ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Friday, February 17, 2012 5:41 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (AREVA); CRIBB Arnie (EXTERNAL AREVA); DELANO Karen (AREVA); HATHCOCK Phillip (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); GUCWA Len (EXTERNAL AREVA); WILLIAMSON Rick (AREVA); BALLARD Bob (AREVA)
Subject: DRAFT Response to U.S. EPR Design Certification Application RAI No. 523 (6157), FSAR Ch. 15, Question 15.06.05-115
Attachments: RAI 523 15.06.05-115 Response US EPR DC - DRAFT.pdf

Getachew,

Attached is a draft response for RAI 523, Question 15.06.05-115 in advance of the final response date of March 28, 2012 shown below.

Please let me know if the staff has 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: Thursday, December 01, 2011 3:31 PM
To: Getachew.Tesfaye@nrc.gov
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); GUCWA Len (External RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 523 (6157), FSAR Ch. 15

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 523 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 523 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 523 — 15.06.05-115	2	2

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

Question #	Response Date
RAI 523 — 15.06.05-115	March 28, 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

From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Thursday, November 03, 2011 7:09 PM
To: ZZ-DL-A-USEPR-DL
Cc: Lu, Shanlai; Forsaty, Fred; Donoghue, Joseph; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 523 (6157), FSAR Ch. 15

Attached please find the subject request for additional information (RAI). A draft of the RAI was provided to you on October 28, 2011, and on November 3, 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: 3762

Mail Envelope Properties (2FBE1051AEB2E748A0F98DF9EEE5A5D4AE9636)

Subject: DRAFT Response to U.S. EPR Design Certification Application RAI No. 523 (6157), FSAR Ch. 15, Question 15.06.05-115
Sent Date: 2/17/2012 5:41:20 PM
Received Date: 2/17/2012 5:40:53 PM
From: WILLIFORD Dennis (AREVA)

Created By: Dennis.Williford@areva.com

Recipients:
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Tracking Status: None
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Tracking Status: None

Post Office: auscharmx02.adom.ad.corp

Files	**Size**	**Date & Time**
MESSAGE	3148	2/17/2012 5:40:53 PM
RAI 523 15.06.05-115 Response US EPR DC - DRAFT.pdf	520631	

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

Response to

Request for Additional Information No. 523

11/03/2011

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 15.06.05 - Loss of Coolant Accidents Resulting From Spectrum of Postulated Piping Breaks Within the Reactor Coolant Pressure Boundary
Application Section: 15.06.05

QUESTIONS for Reactor System, Nuclear Performance and Code Review (SRSB)

Question 15.06.05-115:

a. As part of EPR LOCA long term cooling evaluation, AREVA is planning to address the in-vessel downstream effect considering the accumulation of debris on the surface of the fuel rod surface. Demonstrate that, if a debris bed is developed and covers the fuel rod surface around the spacer grid, the localized heat transfer is still sufficient to maintain the fuel rod surface temperature below 800°F.

b. In its original submittal of the strainer design technical report, AREVA assumed that the debris would not reach the reactor core until 900 seconds into the LOCA. Provide the basis of this assumption and demonstrate that the selection of 900 seconds to establish the acceptance criteria is conservative.

Response:

a) If a debris bed develops and covers the fuel rod surface around the spacer grid, the localized heat transfer will still be sufficient to maintain fuel rod surface temperature below 800°F. The peak clad temperature at 3 hours is approximately 375°F. Only a very small area (< 0.1percent) of the fuel rod heat transfer surface area would be restricted by debris. This debris has been shown to be permeable. Observations during the fuel assembly tests of the debris build up, including the small surface area affected and porous debris bed, show that fuel rod heat up from 375°F to 800°F would be highly unlikely.

b) The basis of the 900 seconds and conservatism is explained in Section F.3.4.1 of Technical Report ANP-10293P Rev. 4.

FSAR Impact:

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