

ArevaEPRDCPEm Resource

From: BRYAN Martin (EXT) [Martin.Bryan.ext@areva.com]
Sent: Monday, April 05, 2010 5:01 PM
To: Tesfaye, Getachew
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); PANNELL George L (AREVA NP INC); LENTZ Tony F (EXT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 315 (3878), FSARCh. 16 OPEN ITEM
Attachments: RAI 315 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 315 Response US EPR DC.pdf" provides a schedule since a technically correct and complete response to the 4 questions is not provided.

The following table indicates the respective pages in the response document, "RAI 315 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 315 — 16-318	2	2
RAI 315 — 16-319	3	3
RAI 315 — 16-320	4	4
RAI 315 — 16-321	5	5

A complete answer is not provided for the 4 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 315 — 16-318	May 20, 2010
RAI 315 — 16-319	May 20, 2010
RAI 315 — 16-320	May 20, 2010
RAI 315 — 16-321	May 20, 2010

Sincerely,
Martin (Marty) C. Bryan
Licensing Advisory Engineer
AREVA NP Inc.
Tel: (434) 832-3016
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From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Wednesday, November 18, 2009 6:59 PM
To: ZZ-DL-A-USEPR-DL
Cc: Le, Hien; DeMarshall, Joseph; Kowal, Mark; Hearn, Peter; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 315 (3878), FSARCh. 16 OPEN ITEM

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on October 21, 2009, and discussed with your staff on November 18, 2009. No changes were made to the draft RAI questions as a result of that discussion. The question in this RAI is an OPEN ITEM in the safety evaluation report for Chapter 16 for Phases 2 and 3 reviews. As such, the schedule we have established for

your application assumes technically correct and complete responses prior to the start of Phase 4 review. For any RAI that cannot be answered prior to the start of Phase 4 review, it is expected that a date for receipt of this information will be provided so that the staff can assess how this information will impact the published schedule.

Thanks,

Thanks,
Getachew Tesfaye
Sr. Project Manager
NRO/DNRL/NARP
(301) 415-3361

Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 1289

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Subject: Response to U.S. EPR Design Certification Application RAI No. 315 (3878),
FSARCh. 16 OPEN ITEM
Sent Date: 4/5/2010 5:01:11 PM
Received Date: 4/5/2010 5:01:16 PM
From: BRYAN Martin (EXT)

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

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Files	Size	Date & Time
MESSAGE	2343	4/5/2010 5:01:16 PM
RAI 315 Response US EPR DC.pdf		67245

Options

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

Response to

Request for Additional Information No. 315 (3878), Revision 0

11/18/2009

U. S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 16 - Technical Specifications

Application Section: TS 3.3

QUESTIONS for Technical Specification Branch (CTSB)

Question 16-318:**OPEN ITEM****Follow-up to RAI 103, Question 16-137.**

In RAI-SRP16-CTSB-103/137, the staff requested a technical justification regarding the omission of safety-related Reactor Trip (RT) signals in Table 3.3.1-2, Section A (Reactor Trip). FSAR Section 7.2.1.2 identifies the Safety Injection System (SIS) Actuation, Emergency Feedwater System (EFWS) Actuation, and the Manual RT signals from the Safety Information and Control System (SICS), as safety-related RT initiation signals. The applicant concludes that these RT initiation signals should not be included in Technical Specifications on the basis that 1) they are not credited in the EPR safety analysis as implied by their absence from Chapter 15 Tables 15.0-7 and 15.0-8, and 2) they do not satisfy Criterion 3 of 10 CFR 50.36 with regard to being part of the primary success path of a safety sequence analysis. NUREG-1431 includes both the Manual RT and the SIS Actuation initiation signals in comparable LCO 3.3.1, Reactor Trip System Instrumentation. The Manual RT initiation ensures that the control room operator has the capability to initiate a reactor trip at any time. This capability is critical whenever a parameter is rapidly trending toward its Trip Setpoint. Regarding the SIS Actuation, NUREG-1431 Bases B 3.3.1 specifically states that initiation of a reactor trip upon any signal that initiates a safety injection is a condition of acceptability for the LOCA. The EFWS Actuation is the primary success path which functions to mitigate the effects of a loss of Main Feedwater (MFW) event, providing a safety classified means to remove residual heat via the steam generators (SGs). FSAR Section 7.3.1.2.2 identifies a number of failure mechanisms that can result in a loss of MFW, including a Loss of Offsite Power, which is a highly credible event. In addition, it remains unclear how the applicant intends to ensure that surveillance testing requirements associated with the referenced safety-related trip signals will be met if they are not included in the Technical Specifications. The staff finds that the response does not provide the requisite technical justification to warrant exclusion of the safety-related RT initiation signals from Technical Specifications. This issue has been identified as an open item in the SER w/OI for Chapter 16 of the EPR FSAR

Response to Question 16-318:

A response to this Question will be provided by May 20, 2010.

Question 16-319:**OPEN ITEM****Follow-up to RAI 103, Question 16-160.**

In RAI-SRP16-CTSB-103/160, the staff requested an explanation regarding the mode applicability for Hot Leg Temperature Wide Range (WR) instrumentation with respect to ESFAS Function B.6.c, Emergency Feedwater System (EFWS) Isolation on High SG Level (Affected SGs). Although this issue is identified and addressed under RAI-SRP16-CTSB-103/144, the staff questions the applicant's removal of the EFWS Isolation on High SG Level function from Technical Specifications as indicated in the response to Question 16-160 on page 30 of 63. The applicant concludes that ESFAS Function B.6.c should not be included in Technical Specifications on the basis that 1) the function is no longer credited in U.S. EPR FSAR Tier 2, Table 15.0-8 and 2) Manual operator action is assumed to mitigate a SG tube rupture (SGTR) event with no automatic actions. The EFWS Isolation function automatically mitigates the effects of a SGTR. The EFWS is isolated at a high level setpoint to avoid an uncontrolled SG level increase, subsequent SG overfill, and potential radioactive water discharge via the main steam relief train. If the EFWS system is actuated to mitigate the effects of a loss of Main Feedwater (MFW) event, then isolation of the EFWS system is considered the primary success path for mitigating a SGTR. In addition, the applicant has not demonstrated that the surveillance testing requirements associated with the EFWS Isolation function are met if they are not included in the Technical Specifications. Exclusion from Table 15.0-8 and reliance upon manual operator action to avoid an uncontrolled SG level increase and potential radioactive discharge, do not necessarily warrant exclusion of the EFWS Isolation function from the Technical Specifications. This issue has been identified as an open item in the SER w/OI for Chapter 16 of the EPR FSAR.

Response to Question 16-319:

A response to this Question will be provided by May 20, 2010.

Question 16-320:**OPEN ITEM****Follow-up to RAI 110, Question 16-215.**

In RAI-SRP16-CTSB-110/215, the staff requested the information necessary to ensure that EPR Bases B 3.3.3, Remote Shutdown System (RSS), includes all of the functions, control circuits, transfer switches and instrumentation necessary to meet the requirements of GDC 19, Control Room. The response states that the applicant has revised its design and regulatory compliance approach with regards to the Remote Shutdown System and its associated Technical Specifications. Instead of specifying the required functions in U.S. EPR FSAR Tier 2, Chapter 16, Technical Specification Bases Section 3.3.3, the Bases is being revised to state that the displays and controls at the RSS are functionally the same as the displays and controls normally used by the operator to achieve and maintain Mode 3 from the main control room. Given the revised specification, the applicant has not identified the actions that would be taken if a single sensor associated with one of the RSS functions became inoperable. The entire Remote Shutdown Station apparently defaults to an inoperable status since the specification as written, removes all references to "required Functions" in the LCO. The intent is not clearly understood. The staff was unable to make a conclusive determination that the applicant's revised design and regulatory compliance approach meets the requirements of GDC 19, on the basis of the information provided. This issue has been identified as an open item in the SER w/OI for Chapter 16 of the EPR FSAR.

Response to Question 16-320:

A response to this Question will be provided by May 20, 2010.

Question 16-321:

OPEN ITEM

Follow-up to RAI 110, Question 16-222.

In RAI-SRP16-CTSB-110/222, the staff requested an explanation regarding the Bases statement on page B 3.3.1-9 of Rev. 0, which reads “The implementation of manual system level actuation of ESF functions and the priority between the automatic functions of the PS and the manual system level initiation is determined on a case-by-case basis.” The response states that because the possibility exists for contradictory protective orders (one automatic, one manual) to be given to a function simultaneously, priority must be established between the two functions. Although the response discusses compliance with requirements for manual initiation identified in IEEE std 603-1998, it does not adequately address the staff’s question regarding the operator’s ability to effectively implement manual protective actions in all cases. The applicant has deleted the statement on the basis that it is not necessary to the Technical Specification Bases discussion and could be confusing. This issue is identified as an open item in the SER w/OI for Chapter 16 of the EPR FSAR.

Response to Question 16-321:

A response to this Question will be provided by May 20, 2010.