ArevaEPRDCPEm Resource

From: BRYAN Martin (EXTERNAL AREVA) [Martin.Bryan.ext@areva.com]
Sent: Monday, July 19, 2010 4:01 PM
To: Tesfaye, Getachew
Cc: DELANO Karen (AREVA); ROMINE Judy (AREVA); BENNETT Kathy (AREVA); NOXON David (AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 424 (4789), FSARCh. 12, NEW PHASE 4 RAI
Attachments: RAI 424 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 424 Response US EPR DC.pdf," provides the schedule for technically correct and complete responses to these questions.

The following table indicates the respective pages in the response document, "RAI 424 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 424 — 12.03-12.04-22	2	2

The schedule for technically correct and complete response to the one question is provided below.

Question #	Response Date
RAI 424 — 12.03-12.04-22	October 29, 2010

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
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Martin.Bryan.ext@areva.com

From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Wednesday, June 23, 2010 2:06 PM
To: ZZ-DL-A-USEPR-DL
Cc: Bernal, Sara; Roach, Edward; Patel, Jay; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 424 (4789), FSARCh. 12, NEW PHASE 4 RAI

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on June 17, 2010, and on June 23, 2010, 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: 1715

Mail Envelope Properties (BC417D9255991046A37DD56CF597DB7106E93C82)

Subject: Response to U.S. EPR Design Certification Application RAI No. 424 (4789), FSARCh. 12, NEW PHASE 4 RAI
Sent Date: 7/19/2010 4:01:02 PM
Received Date: 7/19/2010 4:02:12 PM
From: BRYAN Martin (EXTERNAL AREVA)

Created By: Martin.Bryan.ext@areva.com

Recipients:
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Tracking Status: None

Post Office: AUSLYNCMX02.adom.ad.corp

Files	**Size**	**Date & Time**
MESSAGE	2071	7/19/2010 4:02:12 PM
RAI 424 Response US EPR DC.pdf	13693	

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

Response to

Request for Additional Information No. 424(4789), Revision 1

6/23/2010

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 12.03-12.04 - Radiation Protection Design Features
Application Section: Section 12.3 Radiation Protection Design Features

QUESTIONS for Health Physics Branch (CHPB)

Question 12.03-12.04-22:

OPEN ITEM (New Phase 4 RAI)

In response to RAI 254 Question 12.03-12.04-14, the applicant stated that gates would be added to those stairs within the reactor building annulus that provide access to the spent fuel transfer tube. These gates would prevent workers from accessing the tube during spent fuel transfer when dose rates in the area are high enough to be lethal (radiation levels during fuel movement can reach anywhere between 10,000 and 50,000 rad per hour). This response is acceptable to the staff.

However, there appears to be another potential for worker overexposures associated with the seismic gaps in the concrete shielding around the spent fuel transfer tube. FSAR Tier 2, Figure 12.3-9, "Containment Building Section Looking Plant-East at the Reactor Cavity, Core Internals Storage, Transfer Pit, and Spreading Area," shows the length of the transfer tube as it extends between the reactor building and the fuel building. Figure 12.3-9 shows that while the reactor building annulus has a seismic gap with a labyrinth design to prevent streaming from the spent fuel transfer tube, the concrete shielding above and below the transfer tube *inside* containment (and adjacent to the containment wall) appears to have non-shielded seismic gaps that are a potential streaming path during fuel transfer. In addition, Figure 12.3-9 shows the rooms above and below the transfer tube and adjacent to the containment wall as being locations that will be accessed by workers, thereby creating a situation where radiation from moving or stuck spent fuel will be streaming through seismic gaps directly into potentially occupied rooms. However, the staff also recognizes that these gaps may be necessary to facilitate containment liner inspections as stated in FSAR tier 2, Section 3.8:

> *"Gaps are provided between the liner and RB internal structures concrete structural elements, which provide space necessary to inspect the liner at wall and floor locations inside containment."*

GDC 61 states, in part, that the fuel storage and handling system shall be designed to assure adequate safety under normal and postulated accident conditions, including but not limited to, adequate shielding. Therefore to demonstrate compliance with GDC 61, provide additional design detail on the seismic gaps around the spent fuel transfer tube inside containment, including any design features which would prevent radiation streaming during spent fuel transfer. If there is no shielding associated with these gaps due to containment liner inspections or other considerations, provide information on the dimensions of the gap and on the transient dose rates that would be present in the rooms below and above the transfer tube during fuel transfer. If the seismic gaps result in radiation streaming, revise the FSAR to include this information, including calling out the impacted rooms and associated dose rates.

Response to Question 12.03-12.04-22:

A response to this question will be provided by October 29, 2010.