaye, Getachew'

Cc: LENTZ Tony (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. 386, FSAR Ch. 14, Supplement 12

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, and Supplement 5 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, and September 22, 2010, respectively, to provide a revised schedule. Supplement 7 was submitted to NRC on November 10, 2010 which provided technically correct and complete responses to 9 of the 24 questions and provided a revised schedule for the remaining 15 questions. Supplement 8 was submitted to NRC on November 29, 2010 and Supplement 9 was submitted to NRC on January 21, 2011 to provide a revised schedule for the response to the remaining questions. Supplement 10 was submitted to NRC on February 9, 2011 which provided technically correct and complete response to 1 of the 15 questions and provided a revised schedule for the remaining 14 questions. Supplement 11 was submitted to NRC on March 22, 2011 to provide a revised schedule for the response to the remaining questions.

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

Question #	Response Date
RAI 386 — 14.02-149	June 9, 2011
RAI 386 — 14.02-150	June 9, 2011
RAI 386 — 14.02-151	June 9, 2011
RAI 386 — 14.02-152	June 9, 2011

RAI 386 — 14.02-156	June 9, 2011
RAI 386 — 14.02-158	June 9, 2011
RAI 386 — 14.02-159	June 9, 2011
RAI 386 — 14.03.02-44	June 9, 2011
RAI 386 — 14.03.02-45	June 9, 2011
RAI 386 — 14.03.02-49	June 9, 2011
RAI 386 — 14.03.02-50	June 9, 2011
RAI 386 — 14.03.02-51	June 9, 2011
RAI 386 — 14.03.03-46	June 9, 2011
RAI 386 — 14.03.08-2	June 9, 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: Tuesday, March 22, 2011 10:15 AM

To: 'Tesfaye, Getachew'

Cc: LENTZ Tony (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. 386, FSAR Ch. 14, Supplement 11

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, and Supplement 5 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, and September 22, 2010, respectively, to provide a revised schedule. Supplement 7 was submitted to NRC on November 10, 2010 which provided technically correct and complete responses to 9 of the 24 questions and provided a revised schedule for the remaining 15 questions. Supplement 8 was submitted to NRC on November 29, 2010 and Supplement 9 was submitted to NRC on January 21, 2011 to provide a revised schedule for the response to the remaining questions. Supplement 10 was submitted to NRC on February 9, 2011 which provided technically correct and complete response to 1 of the 15 questions and provided a revised schedule for the remaining 14 questions.

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

Question #	Response Date
RAI 386 — 14.02-149	April 22, 2011
RAI 386 — 14.02-150	April 22, 2011
RAI 386 — 14.02-151	April 22, 2011

RAI 386 — 14.02-152	April 22, 2011
RAI 386 — 14.02-156	April 22, 2011
RAI 386 — 14.02-158	April 22, 2011
RAI 386 — 14.02-159	April 22, 2011
RAI 386 — 14.03.02-44	April 22, 2011
RAI 386 — 14.03.02-45	April 22, 2011
RAI 386 — 14.03.02-49	April 22, 2011
RAI 386 — 14.03.02-50	April 22, 2011
RAI 386 — 14.03.02-51	April 22, 2011
RAI 386 — 14.03.03-46	April 22, 2011
RAI 386 — 14.03.08-2	April 22, 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: Wednesday, February 09, 2011 1:42 PM

To: Tesfaye, Getachew

Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); WELLS Russell (RS/NB)

Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 10

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, and Supplement 5 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, and September 22, 2010, respectively, to provide a revised schedule. Supplement 7 was submitted to NRC on November 10, 2010 which provided technically correct and complete responses to 9 of the 24 questions and provided a revised schedule for the remaining 15 questions. Supplement 8 was submitted to NRC on November 29, 2010 and Supplement 9 was submitted to NRC on January 21, 2011 to provide a revised schedule for the response to the remaining questions.

The attached file, "RAI 386 Supplement 10 Response US EPR DC.pdf" provides technically correct and complete responses to 1 of the remaining 15 questions.

The following table indicates the respective pages in the response document, "RAI 386 Supplement 10 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 386 — 14.03.03-37	2	2

The schedule for the remaining 14 questions has not changed and is provided below.

Question #	Response Date
RAI 386 — 14.02-149	March 25, 2011
RAI 386 — 14.02-150	March 25, 2011
RAI 386 — 14.02-151	March 25, 2011
RAI 386 — 14.02-152	March 25, 2011
RAI 386 — 14.02-156	March 25, 2011
RAI 386 — 14.02-158	March 25, 2011
RAI 386 — 14.02-159	March 25, 2011
RAI 386 — 14.03.02-44	March 25, 2011
RAI 386 — 14.03.02-45	March 25, 2011
RAI 386 — 14.03.02-49	March 25, 2011
RAI 386 — 14.03.02-50	March 25, 2011
RAI 386 — 14.03.02-51	March 25, 2011
RAI 386 — 14.03.03-46	March 25, 2011
RAI 386 — 14.03.08-2	March 25, 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, January 21, 2011 9:23 AM
To: 'Tefaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); WELLS Russell (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 9

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, and Supplement 5 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, and September 22, 2010, respectively, to provide a revised schedule. Supplement 7 was submitted to NRC on November 10, 2010 which provided technically correct and complete responses to 9 of the 24 questions and provided a revised schedule for the remaining 15 questions. Supplement 8 was submitted to NRC on November 29, 2010 to provide a revised schedule for the response to the remaining questions. In order to allow time for interaction with the NRC, the schedule for a technically correct and complete FINAL response to the remaining questions has been revised and is provided below.

Question #	Response Date
RAI 386 — 14.02-149	March 25, 2011

RAI 386 — 14.02-150	March 25, 2011
RAI 386 — 14.02-151	March 25, 2011
RAI 386 — 14.02-152	March 25, 2011
RAI 386 — 14.02-156	March 25, 2011
RAI 386 — 14.02-158	March 25, 2011
RAI 386 — 14.02-159	March 25, 2011
RAI 386 — 14.03.02-44	March 25, 2011
RAI 386 — 14.03.02-45	March 25, 2011
RAI 386 — 14.03.02-49	March 25, 2011
RAI 386 — 14.03.02-50	March 25, 2011
RAI 386 — 14.03.02-51	March 25, 2011
RAI 386 — 14.03.03-37	March 25, 2011
RAI 386 — 14.03.03-46	March 25, 2011
RAI 386 — 14.03.08-2	March 25, 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: Monday, November 29, 2010 6:55 PM
To: 'Tefaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); WELLS Russell (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 8

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, and Supplement 5 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, and September 22, 2010, respectively, to provide a revised schedule. Supplement 7 was submitted to NRC on November 10, 2010 which provided technically correct and complete responses to 9 of the 24 questions and provided a revised schedule for the remaining 15 questions. To provide additional time to interact with the NRC, a revised schedule is provided in this e-mail for the response to the remaining questions.

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

Question #	Response Date
RAI 386 — 14.02-149	January 27, 2011
RAI 386 — 14.02-150	January 27, 2011
RAI 386 — 14.02-151	January 27, 2011
RAI 386 — 14.02-152	January 27, 2011

RAI 386 — 14.02-156	January 27, 2011
RAI 386 — 14.02-158	January 27, 2011
RAI 386 — 14.02-159	January 27, 2011
RAI 386 — 14.03.02-44	January 27, 2011
RAI 386 — 14.03.02-45	January 27, 2011
RAI 386 — 14.03.02-49	January 27, 2011
RAI 386 — 14.03.02-50	January 27, 2011
RAI 386 — 14.03.02-51	January 27, 2011
RAI 386 — 14.03.03-37	January 27, 2011
RAI 386 — 14.03.03-46	January 27, 2011
RAI 386 — 14.03.08-2	January 27, 2011

Sincerely,

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

From: BRYAN Martin (External RS/NB)
Sent: Wednesday, November 10, 2010 2:10 PM
To: 'Tefaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); LENTZ Tony (External RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 7

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, Supplement 5, and Supplement 6 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, September 22, 2010, and October 25, 2010, respectively, to provide a revised schedule.

The attached file, "RAI 386 Supplement 7 Response US EPR DC.pdf" provides technically correct and complete responses to nine questions.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which supports the response to RAI 345 Questions 14.02-157, 14.03.02-48, and 14.03.08-3.

The following table indicates the respective pages in the response document, "RAI 386 Supplement 7 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 386 — 14.02-153	2	2
RAI 386 — 14.02-154	3	3
RAI 386 — 14.02-155	4	4

RAI 386 — 14.02-157	5	5
RAI 386 — 14.02-160	6	6
RAI 386 — 14.03.02-46	7	7
RAI 386 — 14.03.02-47	8	8
RAI 386 — 14.03.02-48	9	10
RAI 386 — 14.03.08-3	11	11

The schedule for the remaining 15 questions has not changed and is provided below.

Question #	Response Date
RAI 386 — 14.02-149	December 7, 2010
RAI 386 — 14.02-150	December 7, 2010
RAI 386 — 14.02-151	December 7, 2010
RAI 386 — 14.02-152	December 7, 2010
RAI 386 — 14.02-156	December 7, 2010
RAI 386 — 14.02-158	December 7, 2010
RAI 386 — 14.02-159	December 7, 2010
RAI 386 — 14.03.02-44	December 7, 2010
RAI 386 — 14.03.02-45	December 7, 2010
RAI 386 — 14.03.02-49	December 7, 2010
RAI 386 — 14.03.02-50	December 7, 2010
RAI 386 — 14.03.02-51	December 7, 2010
RAI 386 — 14.03.03-37	December 7, 2010
RAI 386 — 14.03.03-46	December 7, 2010
RAI 386 — 14.03.08-2	December 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

From: BRYAN Martin (External RS/NB)
Sent: Monday, October 25, 2010 1:22 PM
To: 'Getachew.Tesfaye@nrc.gov'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); LENTZ Tony (External RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 6

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, Supplement 4, and Supplement 5 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, September 9, 2010, and September 22, 2010, respectively, to provide a revised schedule.

To provide additional time to interact with the NRC, a revised schedule is provided in this e-mail for the response to the questions.

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

Question #	Response Date
RAI 386 — 14.02-149	December 7, 2010
RAI 386 — 14.02-150	December 7, 2010
RAI 386 — 14.02-151	December 7, 2010
RAI 386 — 14.02-152	December 7, 2010
RAI 386 — 14.02-153	December 7, 2010
RAI 386 — 14.02-154	December 7, 2010
RAI 386 — 14.02-155	December 7, 2010
RAI 386 — 14.02-156	December 7, 2010
RAI 386 — 14.02-157	December 7, 2010
RAI 386 — 14.02-158	December 7, 2010
RAI 386 — 14.02-159	December 7, 2010
RAI 386 — 14.02-160	December 7, 2010
RAI 386 — 14.03.02-44	December 7, 2010
RAI 386 — 14.03.02-45	December 7, 2010
RAI 386 — 14.03.02-46	December 7, 2010
RAI 386 — 14.03.02-47	December 7, 2010
RAI 386 — 14.03.02-48	December 7, 2010
RAI 386 — 14.03.02-49	December 7, 2010
RAI 386 — 14.03.02-50	December 7, 2010
RAI 386 — 14.03.02-51	December 7, 2010
RAI 386 — 14.03.03-37	December 7, 2010
RAI 386 — 14.03.03-46	December 7, 2010
RAI 386 — 14.03.08-2	December 7, 2010
RAI 386 — 14.03.08-3	December 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

From: BRYAN Martin (External RS/NB)
Sent: Wednesday, September 22, 2010 12:31 PM
To: Tesfaye, Getachew
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); LENTZ Tony (External RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 5

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. Supplement 1, Supplement 2, Supplement 3, and Supplement 4 responses to RAI No. 386 were sent on July 15, 2010, August 12, 2010, August 26, 2010, and September 9, 2010, respectively, to provide a revised schedule.

To provide additional time to interact with the NRC, a revised schedule is provided in this e-mail for the response to the questions.

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

Question #	Response Date
RAI 386 — 14.02-149	October 28, 2010
RAI 386 — 14.02-150	October 28, 2010
RAI 386 — 14.02-151	October 28, 2010
RAI 386 — 14.02-152	October 28, 2010
RAI 386 — 14.02-153	October 28, 2010
RAI 386 — 14.02-154	October 28, 2010
RAI 386 — 14.02-155	October 28, 2010
RAI 386 — 14.02-156	October 28, 2010
RAI 386 — 14.02-157	October 28, 2010
RAI 386 — 14.02-158	October 28, 2010
RAI 386 — 14.02-159	October 28, 2010
RAI 386 — 14.02-160	October 28, 2010
RAI 386 — 14.03.02-44	October 28, 2010
RAI 386 — 14.03.02-45	October 28, 2010
RAI 386 — 14.03.02-46	October 28, 2010
RAI 386 — 14.03.02-47	October 28, 2010
RAI 386 — 14.03.02-48	October 28, 2010
RAI 386 — 14.03.02-49	October 28, 2010
RAI 386 — 14.03.02-50	October 28, 2010
RAI 386 — 14.03.02-51	October 28, 2010
RAI 386 — 14.03.03-37	October 28, 2010
RAI 386 — 14.03.03-46	October 28, 2010
RAI 386 — 14.03.08-2	October 28, 2010
RAI 386 — 14.03.08-3	October 28, 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: Thursday, September 09, 2010 2:30 PM
To: 'Tefaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); LENTZ Tony (External RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 4

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010.

AREVA NP Inc. provided technically correct and complete draft responses to 11 of the 24 questions in "RAI 386 Supplement 1 Response – DRAFT.pdf" on July 8, 2010. A revised schedule was provided in Supplement 1 on July 15, 2010, in Supplement 2 on August 12, 2010, and in Supplement 3 on August 26, 2010. To allow time for interaction between AREVA and the NRC staff, a revised schedule for submittal of final responses is provided in this e-mail.

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

Question #	Response Date
RAI 386 — 14.02-149	October 28, 2010
RAI 386 — 14.02-150	October 28, 2010
RAI 386 — 14.02-151	October 14, 2010
RAI 386 — 14.02-152	October 14, 2010
RAI 386 — 14.02-153	October 28, 2010
RAI 386 — 14.02-154	October 28, 2010
RAI 386 — 14.02-155	October 28, 2010
RAI 386 — 14.02-156	October 14, 2010
RAI 386 — 14.02-157	October 28, 2010
RAI 386 — 14.02-158	October 14, 2010
RAI 386 — 14.02-159	October 14, 2010
RAI 386 — 14.02-160	October 28, 2010
RAI 386 — 14.03.02-44	September 23, 2010
RAI 386 — 14.03.02-45	September 23, 2010
RAI 386 — 14.03.02-46	October 28, 2010
RAI 386 — 14.03.02-47	October 28, 2010
RAI 386 — 14.03.02-48	October 28, 2010
RAI 386 — 14.03.02-49	September 23, 2010
RAI 386 — 14.03.02-50	September 23, 2010
RAI 386 — 14.03.02-51	September 23, 2010
RAI 386 — 14.03.03-37	September 23, 2010
RAI 386 — 14.03.03-46	October 28, 2010
RAI 386 — 14.03.08-2	September 23, 2010
RAI 386 — 14.03.08-3	September 23, 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: Thursday, August 26, 2010 8:27 PM

To: 'Tsfaye, Getachew'

Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); LENTZ Tony (External RS/NB)

Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 3

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010.

AREVA NP Inc. provided technically correct and complete draft responses to 11 of the 24 questions in "RAI 386 Supplement 1 Response – DRAFT.pdf" on July 8, 2010. A revised schedule was provided in Supplement 1 on July 15, 2010 and in Supplement 2 on August 12, 2010. To allow time for interaction between AREVA and the NRC staff, a revised schedule for submittal of final responses is provided in this e-mail.

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

Question #	Response Date
RAI 386 — 14.02-149	September 9, 2010
RAI 386 — 14.02-150	September 9, 2010
RAI 386 — 14.02-151	October 14, 2010
RAI 386 — 14.02-152	October 14, 2010
RAI 386 — 14.02-153	September 9, 2010
RAI 386 — 14.02-154	September 9, 2010
RAI 386 — 14.02-155	September 9, 2010
RAI 386 — 14.02-156	October 14, 2010
RAI 386 — 14.02-157	September 9, 2010
RAI 386 — 14.02-158	October 14, 2010
RAI 386 — 14.02-159	October 14, 2010
RAI 386 — 14.02-160	September 9, 2010
RAI 386 — 14.03.02-44	September 23, 2010
RAI 386 — 14.03.02-45	September 23, 2010
RAI 386 — 14.03.02-46	September 9, 2010
RAI 386 — 14.03.02-47	September 9, 2010
RAI 386 — 14.03.02-48	September 9, 2010
RAI 386 — 14.03.02-49	September 23, 2010
RAI 386 — 14.03.02-50	September 23, 2010
RAI 386 — 14.03.02-51	September 23, 2010
RAI 386 — 14.03.03-37	September 23, 2010
RAI 386 — 14.03.03-46	September 9, 2010
RAI 386 — 14.03.08-2	September 23, 2010
RAI 386 — 14.03.08-3	September 23, 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: Thursday, August 12, 2010 6:02 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); LENTZ Tony F (EXT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 2

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010. A revised schedule was provided in Supplement 1 on July 15, 2010.

AREVA NP Inc. provided technically correct and complete DRAFT responses to 7 of the 24 questions in "RAI 386 Supplement 1 Response – DRAFT.pdf" on July 8, 2010. To allow time for interaction between AREVA and the NRC staff, a revised schedule for submittal of final responses for these 7 questions is provided in this e-mail.

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

Question #	Response Date
RAI 386 — 14.02-149	September 9, 2010
RAI 386 — 14.02-150	September 9, 2010
RAI 386 — 14.02-151	August 26, 2010
RAI 386 — 14.02-152	August 26, 2010
RAI 386 — 14.02-153	September 9, 2010
RAI 386 — 14.02-154	September 9, 2010
RAI 386 — 14.02-155	September 9, 2010
RAI 386 — 14.02-156	August 26, 2010
RAI 386 — 14.02-157	September 9, 2010
RAI 386 — 14.02-158	August 26, 2010
RAI 386 — 14.02-159	August 26, 2010
RAI 386 — 14.02-160	September 9, 2010
RAI 386 — 14.03.02-44	August 26, 2010
RAI 386 — 14.03.02-45	August 26, 2010
RAI 386 — 14.03.02-46	August 26, 2010
RAI 386 — 14.03.02-47	August 26, 2010
RAI 386 — 14.03.02-48	August 26, 2010
RAI 386 — 14.03.02-49	August 26, 2010
RAI 386 — 14.03.02-50	August 26, 2010
RAI 386 — 14.03.02-51	August 26, 2010
RAI 386 — 14.03.03-37	August 26, 2010
RAI 386 — 14.03.03-46	August 26, 2010
RAI 386 — 14.03.08-2	August 26, 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: Thursday, July 15, 2010 1:03 PM
To: 'Tesyfaye, Getachew'
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); LENTZ Tony F (EXT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch. 14, Supplement 1

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 24 questions in RAI No. 386 on June 3, 2010.

AREVA NP Inc. provided technically correct and complete DRAFT responses to 7 of the 24 questions in RAI No. 386 on July 8, 2010. To allow additional time for interaction between AREVA and the NRC staff, a revised schedule for submittal of final responses for these 7 questions is provided in this e-mail (386-14.02-149, 150, 153, 154, 155, 157 and 160).

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

Question #	Response Date
RAI 386 — 14.02-149	August 12, 2010
RAI 386 — 14.02-150	August 12, 2010
RAI 386 — 14.02-151	August 26, 2010
RAI 386 — 14.02-152	August 26, 2010
RAI 386 — 14.02-153	August 12, 2010
RAI 386 — 14.02-154	August 12, 2010
RAI 386 — 14.02-155	August 12, 2010
RAI 386 — 14.02-156	August 26, 2010
RAI 386 — 14.02-157	August 12, 2010
RAI 386 — 14.02-158	August 26, 2010
RAI 386 — 14.02-159	August 26, 2010
RAI 386 — 14.02-160	August 12, 2010
RAI 386 — 14.03.02-44	August 26, 2010
RAI 386 — 14.03.02-45	August 26, 2010
RAI 386 — 14.03.02-46	August 26, 2010
RAI 386 — 14.03.02-47	August 26, 2010
RAI 386 — 14.03.02-48	August 26, 2010

RAI 386 — 14.03.02-49	August 26, 2010
RAI 386 — 14.03.02-50	August 26, 2010
RAI 386 — 14.03.02-51	August 26, 2010
RAI 386 — 14.03.03-37	August 26, 2010
RAI 386 — 14.03.03-46	August 26, 2010
RAI 386 — 14.03.08-2	August 26, 2010
RAI 386 — 14.03.08-3	August 26, 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: Thursday, June 03, 2010 7:02 PM
To: 'Tefaye, Getachew'
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); LENTZ Tony F (EXT); RYAN Tom (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 386(4306,4418,4532,4349,2666,4512,4341), FSAR Ch. 14

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 386 Response US EPR DC.pdf" provides a schedule since a technically correct and complete response to the 24 questions is not provided.

The following table indicates the respective pages in the response document, "RAI 386 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 386 — 14.02-149	2	2
RAI 386 — 14.02-150	3	3
RAI 386 — 14.02-151	4	4
RAI 386 — 14.02-152	5	5
RAI 386 — 14.02-153	6	6
RAI 386 — 14.02-154	7	7
RAI 386 — 14.02-155	8	8
RAI 386 — 14.02-156	9	9
RAI 386 — 14.02-157	10	10
RAI 386 — 14.02-158	11	11
RAI 386 — 14.02-159	12	12
RAI 386 — 14.02-160	13	13
RAI 386 — 14.03.02-44	14	15

RAI 386 — 14.03.02-45	16	16
RAI 386 — 14.03.02-46	17	17
RAI 386 — 14.03.02-47	18	18
RAI 386 — 14.03.02-48	19	19
RAI 386 — 14.03.02-49	20	20
RAI 386 — 14.03.02-50	21	21
RAI 386 — 14.03.02-51	22	22
RAI 386 — 14.03.03-37	23	23
RAI 386 — 14.03.03-46	24	24
RAI 386 — 14.03.08-2	25	26
RAI 386 — 14.03.08-3	27	27

A complete answer is not provided for the 24 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 386 — 14.02-149	July 15, 2010
RAI 386 — 14.02-150	July 15, 2010
RAI 386 — 14.02-151	August 26, 2010
RAI 386 — 14.02-152	August 26, 2010
RAI 386 — 14.02-153	July 15, 2010
RAI 386 — 14.02-154	July 15, 2010
RAI 386 — 14.02-155	July 15, 2010
RAI 386 — 14.02-156	August 26, 2010
RAI 386 — 14.02-157	July 15, 2010
RAI 386 — 14.02-158	August 26, 2010
RAI 386 — 14.02-159	August 26, 2010
RAI 386 — 14.02-160	July 15, 2010
RAI 386 — 14.03.02-44	August 26, 2010
RAI 386 — 14.03.02-45	August 26, 2010
RAI 386 — 14.03.02-46	August 26, 2010
RAI 386 — 14.03.02-47	August 26, 2010
RAI 386 — 14.03.02-48	August 26, 2010
RAI 386 — 14.03.02-49	August 26, 2010
RAI 386 — 14.03.02-50	August 26, 2010
RAI 386 — 14.03.02-51	August 26, 2010
RAI 386 — 14.03.03-37	August 26, 2010
RAI 386 — 14.03.03-46	August 26, 2010
RAI 386 — 14.03.08-2	August 26, 2010
RAI 386 — 14.03.08-3	August 26, 2010

Sincerely,

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

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

Sent: Tuesday, May 04, 2010 1:52 PM

To: ZZ-DL-A-USEPR-DL

Cc: Keim, Andrea; Rasmussen, Richard; Dehmel, Jean-Claude; Bernal, Sara; Roach, Edward; Jeng, David; Hawkins, Kimberly; Ng, Ching; Dixon-Herrity, Jennifer; Miernicki, Michael; Colaccino, Joseph; ArevaEPRDCPEm Resource

Subject: U.S. EPR Design Certification Application RAI No. 386(4306,4418,4532,4349,2666,4512,4341), FSAR Ch. 14

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on April 6, 2010, and discussed with your staff on May 4, 2010. Drat RAI Question 14.03.02-47 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: 3318

Mail Envelope Properties (2FBE1051AEB2E748A0F98DF9EEE5A5D482D630)

Subject: Response to U.S. EPR Design Certification Application RAI No. 386, FSAR Ch.
14, Supplement 17
Sent Date: 8/10/2011 5:03:09 PM
Received Date: 8/10/2011 5:03:51 PM
From: WILLIFORD Dennis (AREVA)

Created By: Dennis.Williford@areva.com

Recipients:

"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
"NOXON David (AREVA)" <David.Noxon@areva.com>
Tracking Status: None
"LENTZ Tony (EXTERNAL AREVA)" <Tony.Lentz.ext@areva.com>
Tracking Status: None
"Tsfaye, Getachew" <Getachew.Tsfaye@nrc.gov>
Tracking Status: None

Post Office: auscharm02.adom.ad.corp

Files	Size	Date & Time
MESSAGE	47454	8/10/2011 5:03:51 PM
RAI 386 Supplement 17 Response US EPR DC.pdf		99624

Options

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

Response to

Request for Additional Information No. 386, (4306, 4418, 4532, 4349, 2666, 4512, 4341), Revision 0, Supplement 17

5/4/2010

U. S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 14.02 - Initial Plant Test Program - Design Certification and New License Applicants

SRP Section: 14.03.02 - Structural and Systems Engineering - Inspections, Tests, Analyses, and Acceptance Criteria

SRP Section: 14.03.03 - Piping Systems and Components - Inspections, Tests, Analyses, and Acceptance Criteria

SRP Section: 14.03.08 - Radiation Protection Inspections, Tests, Analyses, and Acceptance Criteria

Application Section: SRP 14.02 (NUREG 0800)

QUESTIONS for Quality and Vendor Branch 2 (ESBWR/ABWR) (CQVB)

QUESTIONS for Health Physics Branch (CHPB)

QUESTIONS for Structural Engineering Branch 2 (ESBWR/ABWR Projects) (SEB2)

QUESTIONS for Engineering Mechanics Branch 2 (ESBWR/ABWR Projects) (EMB2)

Question 14.02-151:

Follow-up to RAI 313, Question 14.02-128

The response to RAI 14.02-128 refers to the criteria said to be contained in FSAR Section 9.3.2, Table 9.3.2-2 (Secondary Side). However, the current version of Table 9.3.2-2 does not provide this level of detail and the response does not commit to update Table 9.3.2-2 to ensure that the revised acceptance criteria are complemented with supporting FSAR data. The response should include a commitment to a parallel revision of Table 9.3.2-2 to ensure consistency.

Response to Question 14.02-151:

U.S. EPR FSAR Tier 2, Table 9.3.2-2—Secondary Side Sampling Points will be revised to include process instrument parameters.

Laboratory equipment used to measure grab samples is site-specific and is not specified in the U.S. EPR FSAR.

U.S. EPR FSAR Tier 2, Section 14.2.12.7.13, Subsection 5.1.4 and Section 14.2.12.18.5, Subsection 5.4 will be revised to reflect that laboratory equipment used to measure grab samples is site-specific and is not specified in the U.S. EPR FSAR.

FSAR Impact:

See U.S. EPR FSAR markups associated with RAI 273 response to Question 11.05-02.

Question 14.02-152:

Follow-up to RAI 313, Question 14.02-129

The response to RAI 14.02-129 refers to the criteria said to be contained in FSAR Section 9.3.2, Table 9.3.2-2 (Secondary Side). However, the current version of Table 9.3.2-2 does not provide this level of detail and the response does not commit to update Table 9.3.2-2 to ensure that the revised acceptance criteria are complemented with supporting FSAR data. The response should commit to a parallel revision of Table 9.3.2-2 to ensure consistency.

Response to Question 14.02-152:

Refer to the Response to RAI 386, Question 14.02-151.

FSAR Impact:

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

Question 14.02-156:

Follow-up to RAI 313, Question 14.02-137

The response to RAI 14.02-137 refers to the criteria said to be contained in FSAR Section 9.3.2, Table 9.3.2-2 (Secondary Side), but needs to include FSAR Table 9.3.2-1 (Primary Side). Also, the current versions of Tables 9.3.2-1 and 9.3.2-2 do not provide this level of detail and the response does not commit to update Tables 9.3.2-1 and 9.3.2-2 to ensure that the revised acceptance are complemented with supporting FSAR data. The response should commit to a revision of Tables 9.3.2-1 and 9.3.2-2 and include their citation in Test No. 155 to ensure consistency.

Response to Question 14.02-156:

U.S. EPR FSAR Tier 2, Table 9.3.2-1—Primary Side Sampling Points will be revised to include process instrument parameters.

Laboratory equipment used to measure grab samples is site-specific and is not specified in the U.S. EPR FSAR.

U.S. EPR FSAR Tier 2, Section 14.2.12.18.6, Subsections 2.3 and 5.4, and Section 14.2.12.12.9, Subsection 5.3 will be revised to include a citation to U.S. EPR FSAR Tier 2, Tables 9.3.2-1 and 9.3.2-2.

FSAR Impact:

See U.S. EPR FSAR markups associated with RAI 273 response to Question 11.05-02.

Question 14.02-158:

Follow-up to RAI 313, Question 14.02-139

The response to RAI 14.02-139 refers to the criteria said to be contained in FSAR Section 9.3.2, Table 9.3.2-2 (Secondary Side). The test needs to also cite FSAR Table 9.3.2-1 (Primary Side) since Test No. 204 is for sampling the primary and secondary systems. Omitting a citation of Table 9.3.2-1 results in the definition of an incomplete set of acceptance criteria. In addition, the current versions of Tables 9.3.2-1 and 9.3.2-2 do not provide this level of detail and the response does not commit to update Tables 9.3.2-1 and 9.3.2-2 to ensure that the revised acceptance are complemented with supporting FSAR data. The response should commit to a revision of Tables 9.3.2-1 and 9.3.2-2 and include their citation in Test No. 204 to ensure consistency.

Response to Question 14.02-158:

Refer to the Response to RAI 386, Question 14.02-151.

FSAR Impact:

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

Question 14.02-159:**Follow-up to RAI 313, Question 14.02-140**

The response to RAI 14.02-140 refers to the criteria said to be contained in FSAR Section 9.3.2, Table 9.3.2-2 (Secondary Side), but needs to include Table 9.3.2-1 for the primary side. The test is for failed fuel detection and the response should cite FSAR Table 9.3.2-1 (Primary Side) since Test No. 205 is for sampling the primary system. Omitting a citation of Table 9.3.2-1, results in the definition of an incomplete set of acceptance criteria. In addition, the current version of Table 9.3.2-1 does not provide this level of detail and the response does not commit to updating Table 9.3.2-1 to ensure that the revised acceptance are complemented with supporting FSAR data. Finally, the response refers to FSAR Section 11.5, Table 11.5-1 for supporting information. However, the current version of Table 11.5-1 does not provide this level of detail. The response should commit to a revision of Tables 9.3.2-1 and 11.5-1 and include their citation in Test No. 205 to ensure consistency.

Response to Question 14.02-159:

Refer to the response in RAI 386, Question 14.02-156 concerning the revision of U.S. EPR FSAR Tier 2, Table 9.3.2-1 and citation in U.S. EPR FSAR Tier 2, Section 14.2, Test No. 205.

Refer to the responses in RAI 273, Question 11.05-2 concerning the revision of U.S. EPR FSAR Tier 2, Table 11.5-1.

FSAR Impact:

See U.S. EPR FSAR markups associated with RAI 273 response to Question 11.05-02.

Question 14.03.08-2:**Follow-up to RAI 43, Question 14.03.08-1**

In response to RAI 43, Question 14.3.8-1, Supplement 1, Revision 0, the applicant revised Tier 1 to include additional detail for the Radiation Monitoring System, specifically ITAAC for the safety-related radiation monitors and a sentence describing the non safety related monitors. This revision is satisfactory except for the following which is needed to demonstrate compliance with 10 CFR Part 52.47(b)(1).

As detailed in Staff RAI 292, Question 14.3.7-33, dated September 18, 2009, the staff evaluation of the applicant's responses to prior RAIs (RAI No. 43, 105, and 116) indicates that the approach being used in addressing ITAAC is based on previous certified designs and that the EPR FSAR Tier 1 incorporates safety significant features credited to comply with the requirements of 10 CFR Parts 20, 50, 52, 73, or 100. However, 10 CFR Part 52.47(b)(1) states that a design certification application must contain the following:

"The proposed inspections, tests, and analyses, ...that the licensee shall perform, and the acceptance criteria that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a facility that incorporates the design certification has been constructed and will be operated in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations."

The staff concludes that Tier 1 safety significant radiation protection structures, systems and components (SSC), which the applicant has credited for complying with the requirements of 10 CFR Part 20, do not contain sufficient detail to provide reasonable assurance that the facility will be constructed and operated in accordance with the Commission's rules and regulations, specifically 10 CFR Part 20, GDC 63 and GDC 64. For this reason, RG 1.206 Part C.II states that additional Tier 1 and ITAAC detail should be provided for those SSCs necessary to demonstrate compliance with 10 CFR Part 20, although they are not safety-related SSCs. As an example, the AP1000 certified design which the applicant referenced in its response to RAI 43, Question 14.3.8-1, has recognized this and, therefore, includes Tier 1 information and ITAAC for the non-safety related radiation monitoring system relevant to demonstrating the design's compliance with 10 CFR Part 20, GDC 63, and GDC 64 in accordance with 10 CFR Part 52.47(b)(1). Similarly, the ESBWR Design Certification Document (Rev. 6) includes specific ITAACs for area and airborne radiation monitors. The staff maintains that these radiation monitors are equivalent in purpose and safety significance to corresponding monitors in the U.S. EPR design, for which FSAR Tier 1, Rev. 1 does not provide equivalent ITAACs. Therefore the EPR's non-safety related radiation monitoring system should include additional Tier 1 information and ITAACs in order to demonstrate compliance with NRC regulations.

It is recognized that the level of Tier 1 and ITAAC details for these systems will be less than that required for safety related SSCs. However, without sufficient details the staff cannot complete its evaluation and conclude, with reasonable assurance, that if the tests and inspections were performed and acceptance criteria were met, that all design commitments will be fulfilled and that the plant will be built and operated in accordance with the design certification and comply with applicable NRC regulations. Accordingly, the applicant is requested to provide Tier 1 information and ITAACs for the U.S. EPR radiation monitoring system as described above.

Response to Question 14.03.08-2:

Details have been added to the U.S. EPR Tier 1 ITAAC related to radiation monitoring, in the response to RAI 273 Question 11.05-02 and the response to RAI 450 Question 14.03.07-37.

FSAR Impact:

See U.S. EPR FSAR markups associated with the responses to RAI 273 Question 11.05-02 and RAI 450 Question 14.03.07-37.