

ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Tuesday, November 01, 2011 3:43 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); LENTZ Tony (EXTERNAL AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 14
Attachments: RAI 315 Supplement 14 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule. Supplement 3 response to RAI No. 315 was sent on October 12, 2010 to provide a response to one of the remaining four questions, 16-321. Supplement 4 response to RAI No. 315 was sent on October 20, 2010 to provide a revised schedule. Supplement 5 response to RAI No. 315 was sent on November 18, 2010 to provide a revised schedule. Supplement 6 response to RAI No. 315 was sent on December 16, 2010 to provide a revised schedule. Supplement 7 response to RAI No. 315 was sent on January 26, 2011 to provide a revised schedule. Supplement 8 response to RAI No. 315 was sent on March 22, 2011 to provide a revised schedule. Supplement 9 response to RAI No. 315 was sent on March 31, 2011 to provide a response to two of the remaining three questions. Supplement 10, Supplement 11, Supplement 12, and Supplement 13 responses to RAI No. 315 were sent on April 21, 2011, June 7, 2011, July 19, 2011, and September 9, 2011, respectively, to provide a revised schedule.

The attached file, "RAI 315 Supplement 14 Response US EPR DC.pdf," provides a revised response to Question 16-318 that supercedes the response provided in Supplement 9 that was transmitted on March 31, 2011.

The following table indicates the respective pages in the response document, "RAI 315 Supplement 14 Response US EPR DC.pdf," that contain AREVA NP's revised response to the subject question.

Question #	Start Page	End Page
RAI 315 — 16-318	2	4

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

Question #	Response Date
RAI 315 — 16-320	November 17, 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, September 09, 2011 1:58 PM
To: Getachew.Tesfaye@nrc.gov
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 13

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule. Supplement 3 response to RAI No. 315 was sent on October 12, 2010 to provide a response to one of the remaining four questions, 16-321. Supplement 4 response to RAI No. 315 was sent on October 20, 2010 to provide a revised schedule. Supplement 5 response to RAI No. 315 was sent on November 18, 2010 to provide a revised schedule. Supplement 6 response to RAI No. 315 was sent on December 16, 2010 to provide a revised schedule. Supplement 7 response to RAI No. 315 was sent on January 26, 2011 to provide a revised schedule. Supplement 8 response to RAI No. 315 was sent on March 22, 2011 to provide a revised schedule. Supplement 9 response to RAI No. 315 was sent on March 31, 2011 to provide a response to two of the remaining three questions. Supplement 10, Supplement 11, and Supplement 12 responses to RAI No. 315 were sent on April 21, 2011, June 7, 2011, and July 19, 2011, respectively, to provide a revised schedule.

The schedule for a technically correct and complete response to the remaining question has been changed, as provided below.

Question #	Response Date
RAI 315 — 16-320	November 17, 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: Tuesday, July 19, 2011 10:46 AM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 12

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule. Supplement 3 response to RAI No. 315 was sent on October 12, 2010 to provide a response to one of the remaining four questions, 16-321. Supplement 4 response to RAI No. 315 was sent on October 20, 2010 to provide a revised schedule. Supplement 5 response to RAI No. 315 was sent on November 18, 2010 to provide a revised schedule. Supplement 6 response to RAI No. 315 was sent on December 16, 2010 to provide a revised schedule. Supplement 7 response to RAI No. 315 was sent on January 26, 2011 to provide a revised schedule. Supplement 8 response to RAI No. 315 was sent on March

22, 2011 to provide a revised schedule. Supplement 9 response to RAI No. 315 was sent on March 31, 2011 to provide a response to two of the remaining three questions. Supplement 10 and Supplement 11 responses to RAI No. 315 were sent on April 21, 2011 and June 7, 2011, respectively, to provide a revised schedule.

The schedule for a technically correct and complete response to the remaining question has been changed, as provided below.

Question #	Response Date
RAI 315 — 16-320	September 12, 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: Tuesday, June 07, 2011 9:32 AM
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)
Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 11

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule. Supplement 3 response to RAI No. 315 was sent on October 12, 2010 to provide a response to one of the remaining four questions, 16-321. Supplement 4 response to RAI No. 315 was sent on October 20, 2010 to provide a revised schedule. Supplement 5 response to RAI No. 315 was sent on November 18, 2010 to provide a revised schedule. Supplement 6 response to RAI No. 315 was sent on December 16, 2010 to provide a revised schedule. Supplement 7 response to RAI No. 315 was sent on January 26, 2011 to provide a revised schedule. Supplement 8 response to RAI No. 315 was sent on March 22, 2011 to provide a revised schedule. Supplement 9 response to RAI No. 315 was sent on March 31, 2011 to provide a response to two of the remaining three questions. Supplement 10 response to RAI No. 315 was sent on April 21, 2011 to provide a revised schedule.

The schedule for a technically correct and complete response to the remaining question has been changed, as provided below.

Question #	Response Date
RAI 315 — 16-320	July 20, 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: Thursday, April 21, 2011 12:45 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 10

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule. Supplement 3 response to RAI No. 315 was sent on October 12, 2010 to provide a response to one of the remaining four questions, 16-321. Supplement 4 response to RAI No. 315 was sent on October 20, 2010 to provide a revised schedule. Supplement 5 response to RAI No. 315 was sent on November 18, 2010 to provide a revised schedule. Supplement 6 response to RAI No. 315 was sent on December 16, 2010 to provide a revised schedule. Supplement 7 response to RAI No. 315 was sent on January 26, 2011 to provide a revised schedule. Supplement 8 response to RAI No. 315 was sent on March 22, 2011 to provide a revised schedule. Supplement 9 response to RAI No. 315 was sent on March 31, 2011 to provide a response to two of the remaining three questions.

Additional time is required to interact with the NRC staff.

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

Question #	Response Date
RAI 315 — 16-320	June 7, 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 31, 2011 7:53 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. 315, FSAR Ch. 16 OPEN ITEM, Supplement 9

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule. Supplement 3 response to RAI No. 315 was sent on October 12, 2010 to provide a response to one of the remaining four questions, 16-321. Supplement 4 response to RAI No. 315 was sent on October 20, 2010 to provide a revised schedule. Supplement 5 response to RAI No. 315 was sent on November 18, 2010 to provide a revised schedule. Supplement 6 response to RAI No. 315 was sent on December 16, 2010 to provide a revised schedule. Supplement 7 response to RAI No. 315 was sent on January 26, 2011 to provide a revised schedule. Supplement 8 response to RAI No. 315 was sent on March 22, 2011 to provide a revised schedule.

The attached file, "RAI 315 Supplement 9 US EPR DC.pdf," provides a response to two of the remaining three questions.

The following table indicates the respective pages in the response document, "RAI 315 Supplement 9 US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 315 — 16-318	2	12
RAI 315 — 16-319	13	14

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

Question #	Response Date
RAI 315 — 16-320	April 26, 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 1:04 PM

To: Tesfaye, Getachew

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

Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 8

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule. Supplement 3 response to RAI No. 315 was sent on October 12, 2010 to provide a response to one of the remaining four questions, 16-321. Supplement 4 response to RAI No. 315 was sent on October 20, 2010 to provide a revised schedule. Supplement 5 response to RAI No. 315 was sent on November 18, 2010 to provide a revised schedule. Supplement 6 response to RAI No. 315 was sent on December 16, 2010 to provide a revised schedule. Supplement 7 response to RAI No. 315 was sent on January 26, 2011 to provide a revised schedule.

A revised schedule is provided below to allow additional time to address comments and have additional interaction with the staff on the three remaining questions.

A complete answer is not provided for the remaining 3 questions. The schedule for a technically correct and complete response to these questions is changed and is provided below.

Question #	Response Date
RAI 315 — 16-318	April 26, 2011
RAI 315 — 16-319	April 26, 2011
RAI 315 — 16-320	April 26, 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, January 26, 2011 3:04 PM

To: Tesfaye, Getachew

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

Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 7

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule. Supplement 3 response to RAI No. 315 was sent on October 12, 2010 to provide a response to one of the remaining four questions, 16-321. Supplement 4 response to RAI No. 315 was sent on October 20, 2010 to provide a revised schedule. Supplement 5 response to RAI No. 315 was sent on November 18, 2010 to provide a revised schedule. Supplement 6 response to RAI No. 315 was sent on December 16, 2010 to provide a revised schedule.

A revised schedule is provided below to allow additional time to address comments and have additional interaction with the staff on the three remaining questions.

A complete answer is not provided for the remaining 3 questions. The schedule for a technically correct and complete response to these questions is changed and is provided below.

Question #	Response Date
RAI 315 — 16-318	March 24, 2011
RAI 315 — 16-319	March 24, 2011
RAI 315 — 16-320	March 24, 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, December 16, 2010 3:28 PM

To: Tesfaye, Getachew

Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); RYAN Tom (RS/NB); Miernicki, Michael

Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 6

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule. Supplement 3 response to RAI No. 315 was sent on October 12, 2010 to provide a response to one of the remaining four questions, 16-321. Supplement 4 response to RAI No. 315 was sent on October 20, 2010 to provide a revised schedule. Supplement 5 response to RAI No. 315 was sent on November 18, 2010 to provide a revised schedule.

A revised schedule is provided below to allow additional time to address comments and have additional interaction with the staff on the three remaining questions.

A complete answer is not provided for the remaining 3 questions. The schedule for a technically correct and complete response to these questions is changed and is provided below.

Question #	Response Date
RAI 315 — 16-318	January 27, 2011
RAI 315 — 16-319	January 27, 2011
RAI 315 — 16-320	January 27, 2011

Sincerely,

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

From: BRYAN Martin (External RS/NB)
Sent: Thursday, November 18, 2010 7:59 AM
To: Tesfaye, Getachew
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); RYAN Tom (RS/NB); Miernicki, Michael
Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 5

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule. Supplement 3 response to RAI No. 315 was sent on October 12, 2010 to provide a response to one of the remaining four questions, 16-321. Supplement 4 response to RAI No. 315 was sent on October 20, 2010 to provide a revised schedule.

A revised schedule is provided below to allow additional time to address comments and have additional interaction with the staff on the three remaining questions.

A complete answer is not provided for the remaining 3 questions. The schedule for a technically correct and complete response to these questions is changed and is provided below.

Question #	Response Date
RAI 315 — 16-318	December 21, 2010
RAI 315 — 16-319	December 21, 2010
RAI 315 — 16-320	December 21, 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, October 20, 2010 3:40 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); RYAN Tom (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 4

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule. Supplement 3 response to RAI No. 315 was sent on October 12, 2010 to provide a response to one of the remaining four questions, 16-321.

A revised schedule is provided below to allow additional time to address comments and have additional interaction with the staff on the three remaining questions.

A complete answer is not provided for the remaining 3 questions. The schedule for a technically correct and complete response to these questions is changed and is provided below.

Question #	Response Date
RAI 315 — 16-318	November 22, 2010
RAI 315 — 16-319	November 22, 2010
RAI 315 — 16-320	November 22, 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: Tuesday, October 12, 2010 4:59 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); RYAN Tom (RS/NB); LENTZ Tony (External RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 3

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 315 on April 5, 2010. Supplement 1 and Supplement 2 responses to RAI No. 315 were sent on May 20, 2010 and August 27, 2010, respectively, to provide a revised schedule.

The attached file, "RAI 315 Supplement 3 US EPR DC.pdf," provides a partial response.

The following table indicates the respective pages in the response document, "RAI 315 Supplement 3 US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 315 — 16-321	2	3

The schedule for a technically correct and complete response to the remaining three questions remains unchanged and will be provided on October 21, 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, August 27, 2010 12:01 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); RYAN Tom (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 2

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 4 questions in RAI No. 315 on April 5, 2010. AREVA provided an updated schedule for the remaining 4 responses on May 20, 2010 to allow for additional interaction with the NRC.

A revised schedule is provided below to allow additional time to address comments and have additional interaction with the staff on the four remaining questions.

A complete answer is not provided for the remaining 4 questions. The schedule for a technically correct and complete response to these questions is changed and is provided below.

Question #	Response Date
RAI 315 — 16-318	October 21, 2010
RAI 315 — 16-319	October 21, 2010
RAI 315 — 16-320	October 21, 2010
RAI 315 — 16-321	October 21, 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, May 20, 2010 12:18 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); RYAN Tom (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 1

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 4 questions in RAI No. 315 on April 5, 2010. As agreed with the NRC, additional time is needed for the NRC to review and discuss the draft responses to these questions with AREVA.

The schedule for technically correct and complete responses to these questions has been revised as provided below.

Question #	Response Date
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RAI 315 — 16-318	August 31, 2010
RAI 315 — 16-319	August 31, 2010
RAI 315 — 16-320	August 31, 2010
RAI 315 — 16-321	August 31, 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: Monday, April 05, 2010 5:01 PM
To: 'Tesyfaye, Getachew'
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); PANNELL George L (AREVA NP INC); LENTZ Tony F (EXT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 315 (3878), FSARCh. 16 OPEN ITEM

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 315 Response US EPR DC.pdf" provides a schedule since a technically correct and complete response to the 4 questions is not provided.

The following table indicates the respective pages in the response document, "RAI 315 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 315 — 16-318	2	2
RAI 315 — 16-319	3	3
RAI 315 — 16-320	4	4
RAI 315 — 16-321	5	5

A complete answer is not provided for the 4 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 315 — 16-318	May 20, 2010
RAI 315 — 16-319	May 20, 2010
RAI 315 — 16-320	May 20, 2010
RAI 315 — 16-321	May 20, 2010

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

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

Sent: Wednesday, November 18, 2009 6:59 PM

To: ZZ-DL-A-USEPR-DL

Cc: Le, Hien; DeMarshall, Joseph; Kowal, Mark; Hearn, Peter; Colaccino, Joseph; ArevaEPRDCPEm Resource

Subject: U.S. EPR Design Certification Application RAI No. 315 (3878), FSARCh. 16 OPEN ITEM

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on October 21, 2009, and discussed with your staff on November 18, 2009. No changes were made to the draft RAI questions as a result of that discussion. The question in this RAI is an OPEN ITEM in the safety evaluation report for Chapter 16 for Phases 2 and 3 reviews. As such, the schedule we have established for your application assumes technically correct and complete responses prior to the start of Phase 4 review. For any RAI that cannot be answered prior to the start of Phase 4 review, it is expected that a date for receipt of this information will be provided so that the staff can assess how this information will impact the published schedule.

Thanks,

Thanks,
Getachew Tesfaye
Sr. Project Manager
NRO/DNRL/NARP
(301) 415-3361

Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 3509

Mail Envelope Properties (2FBE1051AEB2E748A0F98DF9EEE5A5D497929D)

Subject: Response to U.S. EPR Design Certification Application RAI No. 315, FSAR Ch. 16 OPEN ITEM, Supplement 14
Sent Date: 11/1/2011 3:43:13 PM
Received Date: 11/1/2011 3:43:43 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
"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	27691	11/1/2011 3:43:43 PM
RAI 315 Supplement 14 Response US EPR DC.pdf		74177

Options

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

Response to

Request for Additional Information No. 315 (3878), Revision 0, Supplement 14

11/18/2009

U. S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 16 - Technical Specifications

Application Section: TS 3.3

QUESTIONS for Technical Specification Branch (CTSB)

Question 16-318:**OPEN ITEM****Follow-up to RAI 103, Question 16-137**

In RAI-SRP16-CTSB-103/137, the staff requested a technical justification regarding the omission of safety-related Reactor Trip (RT) signals in Table 3.3.1-2, Section A (Reactor Trip). FSAR Section 7.2.1.2 identifies the Safety Injection System (SIS) Actuation, Emergency Feedwater System (EFWS) Actuation, and the Manual RT signals from the Safety Information and Control System (SICS), as safety-related RT initiation signals. The applicant concludes that these RT initiation signals should not be included in Technical Specifications on the basis that 1) they are not credited in the EPR safety analysis as implied by their absence from Chapter 15 Tables 15.0-7 and 15.0-8, and 2) they do not satisfy Criterion 3 of 10 CFR 50.36 with regard to being part of the primary success path of a safety sequence analysis. NUREG-1431 includes both the Manual RT and the SIS Actuation initiation signals in comparable LCO 3.3.1, Reactor Trip System Instrumentation. The Manual RT initiation ensures that the control room operator has the capability to initiate a reactor trip at any time. This capability is critical whenever a parameter is rapidly trending toward its Trip Setpoint. Regarding the SIS Actuation, NUREG-1431 Bases B 3.3.1 specifically states that initiation of a reactor trip upon any signal that initiates a safety injection is a condition of acceptability for the LOCA. The EFWS Actuation is the primary success path which functions to mitigate the effects of a loss of Main Feedwater (MFW) event, providing a safety classified means to remove residual heat via the steam generators (SGs). FSAR Section 7.3.1.2.2 identifies a number of failure mechanisms that can result in a loss of MFW, including a Loss of Offsite Power, which is a highly credible event. In addition, it remains unclear how the applicant intends to ensure that surveillance testing requirements associated with the referenced safety-related trip signals will be met if they are not included in the Technical Specifications. The staff finds that the response does not provide the requisite technical justification to warrant exclusion of the safety-related RT initiation signals from Technical Specifications. This issue has been identified as an open item in the SER w/OI for Chapter 16 of the EPR FSAR.

Response to Question 16-318:

This issue was further clarified on Page 16-20 of the NRC's March 10, 2010 Safety Evaluation, which states:

- In RAI 103, Question 16-137, the staff requested that the applicant provide a technical justification regarding the omission of safety-related RT signals in FSAR Tier 2, Table 3.3.1-2, Section A. FSAR Tier 2, Section 7.2.1.2, "Reactor Trip Functional Description," identifies the Safety Injection System (SIS) Actuation, Emergency Feedwater System (EFWS) Actuation, and the Manual RT signals from the Safety Information and Control System (SICS), as safety-related RT initiation signals. In a March 19, 2009, response to RAI 103, Question 16-137, the applicant concluded that these RT initiation signals should not be included in TS on the basis that (1) they are not credited in the U.S. EPR safety analysis as implied by their absence from FSAR Tier 2, Chapter 15, "Transient and Accident Analyses," FSAR Tier 2, Tables 15.0-7 and 15.0-8, and (2) they do not satisfy Criterion 3 of 10 CFR 50.36 with regard to being part of the primary success path of a safety-sequence analysis. NUREG-1431 includes both the Manual RT and the SIS Actuation initiation signals in comparable LCO 3.3.1, Reactor

Trip System Instrumentation. The Manual RT initiation ensures that the control room operator has the capability to initiate a reactor trip at any time. This capability is critical whenever a parameter is rapidly trending toward its Trip Setpoint. Regarding the SIS Actuation, NUREG-1431, Bases B 3.3.1 specifically states that initiation of a reactor trip upon any signal that initiates a safety injection is a condition of acceptability for the loss-of-coolant accident (LOCA). The EFWS Actuation is the primary success path, which functions to mitigate the effects of a loss of Main Feedwater (MFW) event, providing a safety classified means to remove residual heat via the steam generators. FSAR Tier 2, Section 7.3.1.2.2, "Emergency Feedwater System Actuation," identifies a number of failure mechanisms that can result in a loss of MFW, including a loss of offsite power, which is a highly credible event. In addition, it remains unclear how the applicant intends to ensure that surveillance testing requirements associated with the referenced safety-related trip signals will be met if they are not included in the TS. The staff determined that the response does not provide the requisite technical justification to warrant exclusion of the safety-related RT initiation signals from TS.

Due to similarities in the two NRC Questions, this response will address both 16-318 and 16-319. This response supersedes AREVA's previous responses to RAI 103, Questions 16-137 and 16-160.

Reactor Trip on Safety Injection System (SIS) Actuation

The reactor trip on SIS Actuation was added to Revision 3 of Section 3.3.1 in the response to RAI 442, Supplement 13, Question 07.01-30.

Reactor Trip on Emergency Feedwater System (EFWS) Actuation

The reactor trip on EFWS Actuation - Low SG Level was added to Revision 3 of Section 3.3.1 in the response to RAI 442, Supplement 13, Question 07.01-30.

Manual Reactor Trip

The context of the original Question 16-137 was in regard to the manual reactor trip signal not being listed as a separate function in Table 3.3.1-2.

In the follow-up question, the NRC states that:

FSAR Section 7.2.1.2 identifies the manual reactor trip signal from the Safety Information and Control System (SICS) as a safety-related reactor trip initiation signal. ...

The Manual RT initiation ensures that the control room operator has the capability to initiate a reactor trip at any time. This capability is critical whenever a parameter is rapidly trending toward its Trip Setpoint.

In addition, it remains unclear how the applicant intends to ensure that surveillance testing requirements associated with the referenced safety-related trip signals will be met if they are not included in the Technical Specifications.

The manual reactor trip is a safety related design feature of the U.S. EPR and is described in U.S. EPR FSAR Tier 2 Section 7.2.1.2.22 and depicted in Figure 7.2-3. As shown in Figure

7.2-3, the manual reactor trip is initiated by a switch in the Main Control Room which goes directly to the Reactor Trip Breakers. The manual reactor trip actuation switches and their surveillance requirements are listed in Table 3.3.1-1 of the Protection System Technical Specifications. Similarly, the actuation devices necessary to perform reactor trip functions are also listed in Table 3.3.1-1 of the Protection System Technical Specifications. The surveillances on the manual reactor trip actuation switches and the Reactor Trip Breakers ensure that a manual reactor trip will occur when initiated.

The manual reactor trip switches do not provide a signal to the APUs and there is no software "function" for the manual reactor trip loaded in the APUs. The list of functions in Table 3.3.1-2 only contains the credited reactor trip and ESF software functions performed by the APUs. Since the U.S. EPR Protection System Technical Specifications are component based, the format does not readily allow the listing of a function in Table 3.3.1-2 that is not performed by the APUs.

EFWS Isolation on High SG Level (Affected SG) ESFAS Signal

The ESF function for EFWS Isolation on High SG Level (Affected SG) was added to Revision 3 of Section 3.3.1 in the response to RAI 442, Supplement 13, Question 07.01-30.

FSAR Impact:

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