

ArevaEPRDCPEm Resource

From: WELLS Russell (AREVA) [Russell.Wells@areva.com]
Sent: Monday, March 14, 2011 8:24 AM
To: Tesfaye, Getachew
Cc: HUDSON Greg (AREVA); RANSOM James (AREVA); BENNETT Kathy (AREVA); DELANO Karen (AREVA); HALLINGER Pat (EXTERNAL AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); WILLIFORD Dennis (AREVA)
Subject: DRAFT Response to U.S. EPR Design Certification Application RAI No. 413, Question 7.8-17
Attachments: RAI 413 Question 07.08-17 Response US EPR DC - DRAFT.pdf

Getachew,

Attached is a draft response to RAI No. 413, Question 07.08-17. The response to Question 07.08-17 is provided in advance of the final response date of April 5, 2011 as shown below.

Please let me know if the staff has questions, or if this can be sent as a final response.

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: Wednesday, March 02, 2011 3:34 PM
To: 'Tesfaye, Getachew'
Cc: BRYAN Martin (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. 413, Supplement 7

Getachew,

AREVA NP Inc. letter NRC 11:019 dated March 2, 2011 provides the final response for RAI 413, Supplement 7, question 07.08-39. AREVA NP considers some of the material contained in the response to be proprietary information. As required by 10 CFR 2.390(b), an affidavit is provided to support the withholding of the proprietary information from public disclosure. Proprietary and non-proprietary versions of the enclosure to this letter are provided separately.

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

Question #	Start Page	End Page
RAI 413 07.08-39	2	30

The response schedule for the remaining questions is unchanged and is shown below.

Question #	Response Date
RAI 413 07.08-13	April 21, 2011
RAI 413 07.08-17	April 5, 2011
RAI 413 07.08-19	April 5, 2011
RAI 413 07.08-21	April 5, 2011
RAI 413 07.08-22	April 5, 2011
RAI 413 07.08-26	April 5, 2011
RAI 413 07.08-27	April 5, 2011
RAI 413 07.08-28	April 5, 2011
RAI 413 07.08-29	April 5, 2011
RAI 413 07.08-32	April 14, 2011
RAI 413 07.08-35	April 14, 2011
RAI 413 07.08-38	April 14, 2011
RAI 413 07.08-42	April 5, 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: Thursday, February 24, 2011 1:58 PM

To: Tesfaye, Getachew

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

Subject: Response to U.S. EPR Design Certification Application RAI No. 413, FSAR Ch. 7, Supplement 6

Getachew,

AREVA NP provided a schedule for technically complete and correct responses to the questions in RAI 413 on September 08, 2010. Supplement 1 response to RAI No. 413 was sent on November 19, 2010, to provide a revised schedule. Supplement 2 response to RAI No. 413 was sent on December 13, 2010, to provide a revised schedule. Supplement 3 response to RAI No. 413 was sent on January 28, 2011, to provide technically correct and complete responses to seven questions. Supplement 4 response to RAI No. 413 was

sent on February 1, 2011, to provide technically correct and complete responses to seven questions. Supplement 5 response to RAI No. 413 was sent on February 23, 2011, to provide technically correct and complete responses to five questions.

Based upon the information presented to the NRC during the February 15, 2011, Public Meeting, the schedule for the remaining questions has been changed.

The schedule for technically correct and complete responses to the remaining 14 questions is provided below:

Question #	Response Date
RAI 413 07.08-13	April 21, 2011
RAI 413 07.08-17	April 5, 2011
RAI 413 07.08-19	April 5, 2011
RAI 413 07.08-21	April 5, 2011
RAI 413 07.08-22	April 5, 2011
RAI 413 07.08-26	April 5, 2011
RAI 413 07.08-27	April 5, 2011
RAI 413 07.08-28	April 5, 2011
RAI 413 07.08-29	April 5, 2011
RAI 413 07.08-32	April 14, 2011
RAI 413 07.08-35	April 14, 2011
RAI 413 07.08-38	April 14, 2011
RAI 413 07.08-39	April 5, 2011
RAI 413 07.08-42	April 5, 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: WELLS Russell (RS/NB)
Sent: Wednesday, February 23, 2011 2:08 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); BRYAN Martin (External RS/NB); RYAN Tom (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 413, FSAR Ch. 7, Supplement 5

Getachew,

AREVA NP provided a schedule for technically complete and correct responses to the questions in RAI 413 on September 08, 2010. Supplement 1 response to RAI No. 413 was sent on November 19, 2010, to provide a revised schedule. Supplement 2 response to RAI No. 413 was sent on December 13, 2010, to provide a revised schedule. Supplement 3 response to RAI No. 413 was sent on January 28, 2011, to provide technically correct and complete responses to seven questions. Supplement 4 response to RAI No. 413 was sent on February 1, 2011, to provide technically correct and complete responses to seven questions. Based

on discussions with NRC, the attached file, "RAI 413 Supplement 5 Response US EPR DC.pdf" provides technically correct and complete responses to five of the remaining 19 questions, as committed.

The following table indicates the respective pages in the response document, "RAI 413 Supplement 5 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 413 07.08-10	2	2
RAI 413 07.08-11	3	4
RAI 413 07.08-12	5	6
RAI 413 07.08-14	7	7
RAI 413 07.08-16	8	8

The schedule for technically correct and complete responses to the remaining 14 questions is unchanged and provided below:

Question #	Response Date
RAI 413 07.08-13	March 15, 2011
RAI 413 07.08-17	March 15, 2011
RAI 413 07.08-19	March 31, 2011
RAI 413 07.08-21	March 2, 2011
RAI 413 07.08-22	March 2, 2011
RAI 413 07.08-26	March 31, 2011
RAI 413 07.08-27	March 2, 2011
RAI 413 07.08-28	March 2, 2011
RAI 413 07.08-29	March 31, 2011
RAI 413 07.08-32	March 31, 2011
RAI 413 07.08-35	March 2, 2011
RAI 413 07.08-38	March 2, 2011
RAI 413 07.08-39	March 2, 2011
RAI 413 07.08-42	March 15, 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: Tuesday, February 01, 2011 6:06 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. 413, FSAR Ch. 7, Supplement 4

Getachew,

AREVA NP provided a schedule for technically complete and correct responses to the questions in RAI 413 on September 08, 2010. Supplement 1 response to RAI No. 413 was sent on November 19, 2010, to provide a revised schedule. Supplement 2 response to RAI No. 413 was sent on December 13, 2010, to provide a revised schedule. Supplement 3 response to RAI No. 413 was sent on January 28, 2011, to provide technically correct and complete responses to seven questions. Based on discussions with NRC, the attached file, "RAI 413 Supplement 4 Response US EPR DC.pdf" provides technically correct and complete responses to seven of the remaining 26 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 413 Question 07.08-20.

The following table indicates the respective pages in the response document, "RAI 413 Supplement 4 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 413 07.08-15	2	2
RAI 413 07.08-18	3	4
RAI 413 07.08-20	5	6
RAI 413 07.08-23	7	11
RAI 413 07.08-25	12	14
RAI 413 07.08-33	15	19
RAI 413 07.08-34	20	33

The schedule for technically correct and complete responses to the remaining 19 questions is unchanged and provided below:

Question #	Response Date
RAI 413 07.08-10	March 15, 2011
RAI 413 07.08-11	March 15, 2011
RAI 413 07.08-12	March 15, 2011
RAI 413 07.08-13	March 15, 2011
RAI 413 07.08-14	March 15, 2011
RAI 413 07.08-16	March 15, 2011
RAI 413 07.08-17	March 15, 2011
RAI 413 07.08-19	March 31, 2011
RAI 413 07.08-21	March 2, 2011
RAI 413 07.08-22	March 2, 2011
RAI 413 07.08-26	March 31, 2011
RAI 413 07.08-27	March 2, 2011
RAI 413 07.08-28	March 2, 2011
RAI 413 07.08-29	March 31, 2011
RAI 413 07.08-32	March 31, 2011
RAI 413 07.08-35	March 2, 2011

RAI 413 07.08-38	March 2, 2011
RAI 413 07.08-39	March 2, 2011
RAI 413 07.08-42	March 15, 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 28, 2011 5:41 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. 413, FSAR Ch. 7, Supplement 3

Getachew,

The proprietary and non-proprietary responses for RAI 413 Supplement 3 are submitted via AREVA NP Inc. letter, "Response to U.S. EPR Design Certification Application RAI No. 413, Supplement 3, Questions 07.08-24, 07.08-30, 07.08-31, 07.08-36, 07.08-37, 07.08-40, and 07.08-41" NRC 11:010, dated January 28, 2011. An affidavit to support withholding of information from public disclosure, per 10CFR2.390(b), is provided as an enclosure to that letter.

AREVA NP provided a schedule for technically complete and correct responses to the questions in RAI 413 on September 08, 2010. Supplement 1 response to RAI No. 413 was sent on November 19, 2010, to provide a revised schedule. Supplement 2 response to RAI No. 413 was sent on December 13, 2010, to provide a revised schedule.

The following table indicates the respective pages in the response document, "RAI 413 Supplement 3 Response US EPR DC.pdf" that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 413 07.08-24	2	11
RAI 413 07.08-30	12	12
RAI 413 07.08-31	13	22
RAI 413 07.08-36	23	24
RAI 413 07.08-37	25	26
RAI 413 07.08-40	27	38
RAI 413 07.08-41	39	43

To provide additional time to interact with the NRC a revised schedule is provided below (bolded dates have changed).

Question #	Response Date
RAI 413 07.08-10	March 15, 2011
RAI 413 07.08-11	March 15, 2011
RAI 413 07.08-12	March 15, 2011
RAI 413 07.08-13	March 15, 2011
RAI 413 07.08-14	March 15, 2011
RAI 413 07.08-15	March 2, 2011
RAI 413 07.08-16	March 15, 2011
RAI 413 07.08-17	March 15, 2011
RAI 413 07.08-18	March 2, 2011
RAI 413 07.08-19	March 31, 2011
RAI 413 07.08-20	March 2, 2011
RAI 413 07.08-21	March 2, 2011
RAI 413 07.08-22	March 2, 2011
RAI 413 07.08-23	March 2, 2011
RAI 413 07.08-25	March 2, 2011
RAI 413 07.08-26	March 31, 2011
RAI 413 07.08-27	March 2, 2011
RAI 413 07.08-28	March 2, 2011
RAI 413 07.08-29	March 31, 2011
RAI 413 07.08-32	March 31, 2011
RAI 413 07.08-33	March 2, 2011
RAI 413 07.08-34	March 2, 2011
RAI 413 07.08-35	March 2, 2011
RAI 413 07.08-38	March 2, 2011
RAI 413 07.08-39	March 2, 2011
RAI 413 07.08-42	March 15, 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, December 13, 2010 8:40 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); RYAN Tom (RS/NB); PANNELL George (CORP/QP)
Subject: Response to U.S. EPR Design Certification Application RAI No. 413, FSAR Ch. 7, Supplement 2

Getachew,

AREVA NP provided a schedule for technically complete and correct responses to the questions in RAI 413 on September 08, 2010. Supplement 1 response to RAI No. 413 was sent on November 19, 2010, to provide a revised schedule.

To provide additional time to interact with the NRC a revised schedule is provided below (bolded dates have changed).

Question #	Response Date
RAI 413 07.08-10	March 15, 2011
RAI 413 07.08-11	March 15, 2011
RAI 413 07.08-12	March 15, 2011
RAI 413 07.08-13	March 15, 2011
RAI 413 07.08-14	March 15, 2011
RAI 413 07.08-15	January 28, 2011
RAI 413 07.08-16	March 15, 2011
RAI 413 07.08-17	March 15, 2011
RAI 413 07.08-18	January 28, 2011
RAI 413 07.08-19	February 22, 2011
RAI 413 07.08-20	January 28, 2011
RAI 413 07.08-21	January 28, 2011
RAI 413 07.08-22	January 28, 2011
RAI 413 07.08-23	January 28, 2011
RAI 413 07.08-24	January 28, 2011
RAI 413 07.08-25	January 28, 2011
RAI 413 07.08-26	February 22, 2011
RAI 413 07.08-27	January 28, 2011
RAI 413 07.08-28	January 28, 2011
RAI 413 07.08-29	February 22, 2011
RAI 413 07.08-30	January 28, 2011
RAI 413 07.08-31	January 28, 2011
RAI 413 07.08-32	February 22, 2011
RAI 413 07.08-33	January 28, 2011
RAI 413 07.08-34	January 28, 2011
RAI 413 07.08-35	January 28, 2011
RAI 413 07.08-36	January 28, 2011
RAI 413 07.08-37	January 28, 2011
RAI 413 07.08-38	January 28, 2011
RAI 413 07.08-39	January 28, 2011
RAI 413 07.08-40	January 28, 2011
RAI 413 07.08-41	January 28, 2011
RAI 413 07.08-42	March 15, 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, November 19, 2010 4:51 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); PANNELL George (CORP/QP)
Subject: Response to U.S. EPR Design Certification Application RAI No. 413, FSAR Ch. 7

Getachew,

AREVA NP provided a schedule for technically complete and correct responses to the questions in RAI 413 on September 08, 2010. To provide additional time to interact with the NRC a revised schedule is provided below for questions 07.08-36, 07.08-39, and 07.08-41.

Question #	Response Date
RAI 413 07.08-10	March 15, 2011
RAI 413 07.08-11	March 15, 2011
RAI 413 07.08-12	March 15, 2011
RAI 413 07.08-13	March 15, 2011
RAI 413 07.08-14	March 15, 2011
RAI 413 07.08-15	December 17, 2010
RAI 413 07.08-16	March 15, 2011
RAI 413 07.08-17	March 15, 2011
RAI 413 07.08-18	December 17, 2010
RAI 413 07.08-19	January 28, 2011
RAI 413 07.08-20	December 17, 2010
RAI 413 07.08-21	January 28, 2011
RAI 413 07.08-22	December 17, 2010
RAI 413 07.08-23	December 17, 2010
RAI 413 07.08-24	January 28, 2011
RAI 413 07.08-25	December 17, 2010
RAI 413 07.08-26	December 17, 2010
RAI 413 07.08-27	December 17, 2010
RAI 413 07.08-28	December 17, 2010
RAI 413 07.08-29	January 28, 2011
RAI 413 07.08-30	January 28, 2011
RAI 413 07.08-31	January 28, 2011
RAI 413 07.08-32	January 28, 2011
RAI 413 07.08-33	December 17, 2010
RAI 413 07.08-34	December 17, 2010
RAI 413 07.08-35	January 28, 2011
RAI 413 07.08-36	December 15, 2010
RAI 413 07.08-37	January 28, 2011
RAI 413 07.08-38	December 17, 2010
RAI 413 07.08-39	December 15, 2010
RAI 413 07.08-40	January 28, 2011
RAI 413 07.08-41	December 15, 2010
RAI 413 07.08-42	March 15, 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, September 08, 2010 4:33 PM
To: Tesfaye, Getachew
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); PANNELL George (CORP/QP)
Subject: Response to U.S. EPR Design Certification Application RAI No. 413, FSAR Ch. 7

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information RAI 413.

The following table indicates the respective pages in the response document, "RAI 413 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 413 07.08-10	2	2
RAI 413 07.08-11	3	3
RAI 413 07.08-12	4	4
RAI 413 07.08-13	5	5
RAI 413 07.08-14	6	6
RAI 413 07.08-15	7	7
RAI 413 07.08-16	8	8
RAI 413 07.08-17	9	9
RAI 413 07.08-18	10	10
RAI 413 07.08-19	11	11
RAI 413 07.08-20	12	12
RAI 413 07.08-21	13	13
RAI 413 07.08-22	14	14
RAI 413 07.08-23	15	15
RAI 413 07.08-24	16	16
RAI 413 07.08-25	17	18
RAI 413 07.08-26	19	19
RAI 413 07.08-27	20	20
RAI 413 07.08-28	21	21
RAI 413 07.08-29	22	22
RAI 413 07.08-30	23	23
RAI 413 07.08-31	24	24
RAI 413 07.08-32	25	25
RAI 413 07.08-33	26	26
RAI 413 07.08-34	27	27
RAI 413 07.08-35	28	28
RAI 413 07.08-36	29	29
RAI 413 07.08-37	30	30
RAI 413 07.08-38	31	31

RAI 413 07.08-39	32	32
RAI 413 07.08-40	33	33
RAI 413 07.08-41	34	34
RAI 413 07.08-42	35	35

A complete answer is not provided for 33 of the 33 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 413 07.08-10	March 15, 2011
RAI 413 07.08-11	March 15, 2011
RAI 413 07.08-12	March 15, 2011
RAI 413 07.08-13	March 15, 2011
RAI 413 07.08-14	March 15, 2011
RAI 413 07.08-15	December 17, 2010
RAI 413 07.08-16	March 15, 2011
RAI 413 07.08-17	March 15, 2011
RAI 413 07.08-18	December 17, 2010
RAI 413 07.08-19	January 28, 2011
RAI 413 07.08-20	December 17, 2010
RAI 413 07.08-21	January 28, 2011
RAI 413 07.08-22	December 17, 2010
RAI 413 07.08-23	December 17, 2010
RAI 413 07.08-24	January 28, 2011
RAI 413 07.08-25	December 17, 2010
RAI 413 07.08-26	December 17, 2010
RAI 413 07.08-27	December 17, 2010
RAI 413 07.08-28	December 17, 2010
RAI 413 07.08-29	January 28, 2011
RAI 413 07.08-30	January 28, 2011
RAI 413 07.08-31	January 28, 2011
RAI 413 07.08-32	January 28, 2011
RAI 413 07.08-33	December 17, 2010
RAI 413 07.08-34	December 17, 2010
RAI 413 07.08-35	January 28, 2011
RAI 413 07.08-36	November 19, 2010
RAI 413 07.08-37	January 28, 2011
RAI 413 07.08-38	December 17, 2010
RAI 413 07.08-39	November 19, 2010
RAI 413 07.08-40	January 28, 2011
RAI 413 07.08-41	November 19, 2010
RAI 413 07.08-42	March 15, 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: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]

Sent: Monday, August 09, 2010 3:46 PM

To: ZZ-DL-A-USEPR-DL

Cc: Mott, Kenneth; Spaulding, Deirdre; Jackson, Terry; Canova, Michael; Colaccino, Joseph; ArevaEPRDCPEm Resource

Subject: U.S. EPR Design Certification Application RAI No. 413(4772), FSAR Ch. 7

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on June 4, 2010, and discussed with your staff on July 22, 2010. Draft RAI Questions 07.08-19, 07.08-21, 07.08-23, and 07.08-41, 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: 2693

Mail Envelope Properties (1F1CC1BBDC66B842A46CAC03D6B1CD410416515E)

Subject: DRAFT Response to U.S. EPR Design Certification Application RAI No. 413,
Question 7.8-17
Sent Date: 3/14/2011 8:23:39 AM
Received Date: 3/14/2011 8:23:45 AM
From: WELLS Russell (AREVA)

Created By: Russell.Wells@areva.com

Recipients:

"HUDSON Greg (AREVA)" <Greg.Hudson@areva.com>
Tracking Status: None
"RANSOM James (AREVA)" <James.Ransom@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
"HALLINGER Pat (EXTERNAL AREVA)" <Pat.Hallinger.ext@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
"WILLIFORD Dennis (AREVA)" <Dennis.Williford@areva.com>
Tracking Status: None
"Tesfaye, Getachew" <Getachew.Tesfaye@nrc.gov>
Tracking Status: None

Post Office: AUSLYNCMX02.adom.ad.corp

Files	Size	Date & Time	
MESSAGE	22756	3/14/2011 8:23:45 AM	
RAI_413 Question 07.08-17 Response US EPR DC - DRAFT.pdf			417483

Options

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

**Request for Additional Information No. 413(4772), Revision 1,
Question 07.08-17**

8/9/2010

U.S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 07.08 - Diverse Instrumentation and Control Systems

Application Section: ANP-10304

**QUESTIONS for Instrumentation, Controls and Electrical Engineering 1
(AP1000/EPR Projects) (ICE1)**

DRAFT

Question 07.08-17:

Identify all RCSL and PAS actuations, for both a manual and automatic control, that rely on a PS output. For each of the conditions identified, evaluate compliance with 10 CFR Part 50, Appendix A, General Design Criterion (GDC) 24 and its affect on the D3 analyses presented in Appendix A to ANP-10304 Rev 1.

10CFR52.47(a)(2) states that an application must contain a “description and analysis of the structures, systems, and components (SSCs) of the facility, with emphasis upon performance requirements, the bases, with technical justification therefore, upon which these requirements have been established, and the evaluations required to show that safety functions will be accomplished. ... The description shall be sufficient to permit understanding of the system designs and their relationship to the safety evaluations....” GDC 29, “Protection Against Anticipated Operational Occurrences” requires that the protection and reactivity control systems shall be designed to assure an extremely high probability of accomplishing their safety functions in the event of anticipated operational occurrences.

“U.S. EPR Diversity and Defense-in-Depth Assessment Technical Report” (D3-TR), ANP-10304, Revision 1 (ML093420199), Section A.1 of Appendix A states that “... SWCCF in the PS, concurrent with an AOO or PA, does not affect I&C functions outside the PS, if those functions do not rely on a PS output” and refers to Section 4 of ANP-10304 Rev 1. Section 4.12 states that due to the diversity attributes described in Section 4.2, “... control functions in the PAS that do not rely on PS output, can be assumed to function normally following a PS SWCCF concurrent with an AOO or PA.” While Section 4.2 addresses PAS diversity attributes, it does not say whether any PAS function relies on a PS output.

Response to Question 07.08-17:

The Response to RAI 413, Question 07.08-15 clarifies the role of reactor control, surveillance and limitation (RCSL) in the U.S. EPR diversity-in-depth (D3) analysis. As stated in the Response to RAI 413, Question 07.08-15 and in Technical Report ANP-10304, Revision 1, Section 4.1 and Section A.2.2, RCSL is not credited in the D3 assessment for event mitigation. The RCSL does not process any manual actions credited in the D3 plant response analysis.

The process automation system (PAS) is not credited to mitigate any design basis event (DBE) concurrent with a protection system (PS) software common-cause failure (CCF). The PAS is not intended to process any of the manual system level controls of critical safety functions to satisfy BTP 7-19, Point 4.

Under best-estimate assumptions in the D3 analysis, the normally operating control functions in the PAS (e.g., pressurizer level control and pressurizer pressure control) continue to operate following a PS software CCF. This assumption allows the event progression to be accurately modeled, accounting for the effects on plant systems caused by the normally-operating PAS control functions.

The partial cooldown function is the only PAS actuation that relies on a PS output. This function is non-safety-related and is not credited in the D3 analysis to mitigate any DBEs concurrent with a PS software CCF. Technical Report ANP-10304, Section 4.1 will be revised to add this information in the description of the PAS.

Technical Report ANP-10304, "U.S. EPR Diversity and Defense-in-Depth Assessment," will be revised to include the information requested in this RAI. The revision to Technical Report ANP-10304 will be transmitted separately.

FSAR Impact:

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

DRAFT