

ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Friday, June 24, 2011 4:46 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); WELLS Russell (AREVA); HAMMOND Philip (AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 23
Attachments: RAI 422 Supplement 23 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions was revised January 27, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 8, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 10, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 16 of the remaining 50 questions was revised February 17, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 18 of the remaining 50 questions was revised with Supplement 12 on March 16, 2011 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided a technically correct and complete FINAL response to 1 of the remaining 50 questions with Supplement 13 on March 24, 2011, as committed.

AREVA NP provided technically correct and complete FINAL responses to 8 of the remaining 49 questions with Supplement 14 on March 30, 2011, as committed.

The schedule for a technically correct and complete response to 32 of the remaining 41 questions was revised with Supplement 15 on March 31, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 6 of the remaining 41 questions was revised with Supplement 16 on April 13, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 3 of the remaining 41 questions was revised with Supplement 17 on April 20, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 29 of the remaining 41 questions was revised with Supplement 18 on May 11, 2011 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 3 of the remaining 41 questions with Supplement 19 on May 20, 2011, as committed.

The schedule for a technically correct and complete response to 9 of the remaining 38 questions was revised with Supplement 20 on May 25, 2011.

AREVA NP provided technically correct and complete FINAL responses to 5 of the remaining 38 questions with Supplement 21 on June 1, 2011, as committed.

The schedule for a technically correct and complete response to 28 of the remaining 33 questions was revised with Supplement 22 on June 6, 2011.

The attached file, "RAI 422 Supplement 23 Response US EPR DC.pdf", provides a technically correct and complete revised FINAL response to Question 03.09.02-139. A response to this question was originally sent to the NRC on December 22, 2010 in RAI 422 Supplement 5. Based on discussions with NRC staff, it was determined that the following changes were required to this response:

- Last sentence of Part B of the response changed ANP-10306P, Table 5-1 to ANP-10306P, Table 5-4
- Part C of the response changed ANP-10306P, Table 5-1 to ANP-10306P, Figure 5-1

The revised response contains change bars to reflect the above changes.

The following table indicates the respective pages in the response document, "RAI 422 Supplement 23 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 422 — 03.09.02-139	2	4

The schedule for technically correct and complete final responses to the remaining 33 questions is unchanged and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	July 13, 2011
RAI 422 — 03.09.02-84	July 13, 2011
RAI 422 — 03.09.02-85	July 13, 2011

Question #	Response Date
RAI 422 — 03.09.02-87	July 13, 2011
RAI 422 — 03.09.02-88	July 13, 2011
RAI 422 — 03.09.02-98	July 13, 2011
RAI 422 — 03.09.02-99	July 13, 2011
RAI 422 — 03.09.02-100	July 13, 2011
RAI 422 — 03.09.02-101	July 13, 2011
RAI 422 — 03.09.02-102	July 13, 2011
RAI 422 — 03.09.02-103	July 13, 2011
RAI 422 — 03.09.02-104	July 13, 2011
RAI 422 — 03.09.02-107	July 13, 2011
RAI 422 — 03.09.02-108	July 13, 2011
RAI 422 — 03.09.02-109	July 13, 2011
RAI 422 — 03.09.02-110	July 13, 2011
RAI 422 — 03.09.02-111	July 13, 2011
RAI 422 — 03.09.02-112	July 13, 2011
RAI 422 — 03.09.02-113	July 13, 2011
RAI 422 — 03.09.02-114	July 13, 2011
RAI 422 — 03.09.02-115	July 13, 2011
RAI 422 — 03.09.02-116	July 13, 2011
RAI 422 — 03.09.02-117	July 13, 2011
RAI 422 — 03.09.02-118	July 13, 2011
RAI 422 — 03.09.02-119	July 13, 2011
RAI 422 — 03.09.02-120	July 13, 2011
RAI 422 — 03.09.02-121	July 13, 2011
RAI 422 — 03.09.02-122	July 13, 2011
RAI 422 — 03.09.02-127	July 13, 2011
RAI 422 — 03.09.02-131	July 13, 2011
RAI 422 — 03.09.02-134	July 13, 2011
RAI 422 — 03.09.02-140	July 13, 2011
RAI 422 — 03.09.02-145	July 13, 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: Monday, June 06, 2011 5:58 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); HAMMOND Philip (RS/PT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 22

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions was revised January 27, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 8, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 10, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 16 of the remaining 50 questions was revised February 17, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 18 of the remaining 50 questions was revised with Supplement 12 on March 16, 2011 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided a technically correct and complete FINAL response to 1 of the remaining 50 questions with Supplement 13 on March 24, 2011, as committed.

AREVA NP provided technically correct and complete FINAL responses to 8 of the remaining 49 questions with Supplement 14 on March 30, 2011, as committed.

The schedule for a technically correct and complete response to 32 of the remaining 41 questions was revised with Supplement 15 on March 31, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 6 of the remaining 41 questions was revised with Supplement 16 on April 13, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 3 of the remaining 41 questions was revised with Supplement 17 on April 20, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 29 of the remaining 41 questions was revised with Supplement 18 on May 11, 2011 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 3 of the remaining 41 questions with Supplement 19 on May 20, 2011, as committed.

The schedule for a technically correct and complete response to 9 of the remaining 38 questions was revised with Supplement 20 on May 25, 2011.

AREVA NP provided technically correct and complete FINAL responses to 5 of the remaining 38 questions with Supplement 21 on June 1, 2011, as committed.

The schedule for the response to the 28 questions highlighted below in bold is being revised. The schedule for technically correct and complete final responses to the remaining 33 questions is summarized below.

Question #	Response Date
RAI 422 — 03.09.02-82	July 13, 2011
RAI 422 — 03.09.02-84	July 13, 2011
RAI 422 — 03.09.02-85	July 13, 2011
RAI 422 — 03.09.02-87	July 13, 2011
RAI 422 — 03.09.02-88	July 13, 2011
RAI 422 — 03.09.02-98	July 13, 2011
RAI 422 — 03.09.02-99	July 13, 2011
RAI 422 — 03.09.02-100	July 13, 2011
RAI 422 — 03.09.02-101	July 13, 2011
RAI 422 — 03.09.02-102	July 13, 2011
RAI 422 — 03.09.02-103	July 13, 2011
RAI 422 — 03.09.02-104	July 13, 2011
RAI 422 — 03.09.02-107	July 13, 2011
RAI 422 — 03.09.02-108	July 13, 2011
RAI 422 — 03.09.02-109	July 13, 2011
RAI 422 — 03.09.02-110	July 13, 2011
RAI 422 — 03.09.02-111	July 13, 2011
RAI 422 — 03.09.02-112	July 13, 2011
RAI 422 — 03.09.02-113	July 13, 2011
RAI 422 — 03.09.02-114	July 13, 2011
RAI 422 — 03.09.02-115	July 13, 2011
RAI 422 — 03.09.02-116	July 13, 2011
RAI 422 — 03.09.02-117	July 13, 2011
RAI 422 — 03.09.02-118	July 13, 2011
RAI 422 — 03.09.02-119	July 13, 2011
RAI 422 — 03.09.02-120	July 13, 2011
RAI 422 — 03.09.02-121	July 13, 2011
RAI 422 — 03.09.02-122	July 13, 2011
RAI 422 — 03.09.02-127	July 13, 2011
RAI 422 — 03.09.02-131	July 13, 2011
RAI 422 — 03.09.02-134	July 13, 2011
RAI 422 — 03.09.02-140	July 13, 2011
RAI 422 — 03.09.02-145	July 13, 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: Wednesday, June 01, 2011 6:09 PM

To: 'Tsfaye, Getachew'

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

Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 21

Getachew,

AREVA NP Inc. letter NRC 11:055 dated June 1, 2011 provides a technically correct and complete response to 5 of the 38 remaining questions for RAI 422. 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. A proprietary and non-proprietary version of the enclosure to this letter are provided separately.

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

Question #	Start Page	End Page
RAI 422 — 03.09.02-90	2	3
RAI 422 — 03.09.02-94	4	4
RAI 422 — 03.09.02-124	5	5
RAI 422 — 03.09.02-138	6	6
RAI 422 — 03.09.02-144	7	8

The schedule for a technically correct and complete final response to the remaining 33 questions is unchanged and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	June 15, 2011
RAI 422 — 03.09.02-84	June 15, 2011
RAI 422 — 03.09.02-85	June 15, 2011
RAI 422 — 03.09.02-87	July 13, 2011
RAI 422 — 03.09.02-88	July 13, 2011
RAI 422 — 03.09.02-98	June 15, 2011
RAI 422 — 03.09.02-99	June 15, 2011
RAI 422 — 03.09.02-100	June 15, 2011
RAI 422 — 03.09.02-101	June 15, 2011
RAI 422 — 03.09.02-102	June 15, 2011
RAI 422 — 03.09.02-103	June 15, 2011
RAI 422 — 03.09.02-104	June 15, 2011
RAI 422 — 03.09.02-107	June 15, 2011
RAI 422 — 03.09.02-108	June 15, 2011

Question #	Response Date
RAI 422 — 03.09.02-109	June 15, 2011
RAI 422 — 03.09.02-110	June 15, 2011
RAI 422 — 03.09.02-111	June 15, 2011
RAI 422 — 03.09.02-112	June 15, 2011
RAI 422 — 03.09.02-113	June 15, 2011
RAI 422 — 03.09.02-114	June 15, 2011
RAI 422 — 03.09.02-115	June 15, 2011
RAI 422 — 03.09.02-116	June 15, 2011
RAI 422 — 03.09.02-117	June 15, 2011
RAI 422 — 03.09.02-118	June 15, 2011
RAI 422 — 03.09.02-119	June 15, 2011
RAI 422 — 03.09.02-120	June 15, 2011
RAI 422 — 03.09.02-121	June 15, 2011
RAI 422 — 03.09.02-122	June 15, 2011
RAI 422 — 03.09.02-127	July 13, 2011
RAI 422 — 03.09.02-131	June 15, 2011
RAI 422 — 03.09.02-134	July 13, 2011
RAI 422 — 03.09.02-140	July 13, 2011
RAI 422 — 03.09.02-145	June 15, 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: Wednesday, May 25, 2011 8:22 AM
To: 'Tefaye, Getachew'
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); HAMMOND Philip (RS/PT); WELLS Russell (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 20

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions was revised January 27, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 8, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 10, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 16 of the remaining 50 questions was revised February 17, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 18 of the remaining 50 questions was revised with Supplement 12 on March 16, 2011 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided a technically correct and complete FINAL response to 1 of the remaining 50 questions with Supplement 13 on March 24, 2011, as committed.

AREVA NP provided technically correct and complete FINAL responses to 8 of the remaining 49 questions with Supplement 14 on March 30, 2011, as committed.

The schedule for a technically correct and complete response to 32 of the remaining 41 questions was revised with Supplement 15 on March 31, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 6 of the remaining 41 questions was revised with Supplement 16 on April 13, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 3 of the remaining 41 questions was revised with Supplement 17 on April 20, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 29 of the remaining 41 questions was revised with Supplement 18 on May 11, 2011 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 3 of the remaining 41 questions with Supplement 19 on May 20, 2011, as committed.

The schedule for the response to the 9 questions shown below in bold is being revised. The schedule for technically correct and complete final responses to the other 29 questions is unchanged. The revised schedule for the remaining 38 questions is summarized below.

Question #	Response Date
RAI 422 — 03.09.02-82	June 15, 2011
RAI 422 — 03.09.02-84	June 15, 2011
RAI 422 — 03.09.02-85	June 15, 2011
RAI 422 — 03.09.02-87	July 13, 2011
RAI 422 — 03.09.02-88	July 13, 2011
RAI 422 — 03.09.02-90	July 13, 2011
RAI 422 — 03.09.02-94	July 13, 2011
RAI 422 — 03.09.02-98	June 15, 2011
RAI 422 — 03.09.02-99	June 15, 2011
RAI 422 — 03.09.02-100	June 15, 2011
RAI 422 — 03.09.02-101	June 15, 2011
RAI 422 — 03.09.02-102	June 15, 2011
RAI 422 — 03.09.02-103	June 15, 2011
RAI 422 — 03.09.02-104	June 15, 2011
RAI 422 — 03.09.02-107	June 15, 2011
RAI 422 — 03.09.02-108	June 15, 2011
RAI 422 — 03.09.02-109	June 15, 2011
RAI 422 — 03.09.02-110	June 15, 2011
RAI 422 — 03.09.02-111	June 15, 2011
RAI 422 — 03.09.02-112	June 15, 2011
RAI 422 — 03.09.02-113	June 15, 2011
RAI 422 — 03.09.02-114	June 15, 2011
RAI 422 — 03.09.02-115	June 15, 2011
RAI 422 — 03.09.02-116	June 15, 2011
RAI 422 — 03.09.02-117	June 15, 2011
RAI 422 — 03.09.02-118	June 15, 2011
RAI 422 — 03.09.02-119	June 15, 2011
RAI 422 — 03.09.02-120	June 15, 2011
RAI 422 — 03.09.02-121	June 15, 2011
RAI 422 — 03.09.02-122	June 15, 2011
RAI 422 — 03.09.02-124	July 13, 2011
RAI 422 — 03.09.02-127	July 13, 2011
RAI 422 — 03.09.02-131	June 15, 2011
RAI 422 — 03.09.02-134	July 13, 2011
RAI 422 — 03.09.02-138	July 13, 2011
RAI 422 — 03.09.02-140	July 13, 2011
RAI 422 — 03.09.02-144	June 15, 2011
RAI 422 — 03.09.02-145	June 15, 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, May 20, 2011 4:56 PM

To: 'Tesfaye, Getachew'

Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); HAMMOND Philip (RS/PT); CORNELL Veronica (External RS/NB)

Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 19

Getachew,

AREVA NP Inc. letter NRC 11:044 dated May 19, 2011 provides a technically correct and complete FINAL response to 3 of the 41 remaining questions (Questions 03.09.02-105, 03.09.02-106, and 03.09.02-123) for RAI 422. 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 final response to the subject questions.

Question #	Start Page	End Page
RAI 422 — 03.09.02-105	2	2
RAI 422 — 03.09.02-106	3	3
RAI 422 — 03.09.02-123	4	4

The schedule for technically correct and complete final responses to the remaining 38 questions is unchanged and is provided below:

Question #	Response Date
RAI 422 — 03.09.02-82	June 15, 2011
RAI 422 — 03.09.02-84	June 15, 2011
RAI 422 — 03.09.02-85	June 15, 2011
RAI 422 — 03.09.02-87	June 1, 2011
RAI 422 — 03.09.02-88	June 1, 2011
RAI 422 — 03.09.02-90	June 1, 2011
RAI 422 — 03.09.02-94	June 1, 2011
RAI 422 — 03.09.02-98	June 15, 2011
RAI 422 — 03.09.02-99	June 15, 2011
RAI 422 — 03.09.02-100	June 15, 2011
RAI 422 — 03.09.02-101	June 15, 2011
RAI 422 — 03.09.02-102	June 15, 2011
RAI 422 — 03.09.02-103	June 15, 2011
RAI 422 — 03.09.02-104	June 15, 2011
RAI 422 — 03.09.02-107	June 15, 2011
RAI 422 — 03.09.02-108	June 15, 2011
RAI 422 — 03.09.02-109	June 15, 2011
RAI 422 — 03.09.02-110	June 15, 2011
RAI 422 — 03.09.02-111	June 15, 2011
RAI 422 — 03.09.02-112	June 15, 2011
RAI 422 — 03.09.02-113	June 15, 2011

Question #	Response Date
RAI 422 — 03.09.02-114	June 15, 2011
RAI 422 — 03.09.02-115	June 15, 2011
RAI 422 — 03.09.02-116	June 15, 2011
RAI 422 — 03.09.02-117	June 15, 2011
RAI 422 — 03.09.02-118	June 15, 2011
RAI 422 — 03.09.02-119	June 15, 2011
RAI 422 — 03.09.02-120	June 15, 2011
RAI 422 — 03.09.02-121	June 15, 2011
RAI 422 — 03.09.02-122	June 15, 2011
RAI 422 — 03.09.02-124	June 1, 2011
RAI 422 — 03.09.02-127	June 1, 2011
RAI 422 — 03.09.02-131	June 15, 2011
RAI 422 — 03.09.02-134	June 1, 2011
RAI 422 — 03.09.02-138	June 1, 2011
RAI 422 — 03.09.02-140	June 1, 2011
RAI 422 — 03.09.02-144	June 15, 2011
RAI 422 — 03.09.02-145	June 15, 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: Wednesday, May 11, 2011 10:11 AM
To: 'Tefaye, Getachew'
Cc: HAMMOND Philip (RS/PT); Miernicki, Michael; 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. 422, FSARCh. 3, Supplement 18

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions was revised January 27, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 8, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 10, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 16 of the remaining 50 questions was revised February 17, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 18 of the remaining 50 questions was revised with Supplement 12 on March 16, 2011 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided a technically correct and complete FINAL response to 1 of the remaining 50 questions with Supplement 13 on March 24, 2011, as committed.

AREVA NP provided technically correct and complete FINAL responses to 8 of the remaining 49 questions with Supplement 14 on March 30, 2011, as committed.

The schedule for a technically correct and complete response to 32 of the remaining 41 questions was revised with Supplement 15 on March 31, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 6 of the remaining 41 questions was revised with Supplement 16 on April 13, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 3 of the remaining 41 questions was revised with Supplement 17 on April 20, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response for 29 of the remaining 41 questions as shown in bold, is revised to allow additional time for AREVA NP to interact with the NRC. The schedule for the remaining questions is unchanged.

Question #	Response Date
RAI 422 — 03.09.02-82	June 15, 2011
RAI 422 — 03.09.02-84	June 15, 2011
RAI 422 — 03.09.02-85	June 15, 2011

Question #	Response Date
RAI 422 — 03.09.02-87	June 1, 2011
RAI 422 — 03.09.02-88	June 1, 2011
RAI 422 — 03.09.02-90	June 1, 2011
RAI 422 — 03.09.02-94	June 1, 2011
RAI 422 — 03.09.02-98	June 15, 2011
RAI 422 — 03.09.02-99	June 15, 2011
RAI 422 — 03.09.02-100	June 15, 2011
RAI 422 — 03.09.02-101	June 15, 2011
RAI 422 — 03.09.02-102	June 15, 2011
RAI 422 — 03.09.02-103	June 15, 2011
RAI 422 — 03.09.02-104	June 15, 2011
RAI 422 — 03.09.02-105	June 15, 2011
RAI 422 — 03.09.02-106	June 15, 2011
RAI 422 — 03.09.02-107	June 15, 2011
RAI 422 — 03.09.02-108	June 15, 2011
RAI 422 — 03.09.02-109	June 15, 2011
RAI 422 — 03.09.02-110	June 15, 2011
RAI 422 — 03.09.02-111	June 15, 2011
RAI 422 — 03.09.02-112	June 15, 2011
RAI 422 — 03.09.02-113	June 15, 2011
RAI 422 — 03.09.02-114	June 15, 2011
RAI 422 — 03.09.02-115	June 15, 2011
RAI 422 — 03.09.02-116	June 15, 2011
RAI 422 — 03.09.02-117	June 15, 2011
RAI 422 — 03.09.02-118	June 15, 2011
RAI 422 — 03.09.02-119	June 15, 2011
RAI 422 — 03.09.02-120	June 15, 2011
RAI 422 — 03.09.02-121	June 15, 2011
RAI 422 — 03.09.02-122	June 15, 2011
RAI 422 — 03.09.02-123	June 15, 2011
RAI 422 — 03.09.02-124	June 1, 2011
RAI 422 — 03.09.02-127	June 1, 2011
RAI 422 — 03.09.02-131	June 15, 2011
RAI 422 — 03.09.02-134	June 1, 2011
RAI 422 — 03.09.02-138	June 1, 2011
RAI 422 — 03.09.02-140	June 1, 2011
RAI 422 — 03.09.02-144	June 15, 2011
RAI 422 — 03.09.02-145	June 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)

From: WELLS Russell (RS/NB)
Sent: Wednesday, April 20, 2011 6:32 AM
To: 'Tesfaye, Getachew'
Cc: HAMMOND Philip (RS/PT); 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. 422, FSARCh. 3, Supplement 17

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions was revised January 27, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 8, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 10, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 16 of the remaining 50 questions was revised February 17, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 18 of the remaining 50 questions was revised with Supplement 12 on March 16, 2011 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided a technically correct and complete FINAL response to 1 of the remaining 50 questions with Supplement 13 on March 24, 2011, as committed.

AREVA NP provided technically correct and complete FINAL responses to 8 of the remaining 49 questions with Supplement 14 on March 30, 2011, as committed.

The schedule for a technically correct and complete response to 32 of the remaining 41 questions was revised with Supplement 15 on March 31, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 6 of the remaining 41 questions was revised with Supplement 16 on April 13, 2011 to allow additional time for AREVA NP to interact with the NRC and is provided below.

The schedule for a technically correct and complete response to 3 of the remaining 41 questions, as shown in bold, is revised to allow additional time for AREVA NP to interact with the NRC and is provided below. The schedule for the remaining questions is unchanged.

Question #	Response Date
RAI 422 — 03.09.02-82	June 15, 2011
RAI 422 — 03.09.02-84	May 12, 2011
RAI 422 — 03.09.02-85	May 12, 2011
RAI 422 — 03.09.02-87	June 1, 2011
RAI 422 — 03.09.02-88	June 1, 2011
RAI 422 — 03.09.02-90	June 1, 2011
RAI 422 — 03.09.02-94	June 1, 2011
RAI 422 — 03.09.02-98	June 15, 2011
RAI 422 — 03.09.02-99	May 12, 2011
RAI 422 — 03.09.02-100	May 12, 2011
RAI 422 — 03.09.02-101	May 12, 2011
RAI 422 — 03.09.02-102	May 12, 2011
RAI 422 — 03.09.02-103	May 12, 2011
RAI 422 — 03.09.02-104	May 12, 2011
RAI 422 — 03.09.02-105	May 12, 2011
RAI 422 — 03.09.02-106	May 12, 2011
RAI 422 — 03.09.02-107	May 12, 2011
RAI 422 — 03.09.02-108	May 12, 2011
RAI 422 — 03.09.02-109	May 12, 2011
RAI 422 — 03.09.02-110	May 12, 2011
RAI 422 — 03.09.02-111	May 12, 2011
RAI 422 — 03.09.02-112	May 12, 2011
RAI 422 — 03.09.02-113	May 12, 2011
RAI 422 — 03.09.02-114	May 12, 2011
RAI 422 — 03.09.02-115	May 12, 2011
RAI 422 — 03.09.02-116	May 12, 2011
RAI 422 — 03.09.02-117	May 12, 2011
RAI 422 — 03.09.02-118	May 12, 2011
RAI 422 — 03.09.02-119	May 12, 2011
RAI 422 — 03.09.02-120	May 12, 2011
RAI 422 — 03.09.02-121	May 12, 2011
RAI 422 — 03.09.02-122	May 12, 2011
RAI 422 — 03.09.02-123	May 12, 2011
RAI 422 — 03.09.02-124	June 1, 2011
RAI 422 — 03.09.02-127	June 1, 2011

Question #	Response Date
RAI 422 — 03.09.02-131	May 12, 2011
RAI 422 — 03.09.02-134	June 1, 2011
RAI 422 — 03.09.02-138	June 1, 2011
RAI 422 — 03.09.02-140	June 1, 2011
RAI 422 — 03.09.02-144	May 12, 2011
RAI 422 — 03.09.02-145	June 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: WELLS Russell (RS/NB)

Sent: Wednesday, April 13, 2011 6:09 PM

To: 'Tefaye, Getachew'

Cc: HAMMOND Philip (RS/PT); 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. 422, FSARCh. 3, Supplement 16

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions was revised January 27, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 8, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 10, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 16 of the remaining 50 questions was revised February 17, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 18 of the remaining 50 questions was revised with Supplement 12 on March 16, 2011 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided a technically correct and complete FINAL response to 1 of the remaining 50 questions with Supplement 13 on March 24, 2011, as committed.

AREVA NP provided technically correct and complete FINAL responses to 8 of the remaining 49 questions with Supplement 14 on March 30, 2011, as committed.

The schedule for a technically correct and complete response to 32 of the remaining 41 questions was revised with Supplement 15 on March 31, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 6 of the remaining 41 questions, as shown in bold, is revised to allow additional time for AREVA NP to interact with the NRC and is provided below. The schedule for the remaining questions is unchanged.

Question #	Response Date
RAI 422 — 03.09.02-82	May 5, 2011
RAI 422 — 03.09.02-84	May 12, 2011
RAI 422 — 03.09.02-85	May 12, 2011
RAI 422 — 03.09.02-87	June 1, 2011
RAI 422 — 03.09.02-88	June 1, 2011
RAI 422 — 03.09.02-90	June 1, 2011
RAI 422 — 03.09.02-94	June 1, 2011
RAI 422 — 03.09.02-98	May 5, 2011
RAI 422 — 03.09.02-99	May 12, 2011
RAI 422 — 03.09.02-100	May 12, 2011
RAI 422 — 03.09.02-101	May 12, 2011
RAI 422 — 03.09.02-102	May 12, 2011
RAI 422 — 03.09.02-103	May 12, 2011
RAI 422 — 03.09.02-104	May 12, 2011
RAI 422 — 03.09.02-105	May 12, 2011
RAI 422 — 03.09.02-106	May 12, 2011
RAI 422 — 03.09.02-107	May 12, 2011
RAI 422 — 03.09.02-108	May 12, 2011

Question #	Response Date
RAI 422 — 03.09.02-109	May 12, 2011
RAI 422 — 03.09.02-110	May 12, 2011
RAI 422 — 03.09.02-111	May 12, 2011
RAI 422 — 03.09.02-112	May 12, 2011
RAI 422 — 03.09.02-113	May 12, 2011
RAI 422 — 03.09.02-114	May 12, 2011
RAI 422 — 03.09.02-115	May 12, 2011
RAI 422 — 03.09.02-116	May 12, 2011
RAI 422 — 03.09.02-117	May 12, 2011
RAI 422 — 03.09.02-118	May 12, 2011
RAI 422 — 03.09.02-119	May 12, 2011
RAI 422 — 03.09.02-120	May 12, 2011
RAI 422 — 03.09.02-121	May 12, 2011
RAI 422 — 03.09.02-122	May 12, 2011
RAI 422 — 03.09.02-123	May 12, 2011
RAI 422 — 03.09.02-124	June 1, 2011
RAI 422 — 03.09.02-127	June 1, 2011
RAI 422 — 03.09.02-131	May 12, 2011
RAI 422 — 03.09.02-134	June 1, 2011
RAI 422 — 03.09.02-138	June 1, 2011
RAI 422 — 03.09.02-140	June 1, 2011
RAI 422 — 03.09.02-144	May 12, 2011
RAI 422 — 03.09.02-145	May 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: WELLS Russell (RS/NB)

Sent: Thursday, March 31, 2011 9:37 AM

To: 'Tefaye, Getachew'

Cc: HAMMOND Philip (RS/PT); 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. 422, FSARCh. 3, Supplement 15

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions was revised January 27, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 8, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 10, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 16 of the remaining 50 questions was revised February 17, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 18 of the remaining 50 questions was revised with Supplement 12 on March 16, 2011 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided a technically correct and complete FINAL response to 1 of the remaining 50 questions with Supplement 13 on March 24, 2011, as committed.

AREVA NP provided technically correct and complete FINAL responses to 8 of the remaining 49 questions with Supplement 14 on March 30, 2011, as committed.

The schedule for a technically correct and complete response to 32 of the remaining 41 questions, as shown in bold, is revised to allow additional time for AREVA NP to interact with the NRC and is provided below. The schedule for the remaining questions is unchanged.

Question #	Response Date
RAI 422 — 03.09.02-82	May 5, 2011
RAI 422 — 03.09.02-84	May 12, 2011
RAI 422 — 03.09.02-85	May 12, 2011
RAI 422 — 03.09.02-87	April 28, 2011
RAI 422 — 03.09.02-88	April 28, 2011

Question #	Response Date
RAI 422 — 03.09.02-90	June 1, 2011
RAI 422 — 03.09.02-94	June 1, 2011
RAI 422 — 03.09.02-98	May 5, 2011
RAI 422 — 03.09.02-99	May 12, 2011
RAI 422 — 03.09.02-100	May 12, 2011
RAI 422 — 03.09.02-101	May 12, 2011
RAI 422 — 03.09.02-102	May 12, 2011
RAI 422 — 03.09.02-103	May 12, 2011
RAI 422 — 03.09.02-104	May 12, 2011
RAI 422 — 03.09.02-105	May 12, 2011
RAI 422 — 03.09.02-106	May 12, 2011
RAI 422 — 03.09.02-107	May 12, 2011
RAI 422 — 03.09.02-108	May 12, 2011
RAI 422 — 03.09.02-109	May 12, 2011
RAI 422 — 03.09.02-110	May 12, 2011
RAI 422 — 03.09.02-111	May 12, 2011
RAI 422 — 03.09.02-112	May 12, 2011
RAI 422 — 03.09.02-113	May 12, 2011
RAI 422 — 03.09.02-114	May 12, 2011
RAI 422 — 03.09.02-115	May 12, 2011
RAI 422 — 03.09.02-116	May 12, 2011
RAI 422 — 03.09.02-117	May 12, 2011
RAI 422 — 03.09.02-118	May 12, 2011
RAI 422 — 03.09.02-119	May 12, 2011
RAI 422 — 03.09.02-120	May 12, 2011
RAI 422 — 03.09.02-121	May 12, 2011
RAI 422 — 03.09.02-122	May 12, 2011
RAI 422 — 03.09.02-123	May 12, 2011
RAI 422 — 03.09.02-124	April 28, 2011
RAI 422 — 03.09.02-127	April 28, 2011
RAI 422 — 03.09.02-131	May 12, 2011
RAI 422 — 03.09.02-134	April 28, 2011
RAI 422 — 03.09.02-138	June 1, 2011
RAI 422 — 03.09.02-140	April 28, 2011
RAI 422 — 03.09.02-144	May 12, 2011
RAI 422 — 03.09.02-145	May 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: WELLS Russell (RS/NB)

Sent: Wednesday, March 30, 2011 2:41 PM

To: Tesfaye, Getachew

Cc: HAMMOND Philip (RS/PT); 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. 422, FSARCh. 3, Supplement 14

Getachew,

AREVA NP Inc. letter NRC 11:033 dated March 29, 2011 provides a technically correct and complete response to 8 of the 49 remaining questions for RAI 422. 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 422 — 03.09.02-89	2	2
RAI 422 — 03.09.02-91	3	3
RAI 422 — 03.09.02-92	4	5
RAI 422 — 03.09.02-93	6	7
RAI 422 — 03.09.02-95	8	9
RAI 422 — 03.09.02-96	10	11
RAI 422 — 03.09.02-97	12	12
RAI 422 — 03.09.02-142	13	13

The schedule for the technically correct and complete response to the remaining 41 questions is unchanged and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	May 5, 2011
RAI 422 — 03.09.02-84	April 7, 2011
RAI 422 — 03.09.02-85	April 7, 2011
RAI 422 — 03.09.02-87	April 28, 2011
RAI 422 — 03.09.02-88	April 28, 2011
RAI 422 — 03.09.02-90	April 28, 2011
RAI 422 — 03.09.02-94	April 28, 2011
RAI 422 — 03.09.02-98	May 5, 2011
RAI 422 — 03.09.02-99	April 6, 2011
RAI 422 — 03.09.02-100	April 6, 2011
RAI 422 — 03.09.02-101	April 6, 2011
RAI 422 — 03.09.02-102	April 6, 2011
RAI 422 — 03.09.02-103	April 6, 2011
RAI 422 — 03.09.02-104	April 6, 2011
RAI 422 — 03.09.02-105	April 6, 2011
RAI 422 — 03.09.02-106	April 6, 2011

Question #	Response Date
RAI 422 — 03.09.02-107	April 6, 2011
RAI 422 — 03.09.02-108	April 6, 2011
RAI 422 — 03.09.02-109	April 7, 2011
RAI 422 — 03.09.02-110	April 6, 2011
RAI 422 — 03.09.02-111	April 6, 2011
RAI 422 — 03.09.02-112	April 6, 2011
RAI 422 — 03.09.02-113	April 7, 2011
RAI 422 — 03.09.02-114	April 7, 2011
RAI 422 — 03.09.02-115	April 7, 2011
RAI 422 — 03.09.02-116	April 7, 2011
RAI 422 — 03.09.02-117	April 7, 2011
RAI 422 — 03.09.02-118	April 7, 2011
RAI 422 — 03.09.02-119	April 7, 2011
RAI 422 — 03.09.02-120	April 7, 2011
RAI 422 — 03.09.02-121	April 7, 2011
RAI 422 — 03.09.02-122	April 7, 2011
RAI 422 — 03.09.02-123	April 7, 2011
RAI 422 — 03.09.02-124	April 28, 2011
RAI 422 — 03.09.02-127	April 28, 2011
RAI 422 — 03.09.02-131	April 7, 2011
RAI 422 — 03.09.02-134	April 28, 2011
RAI 422 — 03.09.02-138	April 28, 2011
RAI 422 — 03.09.02-140	April 28, 2011
RAI 422 — 03.09.02-144	April 7, 2011
RAI 422 — 03.09.02-145	May 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: WELLS Russell (RS/NB)

Sent: Thursday, March 24, 2011 6:01 PM

To: Tesfaye, Getachew

Cc: HAMMOND Philip (RS/PT); 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. 422, FSARCh. 3, Supplement 13

Getachew,

AREVA NP Inc. letter NRC 11:027 dated March 24, 2011 provides a technically correct and complete response to 1 of the 50 remaining questions (i.e., 03.09.02-126) for RAI 422. 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 422 — 03.09.02-126	2	5

The schedule for the technically correct and complete response to the remaining 49 questions is unchanged and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	May 5, 2011
RAI 422 — 03.09.02-84	April 7, 2011
RAI 422 — 03.09.02-85	April 7, 2011
RAI 422 — 03.09.02-87	April 28, 2011
RAI 422 — 03.09.02-88	April 28, 2011
RAI 422 — 03.09.02-89	April 28, 2011
RAI 422 — 03.09.02-90	April 28, 2011
RAI 422 — 03.09.02-91	April 28, 2011
RAI 422 — 03.09.02-92	April 28, 2011
RAI 422 — 03.09.02-93	April 28, 2011
RAI 422 — 03.09.02-94	April 28, 2011
RAI 422 — 03.09.02-95	April 28, 2011
RAI 422 — 03.09.02-96	April 28, 2011
RAI 422 — 03.09.02-97	April 28, 2011
RAI 422 — 03.09.02-98	May 5, 2011
RAI 422 — 03.09.02-99	April 6, 2011
RAI 422 — 03.09.02-100	April 6, 2011
RAI 422 — 03.09.02-101	April 6, 2011
RAI 422 — 03.09.02-102	April 6, 2011
RAI 422 — 03.09.02-103	April 6, 2011
RAI 422 — 03.09.02-104	April 6, 2011
RAI 422 — 03.09.02-105	April 6, 2011
RAI 422 — 03.09.02-106	April 6, 2011
RAI 422 — 03.09.02-107	April 6, 2011
RAI 422 — 03.09.02-108	April 6, 2011
RAI 422 — 03.09.02-109	April 7, 2011
RAI 422 — 03.09.02-110	April 6, 2011
RAI 422 — 03.09.02-111	April 6, 2011
RAI 422 — 03.09.02-112	April 6, 2011
RAI 422 — 03.09.02-113	April 7, 2011
RAI 422 — 03.09.02-114	April 7, 2011
RAI 422 — 03.09.02-115	April 7, 2011
RAI 422 — 03.09.02-116	April 7, 2011
RAI 422 — 03.09.02-117	April 7, 2011
RAI 422 — 03.09.02-118	April 7, 2011
RAI 422 — 03.09.02-119	April 7, 2011
RAI 422 — 03.09.02-120	April 7, 2011

Question #	Response Date
RAI 422 — 03.09.02-121	April 7, 2011
RAI 422 — 03.09.02-122	April 7, 2011
RAI 422 — 03.09.02-123	April 7, 2011
RAI 422 — 03.09.02-124	April 28, 2011
RAI 422 — 03.09.02-127	April 28, 2011
RAI 422 — 03.09.02-131	April 7, 2011
RAI 422 — 03.09.02-134	April 28, 2011
RAI 422 — 03.09.02-138	April 28, 2011
RAI 422 — 03.09.02-140	April 28, 2011
RAI 422 — 03.09.02-142	April 28, 2011
RAI 422 — 03.09.02-144	April 7, 2011
RAI 422 — 03.09.02-145	May 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: WELLS Russell (RS/NB)

Sent: Wednesday, March 16, 2011 3:08 PM

To: 'Tefaye, Getachew'

Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); HAMMOND Philip (RS/PT)

Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 12

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions was revised January 27, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 8, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 10, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 16 of the remaining 50 questions was revised February 17 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 18 of the remaining 50 questions is revised to allow additional time for AREVA NP to interact with the NRC and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-87	April 28, 2011
RAI 422 — 03.09.02-88	April 28, 2011
RAI 422 — 03.09.02-89	April 28, 2011
RAI 422 — 03.09.02-90	April 28, 2011
RAI 422 — 03.09.02-91	April 28, 2011
RAI 422 — 03.09.02-92	April 28, 2011
RAI 422 — 03.09.02-93	April 28, 2011
RAI 422 — 03.09.02-94	April 28, 2011
RAI 422 — 03.09.02-95	April 28, 2011
RAI 422 — 03.09.02-96	April 28, 2011
RAI 422 — 03.09.02-97	April 28, 2011
RAI 422 — 03.09.02-124	April 28, 2011
RAI 422 — 03.09.02-126	April 28, 2011
RAI 422 — 03.09.02-127	April 28, 2011
RAI 422 — 03.09.02-134	April 28, 2011
RAI 422 — 03.09.02-138	April 28, 2011
RAI 422 — 03.09.02-140	April 28, 2011
RAI 422 — 03.09.02-142	April 28, 2011

The schedule for a technically correct and complete response to the remaining 50 questions is provided below.

Question #	Response Date
------------	---------------

Question #	Response Date
RAI 422 — 03.09.02-82	May 5, 2011
RAI 422 — 03.09.02-84	April 7, 2011
RAI 422 — 03.09.02-85	April 7, 2011
RAI 422 — 03.09.02-87	April 28, 2011
RAI 422 — 03.09.02-88	April 28, 2011
RAI 422 — 03.09.02-89	April 28, 2011
RAI 422 — 03.09.02-90	April 28, 2011
RAI 422 — 03.09.02-91	April 28, 2011
RAI 422 — 03.09.02-92	April 28, 2011
RAI 422 — 03.09.02-93	April 28, 2011
RAI 422 — 03.09.02-94	April 28, 2011
RAI 422 — 03.09.02-95	April 28, 2011
RAI 422 — 03.09.02-96	April 28, 2011
RAI 422 — 03.09.02-97	April 28, 2011
RAI 422 — 03.09.02-98	May 5, 2011
RAI 422 — 03.09.02-99	April 6, 2011
RAI 422 — 03.09.02-100	April 6, 2011
RAI 422 — 03.09.02-101	April 6, 2011
RAI 422 — 03.09.02-102	April 6, 2011
RAI 422 — 03.09.02-103	April 6, 2011
RAI 422 — 03.09.02-104	April 6, 2011
RAI 422 — 03.09.02-105	April 6, 2011
RAI 422 — 03.09.02-106	April 6, 2011
RAI 422 — 03.09.02-107	April 6, 2011
RAI 422 — 03.09.02-108	April 6, 2011
RAI 422 — 03.09.02-109	April 7, 2011
RAI 422 — 03.09.02-110	April 6, 2011
RAI 422 — 03.09.02-111	April 6, 2011
RAI 422 — 03.09.02-112	April 6, 2011
RAI 422 — 03.09.02-113	April 7, 2011
RAI 422 — 03.09.02-114	April 7, 2011
RAI 422 — 03.09.02-115	April 7, 2011
RAI 422 — 03.09.02-116	April 7, 2011
RAI 422 — 03.09.02-117	April 7, 2011
RAI 422 — 03.09.02-118	April 7, 2011
RAI 422 — 03.09.02-119	April 7, 2011
RAI 422 — 03.09.02-120	April 7, 2011
RAI 422 — 03.09.02-121	April 7, 2011
RAI 422 — 03.09.02-122	April 7, 2011
RAI 422 — 03.09.02-123	April 7, 2011
RAI 422 — 03.09.02-124	April 28, 2011
RAI 422 — 03.09.02-126	April 28, 2011
RAI 422 — 03.09.02-127	April 28, 2011
RAI 422 — 03.09.02-131	April 7, 2011
RAI 422 — 03.09.02-134	April 28, 2011
RAI 422 — 03.09.02-138	April 28, 2011
RAI 422 — 03.09.02-140	April 28, 2011
RAI 422 — 03.09.02-142	April 28, 2011
RAI 422 — 03.09.02-144	April 7, 2011
RAI 422 — 03.09.02-145	May 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 17, 2011 10:23 AM

To: 'Tefaye, Getachew'

Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); HAMMOND Philip (RS/PT)

Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 11

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions was revised January 27, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 8, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 10, 2011 based on additional evaluations performed since the initial schedule was provided and is provided below.

The schedule for a technically correct and complete response to 16 of the remaining 50 questions is revised based on additional evaluations performed since the initial schedule was provided and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-84	April 7, 2011
RAI 422 — 03.09.02-85	April 7, 2011
RAI 422 — 03.09.02-109	April 7, 2011
RAI 422 — 03.09.02-113	April 7, 2011
RAI 422 — 03.09.02-114	April 7, 2011
RAI 422 — 03.09.02-115	April 7, 2011
RAI 422 — 03.09.02-116	April 7, 2011
RAI 422 — 03.09.02-117	April 7, 2011
RAI 422 — 03.09.02-118	April 7, 2011
RAI 422 — 03.09.02-119	April 7, 2011
RAI 422 — 03.09.02-120	April 7, 2011
RAI 422 — 03.09.02-121	April 7, 2011
RAI 422 — 03.09.02-122	April 7, 2011
RAI 422 — 03.09.02-123	April 7, 2011
RAI 422 — 03.09.02-131	April 7, 2011
RAI 422 — 03.09.02-144	April 7, 2011

The schedule for a technically correct and complete response to the remaining 50 questions (including the information above) is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	May 5, 2011
RAI 422 — 03.09.02-84	April 7, 2011
RAI 422 — 03.09.02-85	April 7, 2011
RAI 422 — 03.09.02-87	March 24, 2011
RAI 422 — 03.09.02-88	March 24, 2011
RAI 422 — 03.09.02-89	March 24, 2011
RAI 422 — 03.09.02-90	March 24, 2011
RAI 422 — 03.09.02-91	March 24, 2011
RAI 422 — 03.09.02-92	March 24, 2011
RAI 422 — 03.09.02-93	March 24, 2011
RAI 422 — 03.09.02-94	March 24, 2011
RAI 422 — 03.09.02-95	March 24, 2011
RAI 422 — 03.09.02-96	March 24, 2011
RAI 422 — 03.09.02-97	March 24, 2011
RAI 422 — 03.09.02-98	May 5, 2011
RAI 422 — 03.09.02-99	April 6, 2011
RAI 422 — 03.09.02-100	April 6, 2011

Question #	Response Date
RAI 422 — 03.09.02-101	April 6, 2011
RAI 422 — 03.09.02-102	April 6, 2011
RAI 422 — 03.09.02-103	April 6, 2011
RAI 422 — 03.09.02-104	April 6, 2011
RAI 422 — 03.09.02-105	April 6, 2011
RAI 422 — 03.09.02-106	April 6, 2011
RAI 422 — 03.09.02-107	April 6, 2011
RAI 422 — 03.09.02-108	April 6, 2011
RAI 422 — 03.09.02-109	April 7, 2011
RAI 422 — 03.09.02-110	April 6, 2011
RAI 422 — 03.09.02-111	April 6, 2011
RAI 422 — 03.09.02-112	April 6, 2011
RAI 422 — 03.09.02-113	April 7, 2011
RAI 422 — 03.09.02-114	April 7, 2011
RAI 422 — 03.09.02-115	April 7, 2011
RAI 422 — 03.09.02-116	April 7, 2011
RAI 422 — 03.09.02-117	April 7, 2011
RAI 422 — 03.09.02-118	April 7, 2011
RAI 422 — 03.09.02-119	April 7, 2011
RAI 422 — 03.09.02-120	April 7, 2011
RAI 422 — 03.09.02-121	April 7, 2011
RAI 422 — 03.09.02-122	April 7, 2011
RAI 422 — 03.09.02-123	April 7, 2011
RAI 422 — 03.09.02-124	March 23, 2011
RAI 422 — 03.09.02-126	March 23, 2011
RAI 422 — 03.09.02-127	March 23, 2011
RAI 422 — 03.09.02-131	April 7, 2011
RAI 422 — 03.09.02-134	March 23, 2011
RAI 422 — 03.09.02-138	March 24, 2011
RAI 422 — 03.09.02-140	March 23, 2011
RAI 422 — 03.09.02-142	March 24, 2011
RAI 422 — 03.09.02-144	April 7, 2011
RAI 422 — 03.09.02-145	May 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: BRYAN Martin (External RS/NB)
Sent: Thursday, February 10, 2011 9:06 AM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); HAMMOND Philip (RS/PT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 10

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions was revised January 27, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised February 8, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions is revised based on additional evaluations performed since the initial schedule was provided and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-99	April 6, 2011
RAI 422 — 03.09.02-100	April 6, 2011
RAI 422 — 03.09.02-101	April 6, 2011
RAI 422 — 03.09.02-102	April 6, 2011
RAI 422 — 03.09.02-103	April 6, 2011
RAI 422 — 03.09.02-104	April 6, 2011
RAI 422 — 03.09.02-105	April 6, 2011
RAI 422 — 03.09.02-106	April 6, 2011
RAI 422 — 03.09.02-107	April 6, 2011
RAI 422 — 03.09.02-108	April 6, 2011
RAI 422 — 03.09.02-110	April 6, 2011

Question #	Response Date
RAI 422 — 03.09.02-111	April 6, 2011
RAI 422 — 03.09.02-112	April 6, 2011

The schedule for a technically correct and complete response to the remaining 50 questions is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	May 5, 2011
RAI 422 — 03.09.02-84	February 24, 2011
RAI 422 — 03.09.02-85	February 24, 2011
RAI 422 — 03.09.02-87	March 24, 2011
RAI 422 — 03.09.02-88	March 24, 2011
RAI 422 — 03.09.02-89	March 24, 2011
RAI 422 — 03.09.02-90	March 24, 2011
RAI 422 — 03.09.02-91	March 24, 2011
RAI 422 — 03.09.02-92	March 24, 2011
RAI 422 — 03.09.02-93	March 24, 2011
RAI 422 — 03.09.02-94	March 24, 2011
RAI 422 — 03.09.02-95	March 24, 2011
RAI 422 — 03.09.02-96	March 24, 2011
RAI 422 — 03.09.02-97	March 24, 2011
RAI 422 — 03.09.02-98	May 5, 2011
RAI 422 — 03.09.02-99	April 6, 2011
RAI 422 — 03.09.02-100	April 6, 2011
RAI 422 — 03.09.02-101	April 6, 2011
RAI 422 — 03.09.02-102	April 6, 2011
RAI 422 — 03.09.02-103	April 6, 2011
RAI 422 — 03.09.02-104	April 6, 2011
RAI 422 — 03.09.02-105	April 6, 2011
RAI 422 — 03.09.02-106	April 6, 2011
RAI 422 — 03.09.02-107	April 6, 2011
RAI 422 — 03.09.02-108	April 6, 2011
RAI 422 — 03.09.02-109	February 24, 2011
RAI 422 — 03.09.02-110	April 6, 2011
RAI 422 — 03.09.02-111	April 6, 2011
RAI 422 — 03.09.02-112	April 6, 2011
RAI 422 — 03.09.02-113	February 24, 2011
RAI 422 — 03.09.02-114	February 24, 2011
RAI 422 — 03.09.02-115	February 24, 2011
RAI 422 — 03.09.02-116	February 24, 2011
RAI 422 — 03.09.02-117	February 24, 2011
RAI 422 — 03.09.02-118	February 24, 2011
RAI 422 — 03.09.02-119	February 24, 2011
RAI 422 — 03.09.02-120	February 24, 2011
RAI 422 — 03.09.02-121	February 24, 2011
RAI 422 — 03.09.02-122	February 24, 2011
RAI 422 — 03.09.02-123	February 24, 2011
RAI 422 — 03.09.02-124	March 23, 2011

Question #	Response Date
RAI 422 — 03.09.02-126	March 23, 2011
RAI 422 — 03.09.02-127	March 23, 2011
RAI 422 — 03.09.02-131	February 24, 2011
RAI 422 — 03.09.02-134	March 23, 2011
RAI 422 — 03.09.02-138	March 24, 2011
RAI 422 — 03.09.02-140	March 23, 2011
RAI 422 — 03.09.02-142	March 24, 2011
RAI 422 — 03.09.02-144	February 24, 2011
RAI 422 — 03.09.02-145	May 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: BRYAN Martin (External RS/NB)
Sent: Tuesday, February 08, 2011 11:19 AM
To: Tesfaye, Getachew
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); HAMMOND Philip (RS/PT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 9

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions was revised January 27, 2011 based on additional evaluations performed since the initial schedule was provided.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions is revised to allow additional time for AREVA NP to interact with the NRC and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-87	March 24, 2011
RAI 422 — 03.09.02-88	March 24, 2011
RAI 422 — 03.09.02-89	March 24, 2011
RAI 422 — 03.09.02-90	March 24, 2011
RAI 422 — 03.09.02-91	March 24, 2011
RAI 422 — 03.09.02-92	March 24, 2011
RAI 422 — 03.09.02-93	March 24, 2011
RAI 422 — 03.09.02-94	March 24, 2011
RAI 422 — 03.09.02-95	March 24, 2011
RAI 422 — 03.09.02-96	March 24, 2011
RAI 422 — 03.09.02-97	March 24, 2011
RAI 422 — 03.09.02-138	March 24, 2011
RAI 422 — 03.09.02-142	March 24, 2011

The schedule for a technically correct and complete response to the remaining 50 questions (including the information above) is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	May 5, 2011
RAI 422 — 03.09.02-84	February 24, 2011
RAI 422 — 03.09.02-85	February 24, 2011
RAI 422 — 03.09.02-87	March 24, 2011
RAI 422 — 03.09.02-88	March 24, 2011
RAI 422 — 03.09.02-89	March 24, 2011
RAI 422 — 03.09.02-90	March 24, 2011
RAI 422 — 03.09.02-91	March 24, 2011
RAI 422 — 03.09.02-92	March 24, 2011
RAI 422 — 03.09.02-93	March 24, 2011
RAI 422 — 03.09.02-94	March 24, 2011
RAI 422 — 03.09.02-95	March 24, 2011
RAI 422 — 03.09.02-96	March 24, 2011
RAI 422 — 03.09.02-97	March 24, 2011
RAI 422 — 03.09.02-98	May 5, 2011
RAI 422 — 03.09.02-99	February 15, 2011
RAI 422 — 03.09.02-100	February 15, 2011

Question #	Response Date
RAI 422 — 03.09.02-101	February 15, 2011
RAI 422 — 03.09.02-102	February 15, 2011
RAI 422 — 03.09.02-103	February 15, 2011
RAI 422 — 03.09.02-104	February 15, 2011
RAI 422 — 03.09.02-105	February 15, 2011
RAI 422 — 03.09.02-106	February 15, 2011
RAI 422 — 03.09.02-107	February 15, 2011
RAI 422 — 03.09.02-108	February 15, 2011
RAI 422 — 03.09.02-109	February 24, 2011
RAI 422 — 03.09.02-110	February 15, 2011
RAI 422 — 03.09.02-111	February 15, 2011
RAI 422 — 03.09.02-112	February 15, 2011
RAI 422 — 03.09.02-113	February 24, 2011
RAI 422 — 03.09.02-114	February 24, 2011
RAI 422 — 03.09.02-115	February 24, 2011
RAI 422 — 03.09.02-116	February 24, 2011
RAI 422 — 03.09.02-117	February 24, 2011
RAI 422 — 03.09.02-118	February 24, 2011
RAI 422 — 03.09.02-119	February 24, 2011
RAI 422 — 03.09.02-120	February 24, 2011
RAI 422 — 03.09.02-121	February 24, 2011
RAI 422 — 03.09.02-122	February 24, 2011
RAI 422 — 03.09.02-123	February 24, 2011
RAI 422 — 03.09.02-124	March 23, 2011
RAI 422 — 03.09.02-126	March 23, 2011
RAI 422 — 03.09.02-127	March 23, 2011
RAI 422 — 03.09.02-131	February 24, 2011
RAI 422 — 03.09.02-134	March 23, 2011
RAI 422 — 03.09.02-138	March 24, 2011
RAI 422 — 03.09.02-140	March 23, 2011
RAI 422 — 03.09.02-142	March 24, 2011
RAI 422 — 03.09.02-144	February 24, 2011
RAI 422 — 03.09.02-145	May 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: BRYAN Martin (External RS/NB)
Sent: Thursday, January 27, 2011 11:41 AM
To: 'Tsfaye, Getachew'

Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); HAMMOND Philip (RS/PT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 8

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions was revised January 13, 2011 to allow additional time for AREVA NP to address NRC comments.

The schedule for a technically correct and complete response to 3 of the remaining 50 questions is revised based on additional evaluations performed since the initial schedule was provided and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	May 5, 2011
RAI 422 — 03.09.02-98	May 5, 2011
RAI 422 — 03.09.02-145	May 5, 2011

The schedule for a technically correct and complete response to the remaining 50 questions is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	May 5, 2011
RAI 422 — 03.09.02-84	February 24, 2011
RAI 422 — 03.09.02-85	February 24, 2011
RAI 422 — 03.09.02-87	February 16, 2011
RAI 422 — 03.09.02-88	February 16, 2011
RAI 422 — 03.09.02-89	February 16, 2011
RAI 422 — 03.09.02-90	February 16, 2011

Question #	Response Date
RAI 422 — 03.09.02-91	February 16, 2011
RAI 422 — 03.09.02-92	February 16, 2011
RAI 422 — 03.09.02-93	February 16, 2011
RAI 422 — 03.09.02-94	February 16, 2011
RAI 422 — 03.09.02-95	February 16, 2011
RAI 422 — 03.09.02-96	February 16, 2011
RAI 422 — 03.09.02-97	February 16, 2011
RAI 422 — 03.09.02-98	May 5, 2011
RAI 422 — 03.09.02-99	February 15, 2011
RAI 422 — 03.09.02-100	February 15, 2011
RAI 422 — 03.09.02-101	February 15, 2011
RAI 422 — 03.09.02-102	February 15, 2011
RAI 422 — 03.09.02-103	February 15, 2011
RAI 422 — 03.09.02-104	February 15, 2011
RAI 422 — 03.09.02-105	February 15, 2011
RAI 422 — 03.09.02-106	February 15, 2011
RAI 422 — 03.09.02-107	February 15, 2011
RAI 422 — 03.09.02-108	February 15, 2011
RAI 422 — 03.09.02-109	February 24, 2011
RAI 422 — 03.09.02-110	February 15, 2011
RAI 422 — 03.09.02-111	February 15, 2011
RAI 422 — 03.09.02-112	February 15, 2011
RAI 422 — 03.09.02-113	February 24, 2011
RAI 422 — 03.09.02-114	February 24, 2011
RAI 422 — 03.09.02-115	February 24, 2011
RAI 422 — 03.09.02-116	February 24, 2011
RAI 422 — 03.09.02-117	February 24, 2011
RAI 422 — 03.09.02-118	February 24, 2011
RAI 422 — 03.09.02-119	February 24, 2011
RAI 422 — 03.09.02-120	February 24, 2011
RAI 422 — 03.09.02-121	February 24, 2011
RAI 422 — 03.09.02-122	February 24, 2011
RAI 422 — 03.09.02-123	February 24, 2011
RAI 422 — 03.09.02-124	March 23, 2011
RAI 422 — 03.09.02-126	March 23, 2011
RAI 422 — 03.09.02-127	March 23, 2011
RAI 422 — 03.09.02-131	February 24, 2011
RAI 422 — 03.09.02-134	March 23, 2011
RAI 422 — 03.09.02-138	February 16, 2011
RAI 422 — 03.09.02-140	March 23, 2011
RAI 422 — 03.09.02-142	February 16, 2011
RAI 422 — 03.09.02-144	February 24, 2011
RAI 422 — 03.09.02-145	May 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: BRYAN Martin (External RS/NB)
Sent: Thursday, January 13, 2011 5:44 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); HAMMOND Philip (RS/PT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 7

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions was revised January 12, 2011 to allow additional time for AREVA NP to interact with the NRC.

The schedule for a technically correct and complete response to 5 of the remaining 50 questions is revised to allow additional time for AREVA NP to address NRC comments and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-124	March 23, 2011
RAI 422 — 03.09.02-126	March 23, 2011
RAI 422 — 03.09.02-127	March 23, 2011
RAI 422 — 03.09.02-134	March 23, 2011
RAI 422 — 03.09.02-140	March 23, 2011

The schedule for a technically correct and complete response to the remaining 50 questions is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	February 24, 2011
RAI 422 — 03.09.02-84	February 24, 2011
RAI 422 — 03.09.02-85	February 24, 2011
RAI 422 — 03.09.02-87	February 16, 2011
RAI 422 — 03.09.02-88	February 16, 2011
RAI 422 — 03.09.02-89	February 16, 2011
RAI 422 — 03.09.02-90	February 16, 2011
RAI 422 — 03.09.02-91	February 16, 2011
RAI 422 — 03.09.02-92	February 16, 2011
RAI 422 — 03.09.02-93	February 16, 2011
RAI 422 — 03.09.02-94	February 16, 2011
RAI 422 — 03.09.02-95	February 16, 2011
RAI 422 — 03.09.02-96	February 16, 2011
RAI 422 — 03.09.02-97	February 16, 2011
RAI 422 — 03.09.02-98	February 24, 2011
RAI 422 — 03.09.02-99	February 15, 2011
RAI 422 — 03.09.02-100	February 15, 2011
RAI 422 — 03.09.02-101	February 15, 2011
RAI 422 — 03.09.02-102	February 15, 2011
RAI 422 — 03.09.02-103	February 15, 2011
RAI 422 — 03.09.02-104	February 15, 2011
RAI 422 — 03.09.02-105	February 15, 2011
RAI 422 — 03.09.02-106	February 15, 2011
RAI 422 — 03.09.02-107	February 15, 2011
RAI 422 — 03.09.02-108	February 15, 2011
RAI 422 — 03.09.02-109	February 24, 2011
RAI 422 — 03.09.02-110	February 15, 2011
RAI 422 — 03.09.02-111	February 15, 2011
RAI 422 — 03.09.02-112	February 15, 2011
RAI 422 — 03.09.02-113	February 24, 2011
RAI 422 — 03.09.02-114	February 24, 2011
RAI 422 — 03.09.02-115	February 24, 2011
RAI 422 — 03.09.02-116	February 24, 2011
RAI 422 — 03.09.02-117	February 24, 2011
RAI 422 — 03.09.02-118	February 24, 2011
RAI 422 — 03.09.02-119	February 24, 2011
RAI 422 — 03.09.02-120	February 24, 2011
RAI 422 — 03.09.02-121	February 24, 2011
RAI 422 — 03.09.02-122	February 24, 2011
RAI 422 — 03.09.02-123	February 24, 2011
RAI 422 — 03.09.02-124	March 23, 2011
RAI 422 — 03.09.02-126	March 23, 2011
RAI 422 — 03.09.02-127	March 23, 2011
RAI 422 — 03.09.02-131	February 24, 2011
RAI 422 — 03.09.02-134	March 23, 2011
RAI 422 — 03.09.02-138	February 16, 2011
RAI 422 — 03.09.02-140	March 23, 2011
RAI 422 — 03.09.02-142	February 16, 2011
RAI 422 — 03.09.02-144	February 24, 2011
RAI 422 — 03.09.02-145	February 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: Wednesday, January 12, 2011 3:58 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); HAMMOND Philip (RS/PT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 6

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for a technically correct and complete response to 16 of the remaining 61 questions was revised November 22, 2010 to allow additional time for AREVA NP to interact with the NRC.

AREVA NP provided technically correct and complete FINAL responses to 11 of the remaining 61 questions on December 22, 2010, as committed.

The schedule for a technically correct and complete response to 13 of the remaining 50 questions is revised to allow additional time for AREVA NP to interact with the NRC and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-87	February 16, 2011
RAI 422 — 03.09.02-88	February 16, 2011
RAI 422 — 03.09.02-89	February 16, 2011
RAI 422 — 03.09.02-90	February 16, 2011
RAI 422 — 03.09.02-91	February 16, 2011
RAI 422 — 03.09.02-92	February 16, 2011
RAI 422 — 03.09.02-93	February 16, 2011
RAI 422 — 03.09.02-94	February 16, 2011
RAI 422 — 03.09.02-95	February 16, 2011

Question #	Response Date
RAI 422 — 03.09.02-96	February 16, 2011
RAI 422 — 03.09.02-97	February 16, 2011
RAI 422 — 03.09.02-138	February 16, 2011
RAI 422 — 03.09.02-142	February 16, 2011

The schedule for a technically correct and complete response to the remaining 50 questions is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	February 24, 2011
RAI 422 — 03.09.02-84	February 24, 2011
RAI 422 — 03.09.02-85	February 24, 2011
RAI 422 — 03.09.02-87	February 16, 2011
RAI 422 — 03.09.02-88	February 16, 2011
RAI 422 — 03.09.02-89	February 16, 2011
RAI 422 — 03.09.02-90	February 16, 2011
RAI 422 — 03.09.02-91	February 16, 2011
RAI 422 — 03.09.02-92	February 16, 2011
RAI 422 — 03.09.02-93	February 16, 2011
RAI 422 — 03.09.02-94	February 16, 2011
RAI 422 — 03.09.02-95	February 16, 2011
RAI 422 — 03.09.02-96	February 16, 2011
RAI 422 — 03.09.02-97	February 16, 2011
RAI 422 — 03.09.02-98	February 24, 2011
RAI 422 — 03.09.02-99	February 15, 2011
RAI 422 — 03.09.02-100	February 15, 2011
RAI 422 — 03.09.02-101	February 15, 2011
RAI 422 — 03.09.02-102	February 15, 2011
RAI 422 — 03.09.02-103	February 15, 2011
RAI 422 — 03.09.02-104	February 15, 2011
RAI 422 — 03.09.02-105	February 15, 2011
RAI 422 — 03.09.02-106	February 15, 2011
RAI 422 — 03.09.02-107	February 15, 2011
RAI 422 — 03.09.02-108	February 15, 2011
RAI 422 — 03.09.02-109	February 24, 2011
RAI 422 — 03.09.02-110	February 15, 2011
RAI 422 — 03.09.02-111	February 15, 2011
RAI 422 — 03.09.02-112	February 15, 2011
RAI 422 — 03.09.02-113	February 24, 2011
RAI 422 — 03.09.02-114	February 24, 2011
RAI 422 — 03.09.02-115	February 24, 2011
RAI 422 — 03.09.02-116	February 24, 2011
RAI 422 — 03.09.02-117	February 24, 2011
RAI 422 — 03.09.02-118	February 24, 2011
RAI 422 — 03.09.02-119	February 24, 2011
RAI 422 — 03.09.02-120	February 24, 2011
RAI 422 — 03.09.02-121	February 24, 2011
RAI 422 — 03.09.02-122	February 24, 2011
RAI 422 — 03.09.02-123	February 24, 2011

Question #	Response Date
RAI 422 — 03.09.02-124	January 20, 2011
RAI 422 — 03.09.02-126	January 20, 2011
RAI 422 — 03.09.02-127	January 20, 2011
RAI 422 — 03.09.02-131	February 24, 2011
RAI 422 — 03.09.02-134	January 20, 2011
RAI 422 — 03.09.02-138	February 16, 2011
RAI 422 — 03.09.02-140	January 20, 2011
RAI 422 — 03.09.02-142	February 16, 2011
RAI 422 — 03.09.02-144	February 24, 2011
RAI 422 — 03.09.02-145	February 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: Wednesday, December 22, 2010 7:28 PM

To: Tesfaye, Getachew

Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); HAMMOND Philip (RS/PT); 'Carneal, Jason'

Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 5

Getachew,

The proprietary and non-proprietary versions of RAI 422 are submitted via AREVA NP Inc. letter, "Response to U.S. EPR Design Certification Application RAI No. 422, Supplement 5" NRC10:116, dated December 22, 2010. An affidavit to support withholding of information from public disclosure, per 10CFR2.390(b), is provided as an enclosure to that letter.

The following table indicates the respective pages in the response that contain AREVA NP's response to 11 of the remaining 61 questions.

Question #	Start Page	End Page
RAI 422 — 03.09.02-125	2	3
RAI 422 — 03.09.02-128	4	5
RAI 422 — 03.09.02-129	6	7
RAI 422 — 03.09.02-130	8	9
RAI 422 — 03.09.02-132	10	12
RAI 422 — 03.09.02-133	13	13
RAI 422 — 03.09.02-135	14	15
RAI 422 — 03.09.02-136	16	18
RAI 422 — 03.09.02-137	19	19
RAI 422 — 03.09.02-139	20	22

The schedule for the technically correct and complete responses to the remaining 50 questions is unchanged and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	February 24, 2011
RAI 422 — 03.09.02-84	February 24, 2011
RAI 422 — 03.09.02-85	February 24, 2011
RAI 422 — 03.09.02-87	January 12, 2011
RAI 422 — 03.09.02-88	January 12, 2011
RAI 422 — 03.09.02-89	January 12, 2011
RAI 422 — 03.09.02-90	January 12, 2011
RAI 422 — 03.09.02-91	January 12, 2011
RAI 422 — 03.09.02-92	January 12, 2011
RAI 422 — 03.09.02-93	January 12, 2011
RAI 422 — 03.09.02-94	January 12, 2011
RAI 422 — 03.09.02-95	January 12, 2011
RAI 422 — 03.09.02-96	January 12, 2011
RAI 422 — 03.09.02-97	January 12, 2011
RAI 422 — 03.09.02-98	February 24, 2011
RAI 422 — 03.09.02-99	February 15, 2011
RAI 422 — 03.09.02-100	February 15, 2011
RAI 422 — 03.09.02-101	February 15, 2011
RAI 422 — 03.09.02-102	February 15, 2011
RAI 422 — 03.09.02-103	February 15, 2011
RAI 422 — 03.09.02-104	February 15, 2011
RAI 422 — 03.09.02-105	February 15, 2011
RAI 422 — 03.09.02-106	February 15, 2011
RAI 422 — 03.09.02-107	February 15, 2011
RAI 422 — 03.09.02-108	February 15, 2011
RAI 422 — 03.09.02-109	February 24, 2011
RAI 422 — 03.09.02-110	February 15, 2011
RAI 422 — 03.09.02-111	February 15, 2011
RAI 422 — 03.09.02-112	February 15, 2011
RAI 422 — 03.09.02-113	February 24, 2011
RAI 422 — 03.09.02-114	February 24, 2011
RAI 422 — 03.09.02-115	February 24, 2011
RAI 422 — 03.09.02-116	February 24, 2011
RAI 422 — 03.09.02-117	February 24, 2011
RAI 422 — 03.09.02-118	February 24, 2011
RAI 422 — 03.09.02-119	February 24, 2011
RAI 422 — 03.09.02-120	February 24, 2011
RAI 422 — 03.09.02-121	February 24, 2011
RAI 422 — 03.09.02-122	February 24, 2011
RAI 422 — 03.09.02-123	February 24, 2011
RAI 422 — 03.09.02-124	January 20, 2011
RAI 422 — 03.09.02-126	January 20, 2011
RAI 422 — 03.09.02-127	January 20, 2011
RAI 422 — 03.09.02-131	February 24, 2011
RAI 422 — 03.09.02-134	January 20, 2011

Question #	Response Date
RAI 422 — 03.09.02-138	January 12, 2011
RAI 422 — 03.09.02-140	January 20, 2011
RAI 422 — 03.09.02-142	January 12, 2011
RAI 422 — 03.09.02-144	February 24, 2011
RAI 422 — 03.09.02-145	February 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: Monday, November 22, 2010 12:11 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); HAMMOND Philip (RS/PT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 4

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions was revised based on additional evaluations performed since the revised schedule was provided on September 27, 2010. This revised schedule was provided on November 2, 2010.

The schedule for 16 of the remaining 61 questions is being revised and provided below to allow additional time for AREVA NP to interact with the NRC.

Question #	Response Date
RAI 422 — 03.09.02-124	January 20, 2011
RAI 422 — 03.09.02-125	January 20, 2011
RAI 422 — 03.09.02-126	January 20, 2011
RAI 422 — 03.09.02-127	January 20, 2011
RAI 422 — 03.09.02-128	January 20, 2011
RAI 422 — 03.09.02-129	January 20, 2011
RAI 422 — 03.09.02-130	January 20, 2011
RAI 422 — 03.09.02-132	January 20, 2011

Question #	Response Date
RAI 422 — 03.09.02-133	January 20, 2011
RAI 422 — 03.09.02-134	January 20, 2011
RAI 422 — 03.09.02-135	January 20, 2011
RAI 422 — 03.09.02-136	January 20, 2011
RAI 422 — 03.09.02-137	January 20, 2011
RAI 422 — 03.09.02-139	January 20, 2011
RAI 422 — 03.09.02-140	January 20, 2011
RAI 422 — 03.09.02-141	January 20, 2011

The schedule for a technically correct and complete response to the remaining 61 questions is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	February 24, 2011
RAI 422 — 03.09.02-84	February 24, 2011
RAI 422 — 03.09.02-85	February 24, 2011
RAI 422 — 03.09.02-87	January 12, 2011
RAI 422 — 03.09.02-88	January 12, 2011
RAI 422 — 03.09.02-89	January 12, 2011
RAI 422 — 03.09.02-90	January 12, 2011
RAI 422 — 03.09.02-91	January 12, 2011
RAI 422 — 03.09.02-92	January 12, 2011
RAI 422 — 03.09.02-93	January 12, 2011
RAI 422 — 03.09.02-94	January 12, 2011
RAI 422 — 03.09.02-95	January 12, 2011
RAI 422 — 03.09.02-96	January 12, 2011
RAI 422 — 03.09.02-97	January 12, 2011
RAI 422 — 03.09.02-98	February 24, 2011
RAI 422 — 03.09.02-99	February 15, 2011
RAI 422 — 03.09.02-100	February 15, 2011
RAI 422 — 03.09.02-101	February 15, 2011
RAI 422 — 03.09.02-102	February 15, 2011
RAI 422 — 03.09.02-103	February 15, 2011
RAI 422 — 03.09.02-104	February 15, 2011
RAI 422 — 03.09.02-105	February 15, 2011
RAI 422 — 03.09.02-106	February 15, 2011
RAI 422 — 03.09.02-107	February 15, 2011
RAI 422 — 03.09.02-108	February 15, 2011
RAI 422 — 03.09.02-109	February 24, 2011
RAI 422 — 03.09.02-110	February 15, 2011
RAI 422 — 03.09.02-111	February 15, 2011
RAI 422 — 03.09.02-112	February 15, 2011
RAI 422 — 03.09.02-113	February 24, 2011
RAI 422 — 03.09.02-114	February 24, 2011
RAI 422 — 03.09.02-115	February 24, 2011
RAI 422 — 03.09.02-116	February 24, 2011
RAI 422 — 03.09.02-117	February 24, 2011
RAI 422 — 03.09.02-118	February 24, 2011
RAI 422 — 03.09.02-119	February 24, 2011

Question #	Response Date
RAI 422 — 03.09.02-120	February 24, 2011
RAI 422 — 03.09.02-121	February 24, 2011
RAI 422 — 03.09.02-122	February 24, 2011
RAI 422 — 03.09.02-123	February 24, 2011
RAI 422 — 03.09.02-124	January 20, 2011
RAI 422 — 03.09.02-125	January 20, 2011
RAI 422 — 03.09.02-126	January 20, 2011
RAI 422 — 03.09.02-127	January 20, 2011
RAI 422 — 03.09.02-128	January 20, 2011
RAI 422 — 03.09.02-129	January 20, 2011
RAI 422 — 03.09.02-130	January 20, 2011
RAI 422 — 03.09.02-131	February 24, 2011
RAI 422 — 03.09.02-132	January 20, 2011
RAI 422 — 03.09.02-133	January 20, 2011
RAI 422 — 03.09.02-134	January 20, 2011
RAI 422 — 03.09.02-135	January 20, 2011
RAI 422 — 03.09.02-136	January 20, 2011
RAI 422 — 03.09.02-137	January 20, 2011
RAI 422 — 03.09.02-138	January 12, 2011
RAI 422 — 03.09.02-139	January 20, 2011
RAI 422 — 03.09.02-140	January 20, 2011
RAI 422 — 03.09.02-141	January 20, 2011
RAI 422 — 03.09.02-142	January 12, 2011
RAI 422 — 03.09.02-144	February 24, 2011
RAI 422 — 03.09.02-145	February 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: Tuesday, November 02, 2010 3:35 PM

To: 'Tsfaye, Getachew'

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

Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 3

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions was revised based on the additional evaluations performed since the initial schedule was provided on September 2, 2010. This revised schedule was provided on September 27, 2010.

The schedule for a technically correct and complete response to 6 of the remaining 61 questions is revised and provided below based on additional evaluations.

Question #	Response Date
RAI 422 — 03.09.02-82	February 24, 2011
RAI 422 — 03.09.02-84	February 24, 2011
RAI 422 — 03.09.02-85	February 24, 2011
RAI 422 — 03.09.02-98	February 24, 2011
RAI 422 — 03.09.02-144	February 24, 2011
RAI 422 — 03.09.02-145	February 24, 2011

The schedule for a technically correct and complete response to the remaining 61 questions is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	February 24, 2011
RAI 422 — 03.09.02-84	February 24, 2011
RAI 422 — 03.09.02-85	February 24, 2011
RAI 422 — 03.09.02-87	January 12, 2011
RAI 422 — 03.09.02-88	January 12, 2011
RAI 422 — 03.09.02-89	January 12, 2011
RAI 422 — 03.09.02-90	January 12, 2011
RAI 422 — 03.09.02-91	January 12, 2011
RAI 422 — 03.09.02-92	January 12, 2011
RAI 422 — 03.09.02-93	January 12, 2011
RAI 422 — 03.09.02-94	January 12, 2011
RAI 422 — 03.09.02-95	January 12, 2011
RAI 422 — 03.09.02-96	January 12, 2011
RAI 422 — 03.09.02-97	January 12, 2011
RAI 422 — 03.09.02-98	February 24, 2011
RAI 422 — 03.09.02-99	February 15, 2011
RAI 422 — 03.09.02-100	February 15, 2011
RAI 422 — 03.09.02-101	February 15, 2011
RAI 422 — 03.09.02-102	February 15, 2011
RAI 422 — 03.09.02-103	February 15, 2011
RAI 422 — 03.09.02-104	February 15, 2011
RAI 422 — 03.09.02-105	February 15, 2011
RAI 422 — 03.09.02-106	February 15, 2011
RAI 422 — 03.09.02-107	February 15, 2011
RAI 422 — 03.09.02-108	February 15, 2011
RAI 422 — 03.09.02-109	February 24, 2011
RAI 422 — 03.09.02-110	February 15, 2011
RAI 422 — 03.09.02-111	February 15, 2011
RAI 422 — 03.09.02-112	February 15, 2011
RAI 422 — 03.09.02-113	February 24, 2011

Question #	Response Date
RAI 422 — 03.09.02-114	February 24, 2011
RAI 422 — 03.09.02-115	February 24, 2011
RAI 422 — 03.09.02-116	February 24, 2011
RAI 422 — 03.09.02-117	February 24, 2011
RAI 422 — 03.09.02-118	February 24, 2011
RAI 422 — 03.09.02-119	February 24, 2011
RAI 422 — 03.09.02-120	February 24, 2011
RAI 422 — 03.09.02-121	February 24, 2011
RAI 422 — 03.09.02-122	February 24, 2011
RAI 422 — 03.09.02-123	February 24, 2011
RAI 422 — 03.09.02-124	December 1, 2010
RAI 422 — 03.09.02-125	December 1, 2010
RAI 422 — 03.09.02-126	December 1, 2010
RAI 422 — 03.09.02-127	December 1, 2010
RAI 422 — 03.09.02-128	December 1, 2010
RAI 422 — 03.09.02-129	December 1, 2010
RAI 422 — 03.09.02-130	December 1, 2010
RAI 422 — 03.09.02-131	February 24, 2011
RAI 422 — 03.09.02-132	December 1, 2010
RAI 422 — 03.09.02-133	December 1, 2010
RAI 422 — 03.09.02-134	December 1, 2010
RAI 422 — 03.09.02-135	December 1, 2010
RAI 422 — 03.09.02-136	December 1, 2010
RAI 422 — 03.09.02-137	December 1, 2010
RAI 422 — 03.09.02-138	January 12, 2011
RAI 422 — 03.09.02-139	December 1, 2010
RAI 422 — 03.09.02-140	December 1, 2010
RAI 422 — 03.09.02-141	December 1, 2010
RAI 422 — 03.09.02-142	January 12, 2011
RAI 422 — 03.09.02-144	February 24, 2011
RAI 422 — 03.09.02-145	February 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: Monday, September 27, 2010 7:37 PM
To: 'Tsfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); HAMMOND Philip (RS/PT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 2

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010, noting that the schedule for 61 of the 63 questions was being further evaluated with additional schedule information to be provided by October 4, 2010.

AREVA NP provided technically correct and complete FINAL responses to 2 of the remaining 63 questions on September 9, 2010, as committed.

The schedule for a technically correct and complete response to the remaining 61 questions is revised and provided below based on the additional evaluations performed since the initial schedule was provided on September 2, 2010.

Question #	Response Date
RAI 422 — 03.09.02-82	February 15, 2011
RAI 422 — 03.09.02-84	February 15, 2011
RAI 422 — 03.09.02-85	February 15, 2011
RAI 422 — 03.09.02-87	January 12, 2011
RAI 422 — 03.09.02-88	January 12, 2011
RAI 422 — 03.09.02-89	January 12, 2011
RAI 422 — 03.09.02-90	January 12, 2011
RAI 422 — 03.09.02-91	January 12, 2011
RAI 422 — 03.09.02-92	January 12, 2011
RAI 422 — 03.09.02-93	January 12, 2011
RAI 422 — 03.09.02-94	January 12, 2011
RAI 422 — 03.09.02-95	January 12, 2011
RAI 422 — 03.09.02-96	January 12, 2011
RAI 422 — 03.09.02-97	January 12, 2011
RAI 422 — 03.09.02-98	February 15, 2011
RAI 422 — 03.09.02-99	February 15, 2011
RAI 422 — 03.09.02-100	February 15, 2011
RAI 422 — 03.09.02-101	February 15, 2011
RAI 422 — 03.09.02-102	February 15, 2011
RAI 422 — 03.09.02-103	February 15, 2011
RAI 422 — 03.09.02-104	February 15, 2011
RAI 422 — 03.09.02-105	February 15, 2011
RAI 422 — 03.09.02-106	February 15, 2011
RAI 422 — 03.09.02-107	February 15, 2011
RAI 422 — 03.09.02-108	February 15, 2011
RAI 422 — 03.09.02-109	February 24, 2011
RAI 422 — 03.09.02-110	February 15, 2011
RAI 422 — 03.09.02-111	February 15, 2011
RAI 422 — 03.09.02-112	February 15, 2011
RAI 422 — 03.09.02-113	February 24, 2011
RAI 422 — 03.09.02-114	February 24, 2011
RAI 422 — 03.09.02-115	February 24, 2011
RAI 422 — 03.09.02-116	February 24, 2011
RAI 422 — 03.09.02-117	February 24, 2011
RAI 422 — 03.09.02-118	February 24, 2011
RAI 422 — 03.09.02-119	February 24, 2011
RAI 422 — 03.09.02-120	February 24, 2011
RAI 422 — 03.09.02-121	February 24, 2011
RAI 422 — 03.09.02-122	February 24, 2011

Question #	Response Date
RAI 422 — 03.09.02-123	February 24, 2011
RAI 422 — 03.09.02-124	December 1, 2010
RAI 422 — 03.09.02-125	December 1, 2010
RAI 422 — 03.09.02-126	December 1, 2010
RAI 422 — 03.09.02-127	December 1, 2010
RAI 422 — 03.09.02-128	December 1, 2010
RAI 422 — 03.09.02-129	December 1, 2010
RAI 422 — 03.09.02-130	December 1, 2010
RAI 422 — 03.09.02-131	February 24, 2011
RAI 422 — 03.09.02-132	December 1, 2010
RAI 422 — 03.09.02-133	December 1, 2010
RAI 422 — 03.09.02-134	December 1, 2010
RAI 422 — 03.09.02-135	December 1, 2010
RAI 422 — 03.09.02-136	December 1, 2010
RAI 422 — 03.09.02-137	December 1, 2010
RAI 422 — 03.09.02-138	January 12, 2011
RAI 422 — 03.09.02-139	December 1, 2010
RAI 422 — 03.09.02-140	December 1, 2010
RAI 422 — 03.09.02-141	December 1, 2010
RAI 422 — 03.09.02-142	January 12, 2011
RAI 422 — 03.09.02-144	January 12, 2011
RAI 422 — 03.09.02-145	January 12, 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, September 09, 2010 11:40 AM
To: Tesfaye, Getachew
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (External RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 1

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI No. 422 on September 2, 2010.

The attached file, "RAI 422 Supplement 1 Response US EPR DC.pdf" provides technically correct and complete FINAL responses to 2 of the remaining 63 questions, as committed

The following table indicates the respective pages in the response document, "RAI 422 Supplement 1 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
------------	------------	----------

RAI 422 — 03.09.02-86	2	2
RAI 422 — 03.09.02-143	3	5

The schedule for the technically correct and complete responses to the remaining 61 questions is unchanged and is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	October 4, 2010
RAI 422 — 03.09.02-84	October 4, 2010
RAI 422 — 03.09.02-85	October 4, 2010
RAI 422 — 03.09.02-87	October 4, 2010
RAI 422 — 03.09.02-88	October 4, 2010
RAI 422 — 03.09.02-89	October 4, 2010
RAI 422 — 03.09.02-90	October 4, 2010
RAI 422 — 03.09.02-91	October 4, 2010
RAI 422 — 03.09.02-92	October 4, 2010
RAI 422 — 03.09.02-93	October 4, 2010
RAI 422 — 03.09.02-94	October 4, 2010
RAI 422 — 03.09.02-95	October 4, 2010
RAI 422 — 03.09.02-96	October 4, 2010
RAI 422 — 03.09.02-97	October 4, 2010
RAI 422 — 03.09.02-98	October 4, 2010
RAI 422 — 03.09.02-99	October 4, 2010
RAI 422 — 03.09.02-100	October 4, 2010
RAI 422 — 03.09.02-101	October 4, 2010
RAI 422 — 03.09.02-102	October 4, 2010
RAI 422 — 03.09.02-103	October 4, 2010
RAI 422 — 03.09.02-104	October 4, 2010
RAI 422 — 03.09.02-105	October 4, 2010
RAI 422 — 03.09.02-106	October 4, 2010
RAI 422 — 03.09.02-107	October 4, 2010
RAI 422 — 03.09.02-108	October 4, 2010
RAI 422 — 03.09.02-109	October 4, 2010
RAI 422 — 03.09.02-110	October 4, 2010
RAI 422 — 03.09.02-111	October 4, 2010
RAI 422 — 03.09.02-112	October 4, 2010
RAI 422 — 03.09.02-113	October 4, 2010
RAI 422 — 03.09.02-114	October 4, 2010
RAI 422 — 03.09.02-115	October 4, 2010
RAI 422 — 03.09.02-116	October 4, 2010
RAI 422 — 03.09.02-117	October 4, 2010
RAI 422 — 03.09.02-118	October 4, 2010
RAI 422 — 03.09.02-119	October 4, 2010
RAI 422 — 03.09.02-120	October 4, 2010
RAI 422 — 03.09.02-121	October 4, 2010
RAI 422 — 03.09.02-122	October 4, 2010
RAI 422 — 03.09.02-123	October 4, 2010
RAI 422 — 03.09.02-124	October 4, 2010
RAI 422 — 03.09.02-125	October 4, 2010
RAI 422 — 03.09.02-126	October 4, 2010
RAI 422 — 03.09.02-127	October 4, 2010

Question #	Response Date
RAI 422 — 03.09.02-128	October 4, 2010
RAI 422 — 03.09.02-129	October 4, 2010
RAI 422 — 03.09.02-130	October 4, 2010
RAI 422 — 03.09.02-131	October 4, 2010
RAI 422 — 03.09.02-132	October 4, 2010
RAI 422 — 03.09.02-133	October 4, 2010
RAI 422 — 03.09.02-134	October 4, 2010
RAI 422 — 03.09.02-135	October 4, 2010
RAI 422 — 03.09.02-136	October 4, 2010
RAI 422 — 03.09.02-137	October 4, 2010
RAI 422 — 03.09.02-138	October 4, 2010
RAI 422 — 03.09.02-139	October 4, 2010
RAI 422 — 03.09.02-140	October 4, 2010
RAI 422 — 03.09.02-141	October 4, 2010
RAI 422 — 03.09.02-142	October 4, 2010
RAI 422 — 03.09.02-144	October 4, 2010
RAI 422 — 03.09.02-145	October 4, 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 02, 2010 5:18 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); CORNELL Veronica (External RS/NB); Miernicki, Michael
Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 422 Response US EPR DC.pdf," provides a schedule since a technically correct and complete response to the RAI 422 questions is not provided. The schedule for questions OTHER than 03.09.02-86 and 03.09.02-143 is being further evaluated with additional information to be provided by the date listed below of October 4, 2010.

The following table indicates the respective pages in the response document, "RAI 422 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 422 — 03.09.02-82	2	3
RAI 422 — 03.09.02-84	4	4
RAI 422 — 03.09.02-85	5	5
RAI 422 — 03.09.02-86	6	6

Question #	Start Page	End Page
RAI 422 — 03.09.02-87	7	7
RAI 422 — 03.09.02-88	8	8
RAI 422 — 03.09.02-89	9	9
RAI 422 — 03.09.02-90	10	10
RAI 422 — 03.09.02-91	11	11
RAI 422 — 03.09.02-92	12	12
RAI 422 — 03.09.02-93	13	13
RAI 422 — 03.09.02-94	14	14
RAI 422 — 03.09.02-95	15	15
RAI 422 — 03.09.02-96	16	16
RAI 422 — 03.09.02-97	17	17
RAI 422 — 03.09.02-98	18	18
RAI 422 — 03.09.02-99	19	19
RAI 422 — 03.09.02-100	20	20
RAI 422 — 03.09.02-101	21	21
RAI 422 — 03.09.02-102	22	22
RAI 422 — 03.09.02-103	23	23
RAI 422 — 03.09.02-104	24	24
RAI 422 — 03.09.02-105	25	25
RAI 422 — 03.09.02-106	26	26
RAI 422 — 03.09.02-107	27	27
RAI 422 — 03.09.02-108	28	28
RAI 422 — 03.09.02-109	29	29
RAI 422 — 03.09.02-110	30	30
RAI 422 — 03.09.02-111	31	31
RAI 422 — 03.09.02-112	32	32
RAI 422 — 03.09.02-113	33	33
RAI 422 — 03.09.02-114	34	34
RAI 422 — 03.09.02-115	35	35
RAI 422 — 03.09.02-116	36	36
RAI 422 — 03.09.02-117	37	37
RAI 422 — 03.09.02-118	38	38
RAI 422 — 03.09.02-119	39	39
RAI 422 — 03.09.02-120	40	40
RAI 422 — 03.09.02-121	41	41
RAI 422 — 03.09.02-122	42	42
RAI 422 — 03.09.02-123	43	43
RAI 422 — 03.09.02-124	44	44
RAI 422 — 03.09.02-125	45	45
RAI 422 — 03.09.02-126	46	46
RAI 422 — 03.09.02-127	47	47
RAI 422 — 03.09.02-128	48	48
RAI 422 — 03.09.02-129	49	49
RAI 422 — 03.09.02-130	50	50
RAI 422 — 03.09.02-131	51	51
RAI 422 — 03.09.02-132	52	52
RAI 422 — 03.09.02-133	53	53
RAI 422 — 03.09.02-134	54	54
RAI 422 — 03.09.02-135	55	55
RAI 422 — 03.09.02-136	56	56

Question #	Start Page	End Page
RAI 422 — 03.09.02-137	57	57
RAI 422 — 03.09.02-138	58	58
RAI 422 — 03.09.02-139	59	60
RAI 422 — 03.09.02-140	61	61
RAI 422 — 03.09.02-141	62	62
RAI 422 — 03.09.02-142	63	63
RAI 422 — 03.09.02-143	64	65
RAI 422 — 03.09.02-144	66	66
RAI 422 — 03.09.02-145	67	67

A complete answer is not provided for 63 of the 63 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 422 — 03.09.02-82	October 4, 2010
RAI 422 — 03.09.02-84	October 4, 2010
RAI 422 — 03.09.02-85	October 4, 2010
RAI 422 — 03.09.02-86	October 12, 2010
RAI 422 — 03.09.02-87	October 4, 2010
RAI 422 — 03.09.02-88	October 4, 2010
RAI 422 — 03.09.02-89	October 4, 2010
RAI 422 — 03.09.02-90	October 4, 2010
RAI 422 — 03.09.02-91	October 4, 2010
RAI 422 — 03.09.02-92	October 4, 2010
RAI 422 — 03.09.02-93	October 4, 2010
RAI 422 — 03.09.02-94	October 4, 2010
RAI 422 — 03.09.02-95	October 4, 2010
RAI 422 — 03.09.02-96	October 4, 2010
RAI 422 — 03.09.02-97	October 4, 2010
RAI 422 — 03.09.02-98	October 4, 2010
RAI 422 — 03.09.02-99	October 4, 2010
RAI 422 — 03.09.02-100	October 4, 2010
RAI 422 — 03.09.02-101	October 4, 2010
RAI 422 — 03.09.02-102	October 4, 2010
RAI 422 — 03.09.02-103	October 4, 2010
RAI 422 — 03.09.02-104	October 4, 2010
RAI 422 — 03.09.02-105	October 4, 2010
RAI 422 — 03.09.02-106	October 4, 2010
RAI 422 — 03.09.02-107	October 4, 2010
RAI 422 — 03.09.02-108	October 4, 2010
RAI 422 — 03.09.02-109	October 4, 2010
RAI 422 — 03.09.02-110	October 4, 2010
RAI 422 — 03.09.02-111	October 4, 2010
RAI 422 — 03.09.02-112	October 4, 2010
RAI 422 — 03.09.02-113	October 4, 2010
RAI 422 — 03.09.02-114	October 4, 2010
RAI 422 — 03.09.02-115	October 4, 2010
RAI 422 — 03.09.02-116	October 4, 2010
RAI 422 — 03.09.02-117	October 4, 2010
RAI 422 — 03.09.02-118	October 4, 2010

Question #	Response Date
RAI 422 — 03.09.02-119	October 4, 2010
RAI 422 — 03.09.02-120	October 4, 2010
RAI 422 — 03.09.02-121	October 4, 2010
RAI 422 — 03.09.02-122	October 4, 2010
RAI 422 — 03.09.02-123	October 4, 2010
RAI 422 — 03.09.02-124	October 4, 2010
RAI 422 — 03.09.02-125	October 4, 2010
RAI 422 — 03.09.02-126	October 4, 2010
RAI 422 — 03.09.02-127	October 4, 2010
RAI 422 — 03.09.02-128	October 4, 2010
RAI 422 — 03.09.02-129	October 4, 2010
RAI 422 — 03.09.02-130	October 4, 2010
RAI 422 — 03.09.02-131	October 4, 2010
RAI 422 — 03.09.02-132	October 4, 2010
RAI 422 — 03.09.02-133	October 4, 2010
RAI 422 — 03.09.02-134	October 4, 2010
RAI 422 — 03.09.02-135	October 4, 2010
RAI 422 — 03.09.02-136	October 4, 2010
RAI 422 — 03.09.02-137	October 4, 2010
RAI 422 — 03.09.02-138	October 4, 2010
RAI 422 — 03.09.02-139	October 4, 2010
RAI 422 — 03.09.02-140	October 4, 2010
RAI 422 — 03.09.02-141	October 4, 2010
RAI 422 — 03.09.02-142	October 4, 2010
RAI 422 — 03.09.02-143	October 12, 2010
RAI 422 — 03.09.02-144	October 4, 2010
RAI 422 — 03.09.02-145	October 4, 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: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Tuesday, August 03, 2010 2:01 PM
To: ZZ-DL-A-USEPR-DL
Cc: Wong, Yuken; Dixon-Herrity, Jennifer; Patel, Jay; Miernicki, Michael; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 422 (4792), FSARCh. 3

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on June 15, 2010, and discussed with your staff on July 29, 2010. Drat RAI Question 03.09.02-83 was deleted 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: 3159

Mail Envelope Properties (2FBE1051AEB2E748A0F98DF9EEE5A5D47AEF9E)

Subject: Response to U.S. EPR Design Certification Application RAI No. 422, FSARCh. 3, Supplement 23
Sent Date: 6/24/2011 4:46:01 PM
Received Date: 6/24/2011 4:46:09 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

"WELLS Russell (AREVA)" <Russell.Wells@areva.com>

Tracking Status: None

"HAMMOND Philip (AREVA)" <Philip.Hammond@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	131023	6/24/2011 4:46:09 PM
RAI 422 Supplement 23 Response US EPR DC.pdf		67198

Options

Priority: Standard

Return Notification: No

Reply Requested: No

Sensitivity: Normal

Expiration Date:

Recipients Received:

Response to

Request for Additional Information No. 422(4792), Revision 0, Supplement 23

8/3/2010

U.S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

**SRP Section: 03.09.02 - Dynamic Testing and Analysis of Systems Structures and
Components**

Application Section: 3.9.2

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

Question 03.09.02-139:

Follow-up to RAI 245, Question 03.09.02-51

The staff issued RAI 03.09.02-51 as a follow-up to RAI 03.09.02-32 requesting the analysis of the full-scale CRGA components that demonstrates acceptable vibrational behavior.

The applicant responded to RAI 03.09.02-51 in Response to RAI 245, by stating that the details of the analyses and testing that will indicate acceptable behavior, including the acceptance criteria, details on the validations of the test plan, and the instrumentation and test conditions that will be used in the U.S. EPR preoperational testing, to confirm the acceptable CRGA design, are provided in Sections 4.6 and 5.0 of the Technical Report ANP-10306P.

The staff reviewed the applicants response to RAI 03.09.02-51 and noted that the applicant references CVAP section 4.6 for the analysis of the CRGA design. The acceptance criteria for the CRGA was reviewed by the staff in response to RAI 03.09.02-48E.

The analysis techniques follow those for the rest of the upper internals found in CVAP Sections 4.6.3 that were reviewed by the staff in response to the applicant's answer to RAI 03.09.02-48D.

The applicant referenced CVAP Section 5.0 for the test details, the instrumentation details and the test conditions. The instrumentation for the CRGA are found in CVAP section 5.2.2.3 and all are intended to be temporary. Only the portions of the HFT that pertain directly to the CRGA are discussed in the response to RAI 03.09.02-51. The remainder of the test requirements are discussed in the review of the applicant's response to RAI 03.09.02-48G and RAI 03.09.02-54.

The staff reviewed the applicants description of the intended instrumentation suite as described in CVAP Section 5. The set of instrumentation specified for determining the response of the CRGA column and CRGA internals is sufficient to obtain the upper bound response provided most of the instrumentation survives throughout testing.

The staff noted that one of the CRGAs which is located in a region anticipated to offer the highest cross flows has been chosen to measure the reaction of the CRGA column. This column is located at S6, which is on the outer periphery, near the center outlet jet port for loop 4. This CRGA column has been instrumented with four strain gages near the connection to the Upper Support Plate (USP). Two of these are intended to be redundant. However, if only two of these fail on opposite sides of the column, one of the principle directions will be lost. One of the guide plates, located at midspan of the CRGA at S6, has been instrumented with two accelerometers, oriented to measure in the horizontal plane at 90 degrees to each other.

Based on the CVAP description, the applicant is requested to:

- A. Confirm that the instrumentation on the CRGA at S6 is intended to be oriented in the mean flow direction and transverse to the mean flow direction. Under this assumption, if either accelerometer fails, one of the principal directions will be lost.
- B. Discuss the impact of failing transducers and the potential negative impact to achieving the stated HFT goal of characterizing the behavior of the CRGAs and columns (see CVAP Section 5.2.2.3).
- C. Discuss options or plans for increasing the number of transducers installed or replacing failed transducers during the test phase. Note that the guide plate of a second CRGA,

located at J9, in the center of the core support plate, is instrumented with two radial accelerometers, oriented at 90 degrees to each other.

- D. Discuss the methodology, analysis, or rationale used for selecting the guide plate in these two CRGAs, one at the periphery and the second in the center.

Response to Question 03.09.02-139:

- a) The orientation of the strain gages on the control rod guide assembly (CRGA) tube and the accelerometers on the guide plate for location S6 will be orientated at approximate 45 and 135 degree angles relative to the mean flow to achieve greater instrumentation redundancy.
- b) As stated in the response to (a), this redundancy provides some backup for failed transducers. The degree of negative impact on the behavior of the CRGA depends on when the instrumentation fails. If the first six of eighteen tests identified in Technical Report ANP-10306P, Table 5-4 are completed with the transducers functioning properly, the impact would not be negative.

This degree of success is because the largest response of the CRGA occurs during this series of tests. The response of the CRGA is largest during these tests because of the larger forcing function that is created from the larger dynamic pressure term at the lower temperatures and pressures of the primary fluid. The slight variation of the natural frequencies that occurs between 70°F and 578°F does not have a significant effect on the response of the CRGA since the fluid-structure coupling mechanism for random turbulence is weak. This is because the flow field induced by the structural motion is linearly superimposed on the incident flow field. A strongly coupled fluid-structural system, characterized by large structural motion, induces fluid velocities and distorts the incident flow field. Vortex-shedding induced vibration and fluid-elastic instability of heat exchanger tubes are examples of strongly coupled fluid-structure systems. In strongly coupled fluid-structural systems, the natural frequencies of the components are fundamental to the sensitivity of the flow-induced vibration (FIV) mechanism and the strength of the response. For the weakly coupled fluid-structural system associated with random turbulence, the relationship between the natural frequencies and the response of the structure is not as strongly associated.

The variation in the natural frequencies that occurs between 70°F and 578°F does not significantly alter the response of the structure. The confirmation of the forcing function at the 140°F and 390 psia test conditions provides sufficient test data to confirm the forcing function and the response of the CRGA at the higher temperatures and pressures for tests seven through eighteen of Technical Report ANP-10306P, Table 5-4.

- c) The number of transducers cannot be increased because of the limitations created by the size of the reactor vessel (RV) head penetrations through which the instrumentation cables are routed to the acquisition system. The redundancy priority given to the instrumentation to characterize the RPV components through the hot functional test (HFT) is manifested through the instrumentation scheme shown in Technical Report ANP-10306P, Figure 5-1, and is the most appropriate. As stated in Technical Report ANP-10306P, Section 5.5, the greatest priority is given to the characterization of the core barrel pendulum mode of the lower internals.

If the testing identified in Response (b) to Question 03.09.02-139 is not accomplished, it may be necessary to suspend the HFT either to replace failed transducers or to relocate the transducers at the CRGA location J9 to location S6. These priorities and contingents cannot be determined until the failed transducers are identified.

- d) The guide plate instrumentation confirm the modal characterization and fatigue tests, identified in Technical Report ANP-10306P, Sections 4.6.1 and 4.6.2, that were performed for the CRGA. These tests provide the justification of the CRGA structural integrity to the high cycle fatigue. The high cycle fatigue of the CRGA is created by its interaction with the CRGA tube, which is exposed to the flow excitation created from random turbulence acting on its outer surfaces.

The results obtained with the HFT should be bound by the test identified in Technical Report ANP-10306P, Sections 4.6.1 and 4.6.2 to validate the CRGA design for the thermal hydraulic conditions prevalent in the full-scale design during normal operating and transient conditions.

FSAR Impact:

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

Technical Report Impact:

ANP-10306P, "Comprehensive Vibration Assessment Program for U.S. EPR Reactor Internals Technical Report," Revision 0 will not be changed as a result of this question.