ArevaEPRDCPEm Resource

From: Pederson Ronda M (AREVA NP INC) [Ronda.Pederson@areva.com]
Sent: Friday, November 20, 2009 7:40 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); PANNELL George L (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 321, FSARCh. 7
Attachments: RAI 321 Response US EPR DC.pdf

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information RAI 321. The attached file, "RAI 321 Response US EPR DC.pdf," provides a schedule since a technically correct and complete response to the 3 questions is not provided.

The following table indicates the respective page in the response document, "RAI 321 Response US EPR DC.pdf," that contained AREVA NP's response to each of the subject questions.

Question #	Start Page	End Page
RAI 321 — 07.01-18	2	2
RAI 321 — 07.01-19	3	3
RAI 321 — 07.01-20	4	4

A complete answer is not provided for the 3 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 321 — 07.01-18	January 29, 2010
RAI 321 — 07.01-19	January 29, 2010
RAI 321 — 07.01-20	January 29, 2010

Sincerely,

Ronda Pederson
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From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Thursday, October 29, 2009 7:26 PM
To: ZZ-DL-A-USEPR-DL
Cc: Spaulding, Deirdre; Jackson, Terry; Guardiola, Maria; Canova, Michael; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 321 (3910), FSARCh. 7

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on October 26, 2009, and discussed with your staff on October 29, 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: 982

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Subject: Response to U.S. EPR Design Certification Application RAI No. 321, FSARCh. 7
Sent Date: 11/20/2009 7:39:33 PM
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From: Pederson Ronda M (AREVA NP INC)

Created By: Ronda.Pederson@areva.com

Recipients:
"BENNETT Kathy A (OFR) (AREVA NP INC)" <Kathy.Bennett@areva.com>
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Tracking Status: None

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MESSAGE	2343	11/20/2009 7:39:35 PM
RAI 321 Response US EPR DC.pdf	64657	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
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Expiration Date:
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Response to

Request for Additional Information No. 321 (3910), Revision 1

10/29/2009

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 07.01 - Instrumentation and Controls - Introduction
Application Section: 7.1

QUESTIONS for Instrumentation, Controls and Electrical Engineering 1 (AP1000/EPR Projects) (ICE1)

Question 07.01-18:

Demonstrate that software quality, hardware qualification, defense-in-depth and diversity, are addressed for the digital systems that are embedded in the plant components. Additionally, identify the ITAAC that addresses the quality of the embedded digital systems.

The staff is aware that AREVA NP plans to purchase safety-related components (e.g., diesel generators, circuit breakers, etc.) which contain embedded digital systems. Quality requirements are delineated in 10 CFR 50.55a(a)(1); 10 CFR Part 50, Appendix A, General Design Criteria (GDC) 1; and 10 CFR Part 50, Appendix B. GDC 22 addresses diversity. 10 CFR 50.55a(h) incorporates by reference IEEE Std. 603-1991 in which contains Clause 5.3, "Quality," and Clause 5.4 "Equipment Qualification." 10 CFR 52.47 states in part that a description shall be sufficient to permit understanding of the system design. Additional information is needed in order for the staff to make a reasonable assurance determination in regard to software quality, hardware qualification, defense-in-depth and diversity, with respect to the use of digital systems embedded in plant components.

Response to Question 07.01-18:

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

Question 07.01-19:

Describe the software development process (SDP) used for the video display that will be used in the safety information and control systems (SICS), particularly with respect to identification of aspects that differ from the SDP used for the TELEPERM XS.

The applicant needs to provide a description of the differences in the SDP for the safety-related video display. The staff needs to be able to determine acceptability with regards to the quality requirements of 10 CFR 50.55a(a)(1); 10 CFR Part 50, Appendix A, General Design Criteria 1; 10 CFR Part 50, Appendix B; and 10 CFR 50.55a(h) are met.

Response to Question 07.01-19:

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

Question 07.01-20:

State whether or not the single-sided distribution will be used in the U.S. EPR DCD. If the single-sided distribution will be used, then provide detailed discussion which demonstrates how AREVA NP will meet the 95/95 criteria of Reg. Guide 1.105 using the single-sided distribution.

10 CFR 50.36 states in part, that where a limiting safety setting system setting is specified for a variable on which a safety limit has been placed, the setting be so chosen that automatic protective action will correct the abnormal situation before a safety limit is exceeded. Regulatory Guide 1.105, "Setpoints for Safety Related Instrumentation," Revision 3, states that "The 95/95 tolerance limit is an acceptable criterion for uncertainties." U.S. EPR Instrument Setpoint Methodology, ANP-10275P, Revision 0, was accepted by NRC and may utilize the one-sided distribution for setpoint calculation if a channel approaches a trip in only one direction. In order to obtain the desired 95 percent probability for one-sided normal distribution, the trip setpoints must be set 1.645 standard deviations from the design basis analytical limit. The staff requests AREVA NP to state whether the one-sided distribution with a reduction factor would be used, and if it will be used, to provide the technical basis demonstrating how the use of the one-sided distribution with the 1.645 reduction factor meets the 95/95 criteria of Regulatory Guide 1.105, Revision 3.

Response to Question 07.01-20:

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