ArevaEPRDCPEm Resource

From: Pederson Ronda M (AREVA NP INC) [Ronda.Pederson@areva.com]
Sent: Friday, February 20, 2009 3:04 PM
To: Getachew Tesfaye
Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); PORTER Thomas (EXT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 180 (1976), FSARCh. 5
Attachments: RAI 180 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 180 Response US EPR DC.pdf" provides technically correct and complete response to the question.

Appended to this file is the affected page of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 180 Question 05.03.03-2.

The following table indicates the respective page in the response document, "RAI 180 Response US EPR DC.pdf," that contains AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 180 — 05.03.03-2	2	2

This concludes the formal AREVA NP response to RAI 180, and there are no questions from this RAI for which AREVA NP has not provided a response.

Sincerely,

Ronda Pederson
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Licensing Manager, U.S. EPR Design Certification
AREVA NP Inc.
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From: Getachew Tesfaye [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Thursday, January 22, 2009 9:48 AM
To: ZZ-DL-A-USEPR-DL
Cc: Steven Downey; David Terao; Tarun Roy; Joseph Colaccino; Meena Khanna; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 180 (1976), FSARCh. 5

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on January 19, 2009, and on January 21, 2009, 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: 239

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Subject: Response to U.S. EPR Design Certification Application RAI No. 180 (1976), FSARCh. 5
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From: Pederson Ronda M (AREVA NP INC)

Created By: Ronda.Pederson@areva.com

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MESSAGE	2274	2/20/2009 3:04:24 PM
RAI 180 Response US EPR DC.pdf	84805	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
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Response to

Request for Additional Information No. 180 (1976), Revision 0

01/22/2009

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 05.03.03 - Reactor Vessel Integrity
Application Section: 05.03.03

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

Question 05.03.03-2:

The staff finds that AREVA NP Inc.'s response to RAI No. 64 (994,995,996,997), Question 05.03.03-1 acceptable pending an adequate revision to the FSAR with the information provided. Please provide proposed changes to the FSAR to address this RAI.

Response to Question 05.03.03-2:

The response to RAI 64 Question 05.03.03-1 states:

"Fracture toughness evaluations performed to date for thermal and radiation aging indicate that a thermal annealing of the vessel will not be necessary to maintain the required material properties over the life of plant, or even into a license extension. Any instance arising during plant operation that would necessitate this action will be addressed by the licensee in accordance with 10 CFR 50.66."

The U.S. EPR FSAR, Tier 2, Section 5.3.3.7 will be modified to include the information stated above.

FSAR Impact:

The U.S. EPR FSAR, Tier 2, Section 5.3.3.7 will be revised as described in the response and indicated on the enclosed markup.

U.S. EPR Final Safety Analysis Report Markups

- Reactor internals are completely removable. The tools and storage space required to permit these inspections are provided.
- The closure head is stored dry on the reactor operating deck during refueling to facilitate direct visual inspection.
- RPV studs, nuts, and washers can be removed to dry storage during refueling.
- Access is provided to the RPV nozzle safe ends. The insulation covering the nozzle-to-pipe welds can be removed.
- Reactor cavity and thermal insulation allows access to the outside surface of the vessel. Tracks are installed to allow the use of mechanical equipment for vessel surface inspection.

The RPV presents access problems because of the radiation levels and remote underwater accessibility to this component. Because of the limited access to the RPV, steps have been incorporated into the design and manufacturing procedures in preparation for the ASME Code required inservice inspection. These steps include the following:

- Shop ultrasonic examinations are performed on internally clad surfaces to an acceptance and repair standard to confirm an adequate cladding bond to allow later volumetric testing of the base metal from the inside surface.
- The RPV shell is designed as an uncluttered cylindrical surface to permit future positioning of the test equipment without obstruction.
- The weld deposited clad surface on both sides of the welds to be inspected is specifically prepared for volumetric examinations.

The material surveillance program supports the requirements of 10 CFR Part 50, Appendix H as described in Section 5.3.1.6. The vessel design and construction enables inspection in accordance with ASME Section XI. The ASME Class I inservice inspection program is described in Section 5.2.4.

05.03.03-2

Fracture toughness evaluations performed to date for thermal and radiation aging indicate that a thermal annealing of the vessel will not be necessary to maintain the required material properties over the life of the plant or even into a license extension. Any instance arising during plant operation that would necessitate this action will be addressed by the licensee in accordance with 10 CFR 50.66.

5.3.3.8 Threaded Fasteners

The program provided for ensuring the integrity of bolting and threaded fasteners is described in Section 3.13.