

ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Wednesday, May 25, 2011 9:17 AM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); WELLS Russell (AREVA); CORNELL Veronica (EXTERNAL AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 487 (5756), FSAR Ch. 3
Attachments: RAI 487 Response US EPR DC.pdf

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 487 Response US EPR DC.pdf" provides a technically correct and complete FINAL response to the 1 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 487 Question 03.11-40.

The following table indicates the respective pages in the response document, "RAI 487 Response US EPR DC.pdf" that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 487 — 03.11-40	2	2

This concludes the formal AREVA NP response to RAI 487, 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.

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From: Tesfaye, Getachew [<mailto:Getachew.Tesfaye@nrc.gov>]
Sent: Friday, May 20, 2011 2:40 AM
To: ZZ-DL-A-USEPR-DL
Cc: Strnisha, James; Terao, David; Miernicki, Michael; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 487 (5756), FSAR Ch. 3

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on May 6, 2011, and discussed with your staff on May 19, 2011. No change is 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: 3026

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Subject: Response to U.S. EPR Design Certification Application RAI No. 487 (5756),
FSAR Ch. 3
Sent Date: 5/25/2011 9:17:03 AM
Received Date: 5/25/2011 9:17:58 AM
From: WILLIFORD Dennis (AREVA)

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MESSAGE	2204	5/25/2011 9:17:58 AM
RAI 487 Response US EPR DC.pdf		44712

Options

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Response to

Request for Additional Information No. 487(5756), Revision 0

5/20/2011

U. S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

**SRP Section: 03.11 - Environmental Qualification of Mechanical and Electrical
Equipment**

Application Section: 3.11

**QUESTIONS for Component Integrity, Performance, and Testing Branch 1
(AP1000/EPR Projects) (CIB1)**

Question 03.11-40:

In response to RAI 435, Question 03.11-38 dated November 29, 2010, AREVA stated that development of procedures and maintenance activities related to Environmental Qualification operational program is the responsibility of the COL applicant. The NRC Standard Review Plan states that to ensure COL action items are addressed during a COL application, they should be added to the Design Certification FSAR. Therefore, the staff requests that AREVA add a new COL Action Item to Section 3.11 stating that a COL applicant that references the U.S. EPR design certification will provide a full description of the Environmental Qualification program that includes procedures and maintenance activities to maintain the environmental qualification of electrical and mechanical equipment.

Response to Question 03.11-40:

As noted in the response to RAI 435, Question 03.11-38, development of procedures and maintenance activities related to the environmental qualification (EQ) operational program is the responsibility of the COL applicant as described in U.S. EPR FSAR Tier 2, Sections 13.5.2 and 17.6. U.S. EPR FSAR Tier 2, Section 3.11.2.2 states: "As noted in Section 17.6, a COL applicant that references the U.S. EPR design certification is responsible for implementing the Maintenance Rule program." U.S. EPR FSAR Tier 2, Section 3.11.2.2.6 will be revised to state that operating and maintenance procedures related to the environmental qualification of electrical and mechanical equipment are the responsibility of the COL applicant as described in U.S. EPR FSAR Tier 2, Section 13.5.2. Therefore, a separate COL information item is not needed to address operating and maintenance procedures related to the EQ program.

FSAR Impact:

U.S. EPR FSAR Tier 2, Section 3.11.2.2.6 will be revised as described in the response and indicated on the enclosed markup.

U.S. EPR Final Safety Analysis Report Markups

Non-metallic parts in a harsh environment are qualified in accordance with QME-1-2007, Appendix QR-B, as endorsed by RG 1.100 Revision 3. See Section 3.10.2 for further discussion on QME-1-2007.

Accordingly, during the procurement process, environmental effects of non-metallic components of safety-related mechanical equipment located in harsh environment areas are evaluated using one of the following methods:

- Experience data with identical or similar equipment of non-metallics under similar conditions with a supporting analysis to show that the equipment is acceptable.
- Analysis in combination with type test data that supports the analytical assumptions and conclusions.
- Testing an identical item of equipment under identical conditions or under similar conditions with a supporting analysis to show that the equipment is acceptable.
- Testing a similar item of equipment with a supporting analysis to show that the equipment is acceptable.

Mechanical equipment is designed to have the capability of performing its design safety functions under anticipated operational occurrences and normal, accident, and post accident environment, and for the length of time for which its function is required. The component design includes service conditions, including accident conditions. Since most mechanical equipment interfaces with process fluid, the effect of the fluid on the environmental conditions (temperature, radiation, and chemical) is considered in the design and qualification.

3.11.2.2.6 Maintaining Mechanical Equipment Qualification

Compliance with GDC 4 is maintained through the engineering design, procurement, maintenance, and surveillance programs. These plant programs include inspections, testing, analyses, repairs, and replacements.

For mechanical equipment, qualification is maintained through implementation of the preventive maintenance program, surveillance program, and periodic testing of

03.11-40

mechanical equipment. Operating and maintenance procedures related to the environmental qualification of electrical and mechanical equipment are the responsibility of the COL applicant as described in Section 13.5.2.

Under the maintenance program, routine monitoring of mechanical equipment is performed to identify age-related degradation of non-metallic parts. The program also verifies that the safety function of the mechanical equipment is maintained in normal, abnormal, and ~~accident environments~~ postulated service conditions. Similarly, the procurement, maintenance, and surveillance programs maintain the equipment in