ArevaEPRDCPEm Resource

From: BRYAN Martin (EXTERNAL AREVA) [Martin.Bryan.ext@areva.com]
Sent: Friday, October 15, 2010 12:51 PM
To: Tesfaye, Getachew
Cc: DELANO Karen (AREVA); ROMINE Judy (AREVA); BENNETT Kathy (AREVA); WILLIFORD Dennis (AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 446, FSAR Ch. 12, OPEN ITEM
Attachments: RAI 446 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 446 Response US EPR DC.pdf" provides a technically correct and complete response to the one question.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 446 Question 12.03-12.04-24.

The following table indicates the respective pages in the response document, "RAI 446 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 446— 12.03-12.04-24	2	2

This concludes the formal AREVA NP response to RAI 446, and there are no questions from this RAI for which AREVA NP has not provided responses.

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Friday, September 24, 2010 10:45 AM
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. 446 (4916), FSAR Ch. 12, OPEN ITEM

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on September 16, 2010, and on September 21, 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: 2138

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Sent Date: 10/15/2010 12:51:17 PM
Received Date: 10/15/2010 12:51:25 PM
From: BRYAN Martin (EXTERNAL AREVA)

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

Recipients:
"DELANO Karen (AREVA)" <Karen.Delano@areva.com>
Tracking Status: None
"ROMINE Judy (AREVA)" <Judy.Romine@areva.com>
Tracking Status: None
"BENNETT Kathy (AREVA)" <Kathy.Bennett@areva.com>
Tracking Status: None
"WILLIFORD Dennis (AREVA)" <Dennis.Williford@areva.com>
Tracking Status: None
"Tesfaye, Getachew" <Getachew.Tesfaye@nrc.gov>
Tracking Status: None

Post Office: AUSLYNCMX02.adom.ad.corp

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MESSAGE	2203	10/15/2010 12:51:25 PM
RAI 446 Response US EPR DC.pdf	93427	

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

Response to

Request for Additional Information No. 446(4916), Revision 1

9/24/2010

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 12.3-12.4, Radiation Protection Design Features

QUESTIONS for Health Physics Branch (CHPB)

Question 12.03-12.04-24:

OPEN ITEM

Follow-up to Open Item 295, Question 12.3-12.4-18

According to RG 1.206, Section C.I.12.4, applicants should provide the calibration methods and frequency for the installed area radiation monitors to demonstrate compliance with 10 CFR 20.1501. The applicant's response to RAI 295, Question 12.3-12.4-18, to address the regulation above, is satisfactory except for the following:

The applicant revised chapter 7 of the FSAR to reference ISATR67.04.09-2005. Since this guidance document has not be reviewed and approved by the NRC for use in determining setpoints for safety- or non-safety- related monitors, the Staff's determination is that it should not be referenced in chapter 7 of the FSAR. Please delete this text.

Response to Question 12.03-12.04-24:

U.S. EPR FSAR Tier 2, Section 7.1, Reference 41, ISA-TR67.04.09-2005, “Graded Approaches to Setpoint Determination,” The Instrumentation, Systems, and Automation Society, October 2005, will be deleted.

FSAR Impact:

U.S. EPR FSAR Tier 2, Section 7.1.2.4.7 and Section 7.1.3 will be revised as described in the response and indicated on the enclosed markup.

U.S. EPR Final Safety Analysis Report Markups

7.1.2.4.5 RG 1.75 – Criteria for Independence of Electrical Safety Systems

The applicable I&C systems listed in Table 7.1-2 shall be designed to meet the guidance of RG 1.75, which endorses IEEE Std 384-1992 (Reference 12) with modifications. The design features that provide for independence are described in Section 7.1.1.6.4.

7.1.2.4.6 RG 1.97 – Criteria for Accident Monitoring Instrumentation for Nuclear Power Plants

The applicable I&C systems listed in Table 7.1-2 shall be designed to meet the guidance of RG 1.97, which endorses IEEE Std 497-2002 (Reference 13) with modifications. Accident monitoring instrumentation is described in Section 7.5.1.2.

7.1.2.4.7 RG 1.105 – Setpoints for Safety-Related Instrumentation

The setpoints for the applicable I&C systems listed in Table 7.1-2 shall be developed using the guidance of RG 1.105, with the exception of those differences described in Instrument Setpoint Topical Report (ANP-10275P) (Reference 14). The setpoint methodology described in ANP-10275P (Reference 14) implements the guidance of Setpoints for Nuclear Safety Related Instrumentation (ANSI/ISA-67.04.01-2006) (Reference 15) which accounts for recent industry advances in setpoint methodologies. ANP-10275P (Reference 14) provides justification for its use as an acceptable method for calculating setpoints. The single-sided measurement uncertainty reduction factor shall not be used in determining U.S. EPR setpoints. ~~Additional guidance for setpoints associated with both safety-related and non-safety-related systems is described in ISA-TR67.04.09-2005, "Graded Approaches to Setpoint Determination" (Reference 41).~~

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7.1.2.4.8 RG 1.118 – Periodic Testing of Electric Power and Protection Systems

The applicable I&C systems listed in Table 7.1-2 are designed to meet the guidance of RG 1.118, which endorses IEEE Std 338-1987 (Reference 16) with modifications. The measures for continuous self testing and periodic testing of the protection system actuation functions are described in Section 7.2.2.3.5 and Section 7.3.2.3.6.

7.1.2.4.9 RG 1.151 – Instrument Sensing Lines

The applicable I&C systems listed in Table 7.1-2 are designed to meet the guidance of RG 1.151, which endorses ISA-S67.02-1980 (Reference 17) with modifications. The design features of the controls systems that minimize and limit challenges to the PS failures of a single sensing line common to both protection and control functions are described in Section 7.7. The redundancy and independence of the PS that maintain functionality in the event of a single sensor failure are described in Section 7.1, Section 7.2, and Section 7.3.

34. BTP 7-17, "Guidance on Self-Test and Surveillance Test Provisions," U.S. Nuclear Regulatory Commission, Standard Review Plan, Branch Technical Position, Rev. 3, March 2007.

35. BTP 7-18, "Guidance on the Use of Programmable Logic Controllers in Digital Computer-Based Instrumentation and Control Systems," U.S. Nuclear Regulatory Commission, Standard Review Plan, Branch Technical Position, Rev. 3, March 2007.

36. BTP 7-19, "Guidance for Evaluation of Diversity and Defense-In-Depth in Digital Computer-Based Instrumentation and Control Systems," U.S. Nuclear Regulatory Commission, Standard Review Plan, Branch Technical Position, Rev. 3, March 2007.

37. BTP 7-21, "Guidance on Digital Computer Real-Time Performance," U.S. Nuclear Regulatory Commission, Standard Review Plan, Branch Technical Position, Rev. 3, March 2007.

38. BTP 5-2, "Overpressurization Protection of Pressurized-Water Reactors While Operating at Low Temperatures," U.S. Nuclear Regulatory Commission, Standard Review Plan, Branch Technical Position, Rev. 3, March 2007.

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39. EMF-2341(P), Revision 1, "Generic Strategy for Periodic Surveillance Testing of TELEPERM™ XS Systems in U.S. Nuclear Generating Stations," Siemens Power Corporation, March 2000.

40. EPRI TR-106439, "Guidance on Evaluation and Acceptance of Commercial Grade Digital Equipment for Nuclear Safety Applications," Electric Power Research Institute, October 1996.

41. Deleted.~~ISA-TR67.04.09-2005, "Graded Approaches to Setpoint Determination," The Instrumentation, Systems, and Automation Society, October 2005.~~

42. ANP-10266A, Revision 1, "AREVA NP Inc. Quality Assurance Plan (QAP) for Design Certification of the U.S. EPR Topical Report," AREVA NP Inc., April 2007.

43. Generic Letter 85-06, "Quality Assurance Guidance for ATWS Equipment that is Not Safety-Related," U.S. Nuclear Regulatory Commission, April 16, 1985.