ArevaEPRDCPEm Resource

From: WELLS Russell (AREVA) [Russell.Wells@areva.com]
Sent: Thursday, March 17, 2011 10:55 AM
To: Tesfaye, Getachew
Cc: CORNELL Veronica (EXTERNAL AREVA); BENNETT Kathy (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 448, FSAR Ch. 3, Supplement 2
Attachments: RAI 448 Supplement 2 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI 448 on November 22, 2010. To allow additional time to finalize the responses and interact with NRC staff, the schedule has been revised. On February 11, 2011, AREVA NP submitted Supplement 1 to provide a revised schedule for the final responses.

The attached file, "RAI 448 Supplement 2 Response US EPR DC.pdf" provides a technically correct and complete FINAL response to question 03.08.01-55, as committed.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 448 Question 03.08.01-55.

The following table indicates the page in the response document, "RAI 448 Supplement 2 Response US EPR DC.pdf" that contains AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 448 — 03.08.01-55	2	2

The schedule for Questions 03.08.01-49, 03.08.01-50, 03.08.01-51, 03.08.01-52, 03.08.01-53 and 03.08.01-54 is revised to allow additional time for AREVA NP to interact with the NRC.

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

Question #	Response Date
RAI 448 — 03.08.01-49	May 16, 2011
RAI 448 — 03.08.01-50	April 27, 2011
RAI 448 — 03.08.01-51	April 27, 2011
RAI 448 — 03.08.01-52	April 27, 2011
RAI 448 — 03.08.01-53	April 27, 2011
RAI 448 — 03.08.01-54	April 27, 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)

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Russell.Wells@Areva.com

From: BRYAN Martin (External RS/NB)
Sent: Friday, February 11, 2011 3:18 PM
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. 448, FSAR Ch. 3, Supplement 1

Getachew,

AREVA NP Inc. (AREVA NP) provided a schedule for a technically correct and complete response to RAI 448 on November 22, 2010. To allow additional time to finalize the responses and interact with NRC staff, the schedule has been revised.

The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 448 — 03.08.01-49	March 25, 2011
RAI 448 — 03.08.01-50	March 18, 2011
RAI 448 — 03.08.01-51	March 18, 2011
RAI 448 — 03.08.01-52	March 18, 2011
RAI 448 — 03.08.01-53	March 18, 2011
RAI 448 — 03.08.01-54	March 18, 2011
RAI 448 — 03.08.01-55	March 18, 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 10:13 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. 448, FSAR Ch. 3

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 448 Response US EPR DC.pdf" provides a schedule since a technically correct and complete response to the 7 questions can not be provided at this time.

The following table indicates the respective pages in the response document, "RAI 448 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 448 — 03.08.01-49	2	3
RAI 448 — 03.08.01-50	4	5
RAI 448 — 03.08.01-51	6	7
RAI 448 — 03.08.01-52	8	8
RAI 448 — 03.08.01-53	9	9
RAI 448 — 03.08.01-54	10	11
RAI 448 — 03.08.01-55	12	12

A complete answer is not provided for the 7 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 448 — 03.08.01-49	February 28, 2011
RAI 448 — 03.08.01-50	February 28, 2011
RAI 448 — 03.08.01-51	February 28, 2011
RAI 448 — 03.08.01-52	February 28, 2011
RAI 448 — 03.08.01-53	February 28, 2011
RAI 448 — 03.08.01-54	February 28, 2011
RAI 448 — 03.08.01-55	February 28, 2011

Sincerely,

Martin (Marty) C. Bryan
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From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Monday, October 25, 2010 4:41 PM
To: ZZ-DL-A-USEPR-DL
Cc: Xu, Jim; Hawkins, Kimberly; Miernicki, Michael; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 448 (4898, 5084),FSAR Ch. 3

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on September 17, 2010, and discussed with your staff on October 25, 2010. No changes were made to the draft RAI 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: 2718

Mail Envelope Properties (1F1CC1BBDC66B842A46CAC03D6B1CD410419E66A)

Subject: Response to U.S. EPR Design Certification Application RAI No. 448, FSAR Ch. 3, Supplement 2
Sent Date: 3/17/2011 10:54:50 AM
Received Date: 3/17/2011 10:54:53 AM
From: WELLS Russell (AREVA)

Created By: Russell.Wells@areva.com

Recipients:
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Tracking Status: None
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Files	**Size**	**Date & Time**
MESSAGE	6182	3/17/2011 10:54:53 AM
RAI 448 Supplement 2 Response US EPR DC.pdf	45772	

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

Response to

Request for Additional Information No. 448(4898, 5084), Revision 0
Supplement 2

10/25/2010

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 03.08.01 - Concrete Containment
Application Section: 3.8.1

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

Question 03.08.01-55:

Follow-up to RAI 306, Question 3.8.1-42

The RAI response states that the design of structural steel members is based on the conservative use of the minimum allowable material stress values provided in FSAR Table 3.8-8. The design specifies a particular minimum value to be used in the fabrication of the component, and the stress values of the materials actually used in fabrication will be confirmed by certified material test reports and certificates.

To resolve this RAI: (a) add the above statements to the FSAR, and (b) explain why FSAR Table 3.8-8 lists A276 (martensitic) steel twice, with inconsistent stress ranges.

Item a:

The requested information has been added to the U.S. EPR FSAR Tier 2, Table 3.8-8.

Item b:

U.S. EPR FSAR Tier 2, Table 3.8-8 has been revised to remove the second reference to A276 (martensitic) steel.

FSAR Impact:

U.S. EPR FSAR Tier 2, Table 3.8-8 will be revised as described in the response and indicated on the enclosed markup.

U.S. EPR Final Safety Analysis Report Markups

Table 3.8-8—Materials for Structural Steel Shapes and Plates
Sheet 1 of 2

ASTM Designation	F_y	F_u
A36	36 ksi	58 to 80 ksi
A53 (Type E or S) (Gr. B)	35 ksi	60 ksi
A106		
Grade A	30 ksi	48 ksi
Grade B	35 ksi	60 ksi
Grade C	40 ksi	70 ksi
A167	27 to 39 ksi	73 to 94 ksi
A240		
Austenitic	25 to 70 ksi	70 to 125 ksi
Duplex	58 to 80 ksi	87 to 116 ksi
Ferritic or Martensitic	25 to 90 ksi	55 to 115 ksi
A242	42 to 50 ksi	63 to 70 ksi
A276		
Austenitic	25 to 125 ksi	70 to 145 ksi
Austenitic-ferritic	65 to 105 ksi	90 to 125 ksi
Ferritic	30 to 60 ksi	60 to 75 ksi
Martensitic	30 to 100 ksi	60 to 125 ksi
A312	25 to 62 ksi	70 to 115 ksi
A441	40 to 50 ksi	60 to 70 ksi
A479 03.08.01-55		
Austenitic	25 to 125 ksi	70 to 145 ksi
Austenitic-ferritic	65 to 85 ksi	90 to 118 ksi
Ferritic	25 to 55 ksi	60 to 70 ksi
Martensitic	40 to 100 ksi	70 to 130 ksi
~~A276 (Martensitic)~~	~~40 to 100 ksi~~	~~70 to 130 ksi~~
A500 (round)		
Grade A	33 ksi	45 ksi
Grade B	42 ksi	58 ksi
Grade C	46 ksi	62 ksi
Grade D	36 ksi	58 ksi
A500 (square & rectangular)		
Grade A	39 ksi	45 ksi
Grade B	46 ksi	58 ksi
Grade C	50 ksi	62 ksi
Grade D	36 ksi	58 ksi
A501	36 ksi	58 ksi
A514	90 to 100 ksi	100 to 130 ksi
A515	32 to 38 ksi	60 to 90 ksi
A516	30 to 38 ksi	55 to 90 ksi

Table 3.8-8—Materials for Structural Steel Shapes and Plates
Sheet 2 of 2

ASTM Designation	F_y	F_u
A570	30 to 55 ksi	49 to 70 ksi
A572	42 to 65 ksi	60 to 80 ksi
A588	42 to 50 ksi	63 to 70 ksi
A607		
Class I	45 to 70 ksi	60 to 85 ksi
Class II	45 to 70 ksi	55 to 80 ksi
A618		
Grade Ia, Ib & II	46 to 50 ksi	67 to 70 ksi
Grade III	50 ksi	65 ksi
A709	36 to 50 ksi	58 to 80 ksi
A913	50 to 70 ksi	65 to 90 ksi
A992	50 to 65 ksi	65 ksi

Note:

1. The design of structural steel members is based on the conservative use of the minimum allowable material stress values provided in Table 3.8-8. The design specifies a particular minimum value to be used for the fabrication of the component, and the stress values of the materials actually used in fabrication will be confirmed by certified material test reports and certificates of conformance.

03.08.01-55