ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Wednesday, April 10, 2013 5:52 PM
To: Snyder, Amy
Cc: Clark, Phyllis; DELANO Karen (AREVA); LEIGHLITER John (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); WILLS Tiffany (AREVA); HONMA George (EXTERNAL AREVA); KANE Steve (EXTERNAL AREVA)
Subject: Response to U.S. EPR Design Certification Application FNAL RAI No. 570 (6989), FSAR Ch.12
Attachments: RAI 570 Response US EPR DC.pdf

Amy,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 570 Response US EPR DC.pdf" provides a schedule since a technically correct and complete response to this one question cannot be provided at this time.

The following table indicates the respective pages in the response document, "RAI 570 Response US EPR DC.pdf" that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 570 — 12.03-12.04-32	2	3

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

Question #	Response Date
RAI 570 — 12.03-12.04-32	April 12, 2013

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: Snyder, Amy [mailto:Amy.Snyder@nrc.gov]
Sent: Tuesday, March 12, 2013 12:34 PM
To: ZZ-DL-A-USEPR-DL
Cc: Stutzcage, Edward; McCoppin, Michael; Clark, Phyllis
Subject: U.S. EPR Design Certification Application FNAL RAI No. 570 (6989), FSAR Ch.12

RESENT-

Corrected the RAI question number from 12.03-32 to 12.03-12.04-32

See attached file.
Thank you

Amy

Attached, please find the subject requests for additional information (RAI). An advanced RAI was provided to you on January 18,2013, and discussed with your staff on February 4, 2013. On February 8, 2013, the staff made substantive changes/ additional changes to the January 18, 2013 advanced RAI beyond what was discussed, based on the discussion during the February 4, 2013 teleconference. On February 22, 2013, AREVA made a suggested change to the wording of the RAI. On February 27, 2013 staff accepted AREVA's modification but added additional wording.

On March 7, 2013, you informed us that the modified advanced RAI is clear and no further clarification is needed and that the RAI does not contain any proprietary information. 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 or April 11, 2013**, 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."

Thank You,

Amy

Amy Snyder, U.S. EPR Design Certification Lead Project Manager
Licensing Branch 1 (LB1)
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Office of New Reactors
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Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 4385

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Subject: Response to U.S. EPR Design Certification Application FNAL RAI No. 570 (6989), FSAR Ch.12
Sent Date: 4/10/2013 5:51:30 PM
Received Date: 4/10/2013 5:51:36 PM
From: WILLIFORD Dennis (AREVA)

Created By: Dennis.Williford@areva.com

Recipients:
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Tracking Status: None
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"Snyder, Amy" <Amy.Snyder@nrc.gov>
Tracking Status: None

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Files	**Size**	**Date & Time**
MESSAGE	3165	4/10/2013 5:51:36 PM
RAI 570 Response US EPR DC.pdf	64748	

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

Response to

Request for Additional Information No.570

3/11/2013
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: __
SRSB Branch

Question 12.03-12.04-32:

This is a follow up to the applicant's response to RAI 548, Supplement 1, Question 12.03-12.04-30.

10 CFR 20.1601 and 10 CFR 20.1602 require that appropriate controls are in place to control access to high and very high radiation areas.

Based on the applicant's supplemental response to RAI 548 and information provided in clarification calls, staff has the following questions:

1. In response to question 4 of the supplemental questions to Question 12.03-12.04-30, the applicant stated, "The design of the locking mechanism for the large radiation protection doors will be such that the shear pin will engage after door closure and disengage prior to door opening such that damage to the shear pin will not occur." The applicant has since stated that the above statement does not only apply to the "large" radiation protection doors, but to all radiation protection doors in containment. Please include a similar statement to the above, removing the word "large," in FSAR Section 12.3.1.8.1. This information is necessary to ensure compliance with the access controls required by 10 CFR 20.1601 and 20.1602.
2. In the basis section of U.S. EPR Technical Specification 3.6.10, the applicant states that a differential pressure of 2.9 psid +20%, is assumed in the containment analysis. However, it is unclear at what pressure the shear pin is designed to break. For all radiation protection doors in containment (not only the doors listed in Technical Specification 3.6.10), please indicate at what pressure or force, the sheer pins are designed to break. In addition, for all radiation protection doors in containment, please include a statement in FSAR Chapter 12 ensuring that a shear pin will not break with a person pulling or pushing on a door with a reasonable pulling or pushing force (without using extraordinary force, tools, equipments, etc). This information is necessary to ensure compliance with the access controls required by 10 CFR 20.1601 and 20.1602, and is a follow up to the response to question 5 of the supplemental questions to Question 12.03-12.04-30.

3. 10 CFR 20.1601 (d) requires that the licensee establish controls in a way that does not prevent individuals from leaving a high or very high radiation area. Therefore, a door to a high or very high radiation area must be designed in a way that would allow an individual inadvertently locked inside such an area, to egress from the area.

a. U.S. EPR Technical Specification 3.6.10 states that the listed radiation protection doors in containment must begin to open with an opening torque of less than 500 ft-lbs. This test is preformed with the shear pin disengaged and is necessary to ensure that the doors have not developed excessive friction (freedom of movement), to ensure the doors can meet their safety-related function. The applicant has confirmed that this is the maximum allowable torque to open the doors. However, 10 CFR 20.1601 and 10 CFR 20.1602 require that controls be in place in a way that does not prevent individuals from leaving high and very high radiation areas. Staff is concerned that if an individual gets locked inside an area with a door that does not open until nearly 500 ft-lbs torque is applied, they may not be able to egress from an area unassisted. Please explain how an individual will egress from such an area. The information provided should be sufficient to ensure emergency egress can occur not only from the doors listed in the Technical Specifications, but from all radiation protection doors in containment. Any unique

features being utilized that would assist someone in pushing open these doors should be listed in the FSAR.

If the applicant decides to alter Technical Specification 3.6.10 or develop a separate test from Technical Specification 3.6.10, the applicant must ensure that the doors are tested at a frequency sufficient to provide reasonable assurance that the doors will maintain their ability to adequately allow emergency egress. The applicant should take appropriate actions to restore function of the doors if the test results are unsatisfactory . In addition, the applicant should specify a maximum allowable time that may elapse until a door whose test results are unsatisfactory, must be fixed. Finally, the applicant must ensure that if a failure of a test does occurs, that access to areas continue to be appropriately controlled in accordance with EPR technical specifications 5.7.1 and 5.7.2, 10 CFR 1601(d), and 10 CFR 1602, as applicable. The FSAR should be updated, as appropriate, to address the above items.

b. FSAR Table 3.8-18 indicates that Doors 8 and 9 on the +5 ft elevation of containment are motor operated rolling doors without hinges and are considerably large. These doors provide access to areas with potentially significant dose rates (FSAR Figure 12.3-13 appears to list these areas as up to 500 Rad/hour). While staff realizes that dose rates will likely be considerably lower when these areas are being accessed, the potential exists for someone to be inadvertently locked inside one of these areas. Therefore, the applicant must provide information in the FSAR describing how someone would be able to egress from these areas if inadvertently locked inside. The applicant must include information in the FSAR describing how someone would egress from these areas if locked inside and the motor operation of the doors fail (such as during a power outage or motor failure).

c. FSAR Section 12.3.1.8 provides general statements regarding compliance with 10 CFR 20.1601 and 10 CFR 20.1602. However, there is nothing in FSAR Section 12.3.1.8, indicating that high and very high radiation areas (in general) are designed in a way that permits emergency egress (FSAR Section 12.3.1.8.1 discusses emergency egress from the radiation protection doors in containment, but this statement does not include emergency egress from the other doors in containment or egress from other high or very high radiation areas). Therefore, please update FSAR Section 12.3.1.8 to include a general statement indicating that emergency egress is possible from all accessible areas that fall within the requirements of 10 CFR 20.1601 and 10 CFR 20.1602.

Response to Question 12.03-12.04-32:

A response to this question will be provided by April 12, 2013.