

## ArevaEPRDCPEm Resource

---

**From:** WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]  
**Sent:** Monday, October 15, 2012 5:48 PM  
**To:** Snyder, Amy  
**Cc:** Miernicki, Michael; BENNETT Kathy (AREVA); DELANO Karen (AREVA); LEIGHLITER John (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); WELLS Russell (AREVA)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 497 (5837), FSAR Ch. 3, Supplement 7  
**Attachments:** RAI 497 Supplement 7 Response US EPR DC.pdf

Amy,

On August 11, 2011, AREVA NP provided a schedule for a technically correct and complete response to the 1 question in RAI 497. AREVA NP submitted Supplement 1 on September 9, 2011, Supplement 2 on October 7, 2011, Supplement 3 on November 17, 2011, and Supplement 4 on January 12, 2012 to revise the schedule for this response. AREVA NP submitted Supplement 5 on February 24, 2012 to provide a complete response to the single question (03.09.06-19). AREVA NP submitted Supplement 6 on April 24, 2012 to supplement the prior response to RAI 497, Question 03.09.06-19. The attached file, "RAI 497 Supplement 7 Response US EPR DC.pdf," further supplements the prior response to RAI 497, Question 03.09.06-19 to include the following information:

The active/passive column for containment isolation valves 30SGB30AA031 and 30SGB30AA032 was changed from active to passive consistent with the normal closed position of these valves as shown in U.S. EPR FSAR Tier 2, Table 6.2.4-1. Accordingly, the exercise tests and stroke tests were deleted for these valves since they are not required for passive valves in accordance with the ASME OM code.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the supplemented response to RAI 497, Question 03.09.06-19.

The following table indicates the respective pages in the response document, "RAI 497 Supplement 7 Response US EPR DC.pdf," that contain AREVA NP's final response to the subject question.

| Question #            | Start Page | End Page |
|-----------------------|------------|----------|
| RAI 497 — 03.09.06-19 | 2          | 2        |

This concludes the formal AREVA NP response to RAI 497, and there are no questions from this RAI for which AREVA NP has not provided responses.

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](mailto:Dennis.Williford@areva.com)

---

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Tuesday, April 24, 2012 4:45 PM  
**To:** [Getachew.Tesfaye@nrc.gov](mailto:Getachew.Tesfaye@nrc.gov)  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 497 (5837), FSAR Ch. 3, Supplement 6

Getachew,

On August 11, 2011, AREVA NP provided a schedule for a technically correct and complete response to the 1 question in RAI 497. AREVA NP submitted Supplement 1 on September 9, 2011, Supplement 2 on October 7, 2011, Supplement 3 on November 17, 2011, and Supplement 4 on January 12, 2012 to revise the schedule for this response. AREVA NP submitted Supplement 5 on February 24, 2012 to provide a complete response to the single question (03.09.06-19). Based on comments from NRC staff, the attached file, "RAI 497 Supplement 6 Response US EPR DC.pdf," supplements the prior response to RAI 497, Question 03.09.06-19 to include the following information:

- The safety position for relief valves 30JDH10AA191 and 30JDH40AA191 was changed to open/closed.
- The ASME code category for valves 30JNA30AA006 and 30JNA40AA006 was changed to Category A/C since they have leakage testing requirements.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the supplemented response to RAI 497, Question 03.09.06-19.

The following table indicates the respective pages in the response document, "RAI 497 Supplement 6 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

| Question #            | Start Page | End Page |
|-----------------------|------------|----------|
| RAI 497 — 03.09.06-19 | 2          | 2        |

This concludes the formal AREVA NP response to RAI 497, and there are no questions from this RAI for which AREVA NP has not provided responses.

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](mailto:Dennis.Williford@areva.com)

---

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Friday, February 24, 2012 3:47 PM  
**To:** [Getachew.Tesfaye@nrc.gov](mailto:Getachew.Tesfaye@nrc.gov)  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 497 (5837), FSAR Ch. 3, Supplement 5

Getachew,

On August 11, 2011, AREVA NP provided a schedule for a technically correct and complete response to the 1 question in RAI 497. AREVA NP submitted Supplement 1 on September 9, 2011, Supplement 2 on October 7, 2011, Supplement 3 on November 17, 2011, and Supplement 4 on January 12, 2012 to revise the schedule for this response.

The attached file, "RAI 497 Supplement 5 Response Final - US EPR DC.pdf," provides a technically correct and complete final response to the remaining question.

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 497 Question 03.09.06-19.

The following table indicates the respective pages in the response document, "RAI 497 Supplement 5 Response Final - US EPR DC.pdf," that contain AREVA NP's response to the subject question.

| Question #            | Start Page | End Page |
|-----------------------|------------|----------|
| RAI 497 — 03.09.06-19 | 2          | 3        |

This concludes the formal AREVA NP response to RAI 497, and there are no questions from this RAI for which AREVA NP has not provided responses.

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](mailto:Dennis.Williford@areva.com)

---

**From:** WILLIFORD Dennis (CORP/QP)  
**Sent:** Thursday, January 12, 2012 3:34 PM  
**To:** [Getachew.Tesfaye@nrc.gov](mailto:Getachew.Tesfaye@nrc.gov)  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 497 (5837), FSAR Ch. 3, Supplement 4

Getachew,

On August 11, 2011, AREVA NP provided a schedule for a technically correct and complete response to the 1 question in RAI 497. AREVA NP submitted Supplement 1 on September 9, 2011, Supplement 2 on October 7, 2011, and Supplement 3 on November 17, 2011 to revise the schedule for this response. The schedule has been changed as provided below.

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

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](mailto:Dennis.Williford@areva.com)

---

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Thursday, November 17, 2011 1:09 PM  
**To:** [Getachew.Tesfaye@nrc.gov](mailto:Getachew.Tesfaye@nrc.gov)  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 497 (5837), FSAR Ch. 3, Supplement 3

Getachew,

On August 11, 2011, AREVA NP provided a schedule for a technically correct and complete response to the 1 question in RAI 497. AREVA NP submitted Supplement 1 on September 9, 2011 and Supplement 2 on October 7, 2011 to revise the schedule for this response. The schedule has been changed as provided below.

| Question #            | Response Date    |
|-----------------------|------------------|
| RAI 497 — 03.09.06-19 | January 12, 2012 |

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](mailto:Dennis.Williford@areva.com)

---

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Friday, October 07, 2011 11:37 AM  
**To:** [Getachew.Tesfaye@nrc.gov](mailto:Getachew.Tesfaye@nrc.gov)  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 497 (5837), FSAR Ch. 3, Supplement 2

Getachew,

On August 11, 2011, AREVA NP provided a schedule for a technically correct and complete response to the 1 question in RAI 497. On September 9, 2011, AREVA NP submitted Supplement 1 to revise the schedule for this response. The schedule has been changed as provided below.

| Question #            | Response Date     |
|-----------------------|-------------------|
| RAI 497 — 03.09.06-19 | November 18, 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](mailto:Dennis.Williford@areva.com)

---

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Friday, September 09, 2011 1:12 PM  
**To:** [Getachew.Tesfaye@nrc.gov](mailto:Getachew.Tesfaye@nrc.gov)  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 497 (5837), FSAR Ch. 3, Supplement 1

Getachew,

On August 11, 2011, AREVA NP provided a schedule for a technically correct and complete response to the 1 question in RAI 497. The schedule has been changed as provided below.

| Question #            | Response Date   |
|-----------------------|-----------------|
| RAI 497 — 03.09.06-19 | October 9, 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](mailto:Dennis.Williford@areva.com)

---

**From:** WILLIFORD Dennis (RS/NB)  
**Sent:** Thursday, August 11, 2011 11:27 AM  
**To:** [Getachew.Tesfaye@nrc.gov](mailto:Getachew.Tesfaye@nrc.gov)  
**Cc:** BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 497 (5837), FSAR Ch. 3

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 497 Response US EPR DC.pdf" provides a schedule since a technically correct and complete response to the 1 question cannot be provided at this time.

The following table indicates the respective pages in the response document, "RAI 497 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

| Question #            | Start Page | End Page |
|-----------------------|------------|----------|
| RAI 497 — 03.09.06-19 | 2          | 2        |

A complete answer is not provided for the one question. The schedule for a technically correct and complete final response to this question is provided below

| Question #            | Response Date     |
|-----------------------|-------------------|
| RAI 497 — 03.09.06-19 | September 9, 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](mailto:Dennis.Williford@areva.com)

---

**From:** Tesfaye, Getachew [<mailto:Getachew.Tesfaye@nrc.gov>]  
**Sent:** Tuesday, July 12, 2011 4:18 PM  
**To:** ZZ-DL-A-USEPR-DL  
**Cc:** Scarbrough, Thomas; Terao, David; Miernicki, Michael; Clark, Phyllis; Colaccino, Joseph; ArevaEPRDCPEm Resource  
**Subject:** U.S. EPR Design Certification Application RAI No. 497 (5837), FSAR Ch. 3

Attached please find the subject request for additional information (RAI). A draft of the RAI was provided to you on July 1, 2011, and on July 8, 2011, you informed us that the RAI is clear and no further clarification is needed. As a 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. 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:** 4073

**Mail Envelope Properties** (2FBE1051AEB2E748A0F98DF9EEE5A5D4E713FC)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 497 (5837),  
FSAR Ch. 3, Supplement 7  
**Sent Date:** 10/15/2012 5:48:02 PM  
**Received Date:** 10/15/2012 5:48:35 PM  
**From:** WILLIFORD Dennis (AREVA)

**Created By:** Dennis.Williford@areva.com

**Recipients:**

"Miernicki, Michael" <Michael.Miernicki@nrc.gov>  
Tracking Status: None  
"BENNETT Kathy (AREVA)" <Kathy.Bennett@areva.com>  
Tracking Status: None  
"DELANO Karen (AREVA)" <Karen.Delano@areva.com>  
Tracking Status: None  
"LEIGHLITER John (AREVA)" <John.Leighliter@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  
"Snyder, Amy" <Amy.Snyder@nrc.gov>  
Tracking Status: None

**Post Office:** auscharm02.adom.ad.corp

| <b>Files</b>                                | <b>Size</b> | <b>Date &amp; Time</b> |
|---|-------------|------------------------|
| MESSAGE                                     | 12932       | 10/15/2012 5:48:35 PM  |
| RAI 497 Supplement 7 Response US EPR DC.pdf |             | 542585                 |

**Options**

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



**Response to**

**Request for Additional Information No. 497, Supplement 7**

**7/1/2011**

**U. S. EPR Standard Design Certification**

**AREVA NP Inc.**

**Docket No. 52-020**

**SRP Section: 03.09.06 - Functional Design Qualification and Inservice Testing**

**Programs for Pumps, Valves, and Dynamic Restraints**

**Application Section: 3.9.6**

**QUESTIONS for Component Integrity, Performance, and Testing Branch 1**

**(AP1000/EPR Projects) (CIB1)**

**Question 03.09.06-19:**

## OPEN ITEM

In reviewing the interim revision to the U.S. EPR FSAR, the NRC staff has determined that additional information is needed on Table 3.9.6-2, "Inservice Valve Testing Program Requirements," in the U.S. EPR FSAR. In particular, the applicant is requested to provide the following information:

- a. Confirm that Table 3.9.6-2 specifies the applicable exercise requirement and position verification requirement for all manual valves (active or passive). See, for example, manual valves on pages 3.9-120 to 124, 129, 130, 141 to 143, 175, 176, 184, 185, 195, 196, 198, 199, 207 to 217, 223 to 227, 229, and 233.
- b. Confirm that Table 3.9.6-2 specifies the applicable position verification requirement on a 2-year frequency for all relief valves with remote position indication. The applicant is also requested to discuss the basis for specifying some relief valves as passive valves. See, for example, relief valves on pages 3.9-126, 127, 177, 179 to 182, 204, and 235 to 237.
- c. Revise Item E of Note 9 in Table 3.9.6-2 to be consistent with the 2-year exercise requirement for manual valves in 10 CFR 50.55a(b)(3)(vi) in lieu of the 5-year exercise requirement in the ASME OM Code.

**Response to Question 03.09.06-19:**

This response supplements the information that was provided in RAI 497, Supplement 5 (Accession Number ML12048B460) and RAI 497, Supplement 6 (Accession Number ML12115A354) by making the following change:

- The active/passive column for containment isolation valves 30SGB30AA031 and 30SGB30AA032 was changed from active to passive consistent with the normal closed position of these valves as shown in U.S. EPR FSAR Tier 2, Table 6.2.4-1. Accordingly, the exercise tests and stroke tests were deleted for these valves since they are not required for passive valves in accordance with the ASME OM code.

**FSAR Impact:**

U.S. EPR FSAR Tier 2, Table 3.9.6-2, will be revised as described in the response and indicated on the enclosed markup.

# U.S. EPR Final Safety Analysis Report Markups



Table 3.9.6-2—Inservice Valve Testing Program Requirements  
Sheet 109 of 114

| Valve Identification Number <sup>1</sup> | Description/<br>Valve Function           | Valve Type <sup>2</sup> | Valve Actuator <sup>3</sup> | ASME Code Class <sup>4</sup> | ASME OM Code Category <sup>5</sup> | Active / Passive <sup>6</sup> | Safety Position <sup>7</sup> | Test Required <sup>8,10,11</sup>           | Test Frequency <sup>9</sup>              | Comments                     |
|--|--|-------------------------|-----------------------------|------------------------------|------------------------------------|-------------------------------|------------------------------|--|--|------------------------------|
| 30SCB01AA002                             | CADS TO IA                               | GB                      | MO                          | 2                            | A                                  | A                             | C                            | ET<br>ST<br>LT<br>PI                       | Q<br>Q<br>2Y<br>2Y                       | LT per 10 CFR 50, Appendix J |
| 30SCB02AA001                             | CADS TO SA                               | GB                      | MA                          | 2                            | A                                  | P                             | C                            | LT<br>PI                                   | 2Y<br>2Y                                 | LT per 10 CFR 50, Appendix J |
| 30SCB02AA002                             | CADS TO SA                               | GB                      | MA                          | 2                            | A                                  | P                             | C                            | LT<br>PI                                   | 2Y<br>2Y                                 | LT per 10 CFR 50, Appendix J |
| 30SGB30AA031                             | FWDS inside NI                           | GT                      | MO                          | 2                            | A                                  | <del>PA</del>                 | C                            | <del>ET</del><br><del>ST</del><br>LT<br>PI | <del>Q</del><br><del>Q</del><br>2Y<br>2Y | LT per 10 CFR 50, Appendix J |
| 30SGB30AA032                             | FWDS inside NI                           | GT                      | MO                          | 2                            | A                                  | <del>PA</del>                 | C                            | <del>ET</del><br><del>ST</del><br>LT<br>PI | <del>Q</del><br><del>Q</del><br>2Y<br>2Y | LT per 10 CFR 50, Appendix J |
| 30XJG10AA201                             | Jacket Water Pump Discharge Check Valve  | CK                      | SA                          | 3                            | C                                  | A                             | O                            | ET<br>PI                                   | Q<br>2Y                                  |                              |
| 30XJG10AA190                             | Jacket Water Pump Discharge Relief Valve | RV                      | SA                          | 3                            | A/C                                | A                             | O/C                          | ET<br>LT<br>PI                             | 10Y<br>10Y<br>2Y                         |                              |
| 30XJG10AA150                             | Expansion Tank Fill Valve                | GB                      | SO                          | 3                            | B                                  | P                             | C                            | PI   | 2Y                                       |                              |