

ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Monday, January 21, 2013 5:26 PM
To: Snyder, Amy
Cc: KOWALSKI David (AREVA); Miernicki, Michael; HARRINGTON James (AREVA); DELANO Karen (AREVA); LEIGHLITER John (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); TOLLEY Tracey (AREVA); VANCE Brian (AREVA); WELLS Russell (AREVA); WILLS Tiffany (AREVA)
Subject: Advanced Response to U.S. EPR Design Certification Application RAI No. 567 (6945), FSAR Ch. 3, Question 03.02.02-15
Attachments: Advanced Response to RAI 567 Q 03.02.02-15 - US EPR DC.pdf

Amy,

Attached is an Advanced Response to RAI 567, Question 03.02.02-15 in advance of the final response date of March 18, 2013.

To keep our commitment to send a final response to this question by the commitment date, we need to receive all NRC staff feedback and comments no later than **March 4, 2013**.

Please let me know if NRC staff has any questions or if this response can be sent as final.

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, January 21, 2013 4:50 PM
To: 'Snyder, Amy'
Cc: KOWALSKI David (RS/NB); Michael.Miernicki@nrc.gov; DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WILLS Tiffany (CORP/QP)
Subject: Response to U.S. EPR Design Certification Application RAI No. 567 (6945), FSAR Ch. 3

Amy,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 567 Response US EPR DC.pdf," provides a schedule since a technically correct and complete response to the one question cannot be provided at this time.

The following table indicates the respective pages in the response document, "RAI 567 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 567 — 03.02.02-15	2	2

The schedule for a technically correct and complete final response to this question is provided below.

Question #	Response Date
RAI 567 — 03.02.02-15	March 18, 2013

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
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From: Snyder, Amy [<mailto:Amy.Snyder@nrc.gov>]
Sent: Tuesday, December 11, 2012 3:25 PM
To: ZZ-DL-A-USEPR-DL
Cc: Colaccino, Joseph; McNally, Richard; Miernicki, Michael; Segala, John
Subject: U.S. EPR Design Certification Application RAI No. 567 (6945), FSAR Ch. 3

Attached please find the subject request for additional information (RAI). A draft of the RAI was provided to you on December 7, 2012, and on December 11, 2012, you informed us that the draft RAI does not contain proprietary information and that the draft RAI is clear and no further clarification is needed. As result, no change is made to the draft RAI.

The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs, excluding the time period of **December 24, 2011 thru January 2, 2012, to account for the holiday season** as discussed with AREVA NP Inc on November 28, 2012. For any RAIs that cannot be answered **within 40 days or January 21, 2012**, it is expected that a date for receipt of this information will be provided to the staff within the 40-day period so that the staff can assess how this information will impact the published schedule.”

Thank You,

Amy
Amy Snyder, U.S. EPR Design Certification Lead Project Manager
Licensing Branch 1 (LB1)
Division of New Reactor Licensing
Office of New Reactors
U.S. Nuclear Regulatory Commission
☎ Office: (301) 415-6822
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 E-mail: Amy.Snyder@nrc.gov

Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 4188

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Subject: Advanced Response to U.S. EPR Design Certification Application RAI No. 567 (6945), FSAR Ch. 3, Question 03.02.02-15
Sent Date: 1/21/2013 5:26:04 PM
Received Date: 1/21/2013 5:26:11 PM
From: WILLIFORD Dennis (AREVA)

Created By: Dennis.Williford@areva.com

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"Snyder, Amy" <Amy.Snyder@nrc.gov>
Tracking Status: None

Post Office: FUSLYNCMX03.fdom.ad.corp

Files	Size	Date & Time	
MESSAGE	3703	1/21/2013 5:26:11 PM	
Advanced Response to RAI 567 Q 03.02.02-15 - US EPR DC.pdf			163132

Options

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

Advanced Response to

Request for Additional Information 567, Question 03.02.02-15

Issue Date: 12/11/2012

Application Title: U. S. EPR Standard Design Certification - Docket Number 52-020

Operating Company: AREVA NP Inc.

Docket No. 52-020

Review Section: 03.02.02 - System Quality Group Classification

Application Section: 3.2.2

Question 03.02.02-15:

Follow-up Question to RAI 504, Question 03.02.02-14

EPR RPV Refueling cavity ring

The response to RAI 504 (5982), Question 03.02.02-14 clarified that the RPV refueling cavity ring is a not a pressure retaining component, and as a result quality group (QG) and the ASME Section III Code do not apply, but the design is to ASME Section III with no Code certification or stamping required. FSAR Tier 2 Table 3.2.2-1 shows the cavity ring as QG NA, but no code or code class is identified. Although staff agrees that a QG is not required for a component that is not pressure retaining or supporting a pressure retaining component, the ASME Section III Code does include attachments, and the boundary for attachments is to be defined in ASME design specifications. Further, there should be an ITAAC or other verification method to ensure the correct classification and integrity of the attachment weld. Therefore, the applicant is requested to:

- (a) clarify the ASME Code Class jurisdictional boundary for the attachment to the ASME Section III Class 1 RPV
- (b) confirm that an ITAAC or other verification applies to the attachment weld to the RPV
- (c) clarify in FSAR Tier 2 Table 3.2.2-1 that the design of the cavity ring is to ASME Section III with an appropriate ASME Code Class, but without ASME Code certification (with reference to the appropriate FSAR Section where the refueling ring design basis is discussed)

Response to Question 03.02.02-15:Item a:

The reactor pressure vessel (RPV) refueling cavity ring is attached to the external seal ledge of the reactor vessel. The design specification for the reactor vessel classifies the external seal ledge as a nonstructural attachment. Nonstructural attachments to pressure retaining material are governed by ASME Code Section III Rules. In this case, however, the refueling cavity ring is an attachment to a nonstructural attachment to an ASME Code Section III pressure vessel, and is therefore outside of ASME Code Section III jurisdiction.

Item b:

Since the attachment of the refueling cavity ring to the external seal ledge is outside of the jurisdiction of ASME Code Section III, the implementation of ITAAC is not necessary.

Verification of integrity of the attachment weld is demonstrated by performance of the following activities:

- Performance of stress and fatigue analyses.
- Adherence to welding procedures and associated personnel qualifications.
- Liquid penetrant examination of weld.

Item c:

The "Comments/Commercial Code" column for the RPV Refueling Cavity Ring in U.S. EPR FSAR Tier 2, Table 3.2.2-1 will be revised to include the following information:

"ASME Class 2²⁴"

U.S. EPR FSAR Tier 2, Table 3.2.2-1 will also be revised to include the following new Note 24:

"The reactor cavity ring is constructed using fatigue analysis rules from ASME Section III, Class 2, and materials, design, fabrication and examination rules from Section III Class 3 as a matter of good practice, to the extent that they can be applied. However, as this device is not a pressure retaining component or a support thereof, it is outside the scope of Section III and therefore will not be certified or stamped as an ASME Section III vessel. Refer to FSAR Section 3.8.3.1.1 for additional information."

FSAR Impact:

U.S. EPR FSAR Tier 2, Table 3.2.2-1 will be revised as described in the response and indicated on the enclosed markup.

U.S. EPR Final Safety Analysis Report Markups



Table 3.2.2-1—Classification Summary
Sheet 8 of 192

KKS System or Component Code	SSC Description	Safety Classification (Note 15)	Quality Group Classification	Seismic Category (Note 16)	10 CFR 50 Appendix B Program (Note 5)	Location (Note 17)	Comments/ Commercial Code
30JAH10 BU	Reactor Coolant System Insulation	NS-AQ	N/A	II	Yes	UJA	
30JAA10 BB001	Reactor Pressure Vessel Pressure Boundary	S	A	I	Yes	UJA	ASME Class 1 ¹
30JAA10BB001	Reactor Pressure Vessel (Radial Keys)	S	B	I	Yes	UJA	ASME Class CS ⁴
30JAA10	RPV High Point Vent Piping & Valves (downstream of Valve 30JAA10 AA502)	NS-AQ	D	II	Yes	UJA	ANSI/ASME B31.1 ⁶ , ANSI/ASME B16.34 ⁷
30JAA10	RPV High Point Vent Piping (upstream of Valve 30JAA10 AA501)	S	A	I	Yes	UJA	ASME Class 1 ¹
30JAA10 AA501/502	RPV High Point Vent Valves	S	A	I	Yes	UJA	ASME Class 1 ¹
JAC	RPV Internals - Control Rod Drive Mechanism Adaptor Thermal Sleeves	NS-AQ	N/A	II	Yes	UJA	ASME Class CS ⁴ (Internal Structure)
30JAB	RPV Refueling Cavity Ring	S	N/A	I	Yes	UJA	ASME Class 2 ²⁴

20. NFPA 80 refers to “Standard for Fire Doors and Other Opening Protectives,” 2007 Edition.
21. HEI refers to “Standards for Power Plant Heat Exchangers,” Fourth Edition, 2004.
22. ESW piping in trains PEB10/20/30/40 located in UZT are situated underground.
23. ASME Class MC refers to “ASME Boiler and Pressure Vessel Code, Section III, Division 2, Rules for Concrete Containments,” 2004 Edition, No Addenda, with 10 CFR 50.55a Exceptions and Clarifications.

24. The reactor cavity ring is constructed using fatigue analysis rules from ASME Section III, Class 2, and materials, design, fabrication and examination rules from Section III Class 3 as a matter of good practice, to the extent that they can be applied. However, as this device is not a pressure retaining component or a support thereof, it is outside the scope of Section III and therefore will not be certified or stamped as an ASME Section III vessel. Refer to FSAR Section 3.8.3.1.1 for additional information.