ArevaEPRDCPEm Resource

From: Pederson Ronda M (AREVA NP INC) [Ronda.Pederson@areva.com]
Sent: Wednesday, April 15, 2009 3:11 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. 202 (2295), FSARCh. 5
Attachments: RAI 202 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 202 Response US EPR DC.pdf" provides technically correct and complete responses to 2 of the 2 questions.

The following table indicates the respective page in the response document, "RAI 202 Response US EPR DC.pdf," that contains AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 202 — 05.03.01 – 6	2	2
RAI 202 — 05.03.01 – 7	3	3

This concludes the formal AREVA NP response to RAI 202, and there are no questions from this RAI for which AREVA NP has not provided responses.

Sincerely,

Ronda Pederson
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From: Getachew Tesfaye [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Wednesday, March 25, 2009 7:41 AM
To: ZZ-DL-A-USEPR-DL
Cc: Joel Jenkins; David Terao; Tarun Roy; Joseph Colaccino; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 202 (2295), FSARCh. 5

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on March 12, 2009, and discussed with your staff on March 24, 2009. No changes were made to the Draft RAI Questions 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: 408

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Created By: Ronda.Pederson@areva.com

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Response to

Request for Additional Information No. 202 (2295), Revision 0

3/25/2009

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 05.03.01 - Reactor Vessel Materials
Application Section: 5.3.1

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

Question 05.03.01-6:

Based on the applicant's response to RAI 64 Question 05.03.01-4, the staff has the following additional requests. Confirm that the predicted transition temperature shift (DRT_{NDT}) was calculated using the requirements of RG1.99 Revision 2. Also provide a markup copy of the FSAR indicating your response.

Response to Question 05.03.01-6:

License extension considerations are not required to be stated in the U.S. EPR FSAR Tier 2 by either Regulatory Guide 1.206 or the NRC Standard Review Plan Section 5.3.1 (Reactor Vessel Materials).

The predicted transition temperature shift is 89°F for circumferential weld #2 per Regulatory Guide 1.99, Revision 2 at the reactor pressure vessel (RPV) inside surface at 60 effective full power years (EFPY) using the limiting compositions of Cu and Ni contained in the weld and the highest initial reference temperature (RT_{NDT}). The requirements of ASTM E185-82 specify three capsules for the Reactor Vessel Surveillance Program (RVSP) with a predicted transition temperature shift less than 100°F and the third capsule is not required to be tested. Therefore, with four capsules in the RVSP, two capsules could be used for license renewal considerations.

In addition, at least enough material for four additional capsules will be archived when the RPV is fabricated. Additional capsules can be fabricated and inserted when capsules are removed. With a lead factor of 1.6 (see response to RAI 64 Question 05.03.01-5 (a)), a new capsule which is inserted when the first one is removed will have a fluence at 60 years of plant operation equivalent to about 80 years of fluence on the RPV.

The preceding changes the response to RAI 64 Question 05.03.01-4 by deleting reference to 10 CFR 50.61 and inserting reference to Regulatory Guide 1.99, Revision 2. Calculation of the predicted transition temperature shift is the same in both references; therefore, the resulting predicted shift does not change.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 05.03.01-7:

In RAI 64, Question 05.03.01-2, the staff requested that the applicant clarify the material used for the reactor pressure vessel (RPV) cladding. The applicant responded that the surfaces of the RPV that contact the reactor coolant are clad with either stainless steel or Ni-Cr-Fe alloy. Please specify the material (e.g. Alloy 308, Alloy 690) used to clad the RPV or provide a COL action item requiring any applicant that references the EPR Design to select the specific material used for cladding.

Response to Question 05.03.01-7:

The specific weld filler materials used to clad the inside surface of the RPV are Type 308L/309L austenitic stainless steel and Alloy 52/52M/152 as listed in Table 5.3-2 of the U.S. EPR FSAR. Austenitic stainless steel is primarily used for cladding applications; however, in areas where Alloy 690 attachments (e.g., the Radial Keys as shown on Figure 5.3-4 of the U.S. EPR) are to be welded to the clad surface, Alloy 52/52M/152 weld filler materials may be used to minimize the dissimilarity of material in the overall RPV pressure boundary, clad, attachment configuration.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.