

ArevaEPRDCPEm Resource

From: BRYAN Martin (EXTERNAL AREVA) [Martin.Bryan.ext@areva.com]
Sent: Thursday, October 07, 2010 10:55 AM
To: Tesfaye, Getachew
Cc: DELANO Karen (AREVA); ROMINE Judy (AREVA); BENNETT Kathy (AREVA); LENTZ Tony (EXTERNAL AREVA); RYAN Tom (AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 300, FSAR Ch. 16 OPEN ITEM, Supplement 4
Attachments: RAI 300 Supplement 4 US EPR DC.pdf

Getachew,

AREVA NP Inc. provided responses to the four questions of RAI No. 300 on March 26, 2010. Supplement 1, Supplement 2, and Supplement 3 responses to RAI No. 300 were sent on May 3, 2010, June 15, 2010, and August 27, 2010, respectively, to provide a revised schedule.

The attached file, "RAI 300 Supplement 4 US EPR DC.pdf," provides a partial response.

The following table indicates the respective pages in the response document, "RAI 300 Supplement 4 US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 300 — 16-311, Part 16-129(b)	3	3
RAI 300 — 16-311, Part 16-130	4	4
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RAI 300 — 16-311, Part 16-144	8	8
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RAI 300 — 16-311, Part 16-147(c)	10	10
RAI 300 — 16-311, Part 16-147(d)	11	11
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RAI 300 — 16-313, Part 16-18	29	29
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RAI 300 — 16-314, Part 16-237(a)	34	34
RAI 300 — 16-314, Part 16-237(b)	35	35

The schedule for a technically correct and complete response to the remaining parts of the four questions remains unchanged and will be provided on October 21, 2010.

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: BRYAN Martin (External RS/NB)
Sent: Friday, August 27, 2010 12:00 PM
To: 'Tefaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); RYAN Tom (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 300, FSAR Ch. 16 OPEN ITEM, Supplement 3

Getachew,

AREVA NP provided technically correct and complete responses to 2 of the 6 questions on March 26, 2010. In a meeting with the NRC on April 27-28, 2010, it was agreed that further interactions should take place prior to formal submittal of the remaining 4 RAI responses. AREVA provided an updated schedule for the remaining 4 responses on May 3, 2010. AREVA provided an updated schedule for the remaining 4 responses on June 15, 2010 to allow for additional interaction with the NRC.

A revised schedule is provided below to allow additional time to address comments and have additional interaction with the staff on the four remaining questions.

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

Question #	Response Date
RAI 16 — 311	October 21, 2010
RAI 16 — 312	October 21, 2010
RAI 16 — 313	October 21, 2010
RAI 16 — 314	October 21, 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: BRYAN Martin (EXT)
Sent: Tuesday, June 15, 2010 2:32 PM
To: 'Tefaye, Getachew'
Cc: DELANO Karen V (AREVA NP INC); ROMINE Judy (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); RYAN

Tom (AREVA NP INC)

Subject: Response to U.S. EPR Design Certification Application RAI No. 300, FSAR Ch. 16 OPEN ITEM, Supplement 2

Getachew,

AREVA NP provided technically correct and complete responses to 2 of the 6 questions on March 26, 2010. In a meeting with the NRC on April 27-28, 2010, it was agreed that further interactions should take place prior to formal submittal of the remaining 4 RAI responses. AREVA provided an updated schedule for the remaining 4 responses on May 3, 2010.

Based on the stated availability of the NRC staff, as well as preparation time for their input to these interactions, AREVA is providing a revised schedule below.

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

Question #	Response Date
RAI 16 — 311	August 31, 2010
RAI 16 — 312	August 31, 2010
RAI 16 — 313	August 31, 2010
RAI 16 — 314	August 31, 2010

Sincerely,

Martin (Marty) C. Bryan
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From: BRYAN Martin (EXT)

Sent: Monday, May 03, 2010 5:55 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)

Subject: Response to U.S. EPR Design Certification Application RAI No. 300, FSAR Ch. 16 OPEN ITEM, Supplement 1

Getachew,

AREVA NP provided technically correct and complete responses to 2 of the 6 questions on March 26, 2010. In a meeting with the NRC on April 27-28, 2010, it was agreed that further interactions should take place prior to formal submittal of the remaining 4 RAI responses. Based on the stated availability of the NRC staff, as well as preparation time for their input to these interactions, AREVA is providing a revised schedule below.

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

Question #	Response Date
RAI 16 — 311	June 24, 2010
RAI 16 — 312	June 24, 2010
RAI 16 — 313	June 24, 2010

Sincerely,

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 U.S. EPR Design Certification Licensing Manager
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From: BRYAN Martin (EXT)
Sent: Friday, March 26, 2010 5:39 PM
To: 'Tesyfaye, 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); WILLIFORD Dennis C (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 300, FSAR Ch. 16 OPEN ITEM

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information RAI 300. The attached file, "RAI 300 Response US EPR DC.pdf" provides technically correct and complete responses to 2 of the 6 questions.

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 16-310.

The following table indicates the respective pages in the response document, "RAI 300 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 16 — 310	2	3
RAI 16 — 311	4	9
RAI 16 — 312	10	11
RAI 16 — 313	12	16
RAI 16 — 314	17	17
RAI 16 — 315	18	23

A complete answer is not provided for 4 of the 6 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 16 — 311	May 3, 2010
RAI 16 — 312	May 3, 2010
RAI 16 — 313	May 3, 2010
RAI 16 — 314	May 3, 2010

Sincerely,

Martin (Marty) C. Bryan
Licensing Advisory Engineer
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From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Thursday, November 19, 2009 5:49 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. 300 (3730,3742),FSAR Ch. 16 OPEN ITEM

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on September 23, 2009, and discussed with your staff on November 18, 2009. Draft RAI Question 16-311 was revised as a result of that discussion to request a revised response to RAI 16-199. The questions in this RAI are OPEN ITEMS 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: 2104

Mail Envelope Properties (BC417D9255991046A37DD56CF597DB7107D4BBCE)

Subject: Response to U.S. EPR Design Certification Application RAI No. 300, FSAR Ch. 16 OPEN ITEM, Supplement 4
Sent Date: 10/7/2010 10:54:42 AM
Received Date: 10/7/2010 10:55:13 AM
From: BRYAN Martin (EXTERNAL AREVA)

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

Response to
Request for Additional Information No. 300 (3730, 3742), Supplement 4

11/19/2009

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 16 - Technical Specifications
Application Section: FSAR Chapter 16

QUESTIONS for Technical Specification Branch (CTSB)

Question 16-311

OPEN ITEM

Provide the additional information and update the following RAI responses for each of the Instrumentation System Tech Spec items identified, based on the results of Audit Meetings between AREVA NP and NRC Staff on 7/30/09, 7/31/09, 8/13/09 and 8/14/09.

Request for Additional Information No. 103 (1270)

Question 16-311:

Followup to Question 16-129:

b) Bases clarification associated with signal processor discussion.

Response to Question 16-129(b):

The U.S. EPR FSAR Tier 2 Chapter 16 Technical Specification Protection System Bases Background discussion was revised in U.S. EPR FSAR Revision 2 to include a discussion of the Rod Control Cluster Assembly Units (RCCAUs).

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-130:

Editorial corrections for misspelling of the word "actuation" in Protection System (PS) Bases B 3.3.1.

Response to Question 16-130:

This issue was further clarified on Page 16-18 of the NRC's March 10, 2010 Safety Evaluation, which states:

In RAI 103, Question 16-130, the staff requested that the applicant provide an explanation regarding the impact on Protection System Trip/Actuation functions when APUs are declared inoperable under Conditions D and F of LCO 3.3.1. In a November 26, 2008, response to RAI 103, Question 16-130, the applicant described single-failures upstream of the ALU layer that could result in invalid signals being used in Reactor Trip and Engineered Safety Features actuations. The staff agreed with the applicant's response with the exception of editorial errors associated with multiple misspellings of the word "actuation" in the FSAR markup for Bases B 3.3.1.

U.S. EPR FSAR Tier 2 Chapter 16 Technical Specification 3.3.1 Bases were revised in U.S. EPR FSAR Revision 2 to replace the word "activation" with the word "actuation" in a total of three places.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-138:

- b) Inconsistency between footnote (i) in Table 3.3.1-2 which states "Below 10% RTP," and Permissive P6 description in FSAR Section 7.2.1.3.4 which states "P6 permissive is representative of core thermal power above a low-power setpoint value (10 percent power) corresponding to the boundary between the operating ranges of the IRDs and the PRDs."

Response to Question 16-138(b):

This issue was further clarified on Page 16-21 of the NRC's March 10, 2010 Safety Evaluation, which states:

In addition, the following issues were also identified based on evaluation of the response:

- Discrepancy between the specified conditions for Reactor Trip Functions A.8 and A.9 in LCO Table 3.3.1-2, and the permissive bypass associated with these functions. Footnote (i) in Table 3.3.1-2 states, "Below 10 percent RTP [rated thermal power]"; whereas, the description for Permissive P6 in FSAR Tier 2, Section 7.2.1.3.4, "P6 Permissive," states, "P6 permissive is representative of core thermal power above a low-power setpoint value (10 percent power) corresponding to the boundary between the operating ranges of the IRDs and the PRDs."

U.S. EPR FSAR Tier 2 Chapter 16 Table 3.3.1-2 Footnote (i) was revised in U.S. EPR FSAR Revision 2 from "Below 10% RTP" to "Less than or equal to 10% RTP."

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-138:

c) Table 3.3.1-2 discrepancy associated with the CONDITION specified for ESFAS Function B.1.

Response to Question 16-138(c):

This issue was further clarified on Page 16-21 of the NRC's March 10, 2010 Safety Evaluation, which states:

In addition, the following issues were also identified based on evaluation of the response:

- LCO 3.3.1, Condition K, provides insufficient guidance with respect to Function B.1, Turbine Trip on Reactor Trip, in LCO Table 3.3.1-2. If Function B.1 was determined to be inoperable in Mode 1 at a power level that could not support turbine operation (Turbine off-line), placing the Unit in Mode 3 and opening the reactor trip breakers may be undesirable.

The Condition specified for ESFAS Function B.1 on U.S. EPR FSAR Tier 2 Chapter 16 Technical Specification LCO 3.3.1 (Protection System) Table 3.3.1-2 was changed to "I" in U.S. EPR FSAR Revision 2.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-141:

- b) Revision to FSAR Section 7.2.1.2.14 to address inconsistencies between the FSAR and Bases regarding postulated accidents/AOOs.

Response to Question 16-141(b):

This issue was further clarified on Page 16-21 of the NRC's March 10, 2010 Safety Evaluation, which states:

In RAI 103, Question 16-141, the staff requested that the applicant provide an explanation regarding the three values that make up the variable low setpoint specified for Steam Generator Pressure Drop Function A.14 in FSAR Tier 2, Table 3.3.1-2. The staff also requested the same information for the variable low setpoints associated with main steam isolation valve (MSIV) isolation on SG Pressure Drop (All SGs) Function B.8.a (RAI 103, Question 16-166), and startup and shutdown feedwater isolation on SG Pressure Drop (Affected SGs) Function B.2.c (RAI 103, Question 16-167). In a November 26, 2008, response to RAI 103, Questions 16-141, 16-166, and 16-167, the applicant revised the Bases for each of the referenced functions to include the requested information. ... In addition, a discrepancy was noted in the FSAR markup provided with the June 30, 2009, response, between the Bases for Function A.14 and FSAR Tier 2, Section 7.2.1.2.14, "Reactor Trip on Steam Generator Pressure Drop," regarding inconsistencies associated with postulated accident and AOO information.

U.S. EPR FSAR Tier 2 Section 7.2.1.2.14 was revised in U.S. EPR FSAR Revision 2 to add a discussion of an event that causes a decrease in heat removal by the secondary system to resolve an inconsistency with the discussion of the Steam Generator Pressure Drop reactor trip in the Technical Specification Bases.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-144:

Table 3.3.1-1 discrepancy associated with the CONDITION specified for Hot Leg Temperature (WR).

Response to Question 16-144:

This issue was further clarified on Page 16-22 of the NRC's March 10, 2010 Safety Evaluation, which states:

- In RAI 103, Question 16-144, the staff requested that the applicant provide an explanation regarding the mode applicability associated with Hot Leg Temperature Wide Range (WR) instrumentation. In a June 30, 2009, response to RAI 103, Question 16-144, the applicant sufficiently describes how the mode requirements for the Hot Leg Temperature WR sensors have been chosen to envelope the required modes of the functions and permissives they support. Although the response was found to be acceptable, the staff noted that the assignment of Condition O in U.S. FSAR Tier 2, Table 3.3.1-1 to Modes 1 through 4 for Sensor A.12 was questionable considering the Conditions specified for the remaining components in the table. With the exception of Sensor A.18, "Radiation Monitor - Control Room HVAC Intake Activity," Condition N is specified for all components in FSAR Tier 2, Table 3.3.1-1, where the applicable modes are separately grouped as 1 through 4.

U.S. EPR FSAR Tier 2 Chapter 16 Technical Specifications Table 3.3.1-1 was revised in U.S. EPR FSAR Revision 2 to change the Condition specified for the Hot Leg Temperature (Wide Range) sensor from "O" to "N."

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-147:

- b) Discrepancy regarding use of “and” versus “or” in Permissive P12 Bases discussion associated with Mode Applicability.

Response to Question 16-147(b):

This issue was further clarified on Page 16-24 of the NRC's March 10, 2010 Safety Evaluation, which states:

- The P12 Permissive Bases discussion on Page B 3.3.1-65 of the FSAR markup provided with the June 30, 2009, response (first paragraph), inaccurately describes the Mode 4 conditions associated with P12 operability.

U.S. EPR FSAR Tier 2 Chapter 16 Technical Specification Bases was revised in U.S. EPR FSAR Revision 2 to state "or" the hot leg temperature, instead of "and" greater than approximately 50 percent in the Bases description of Permissive P12.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-147:

- c) Permissive P12 Bases does not specify all of the affected functions that are automatically activated when Pressurizer Pressure rises above the P12 Permissive value.

Response to Question 16-147(c):

This issue was further clarified on Page 16-25 of the NRC's March 10, 2010 Safety Evaluation, which states:

- The P12 Permissive Bases discussion on Page B 3.3.1-65 of the FSAR markup provided with the June 30, 2009, response (second paragraph), only makes reference to the, "Low SG Pressure," and, "Low Hot Leg Pressure," Reactor Trip functions when describing functions that are automatically activated when Pressurizer Pressure rises above the P12 Permissive value. Functions A.12 in LCO Table 3.3.1-1 and B.2.d, B.3.a, B.7.b, and B.8.b in LCO Table 3.3.1-2, also become automatically activated above the P12 value.

The Limiting Trip Setpoint for the SIS Actuation on Low Delta Psat function in Table 3.3.1-2 was corrected in U.S. EPR FSAR Revision 2. The units were changed from psia to psi since this is a differential pressure measurement.

The U.S. EPR Tier 2 Chapter 16 Technical Specification Bases description of Permissive P12 states that it is utilized in the following credited reactor trips or ESF functions:

- Reactor Trip 12: High Pressurizer Level,
- Reactor Trip 13: Low Hot Leg Pressure,
- Reactor Trip 15: Low SG Pressure,
- ESF 2.d: SSS Isolation on Low SG Pressure (Affected SGs),
- ESF 3.a: SIS Actuation on Low Pressurizer Pressure,
- ESF 3.b: SIS Actuation on Low Delta Psat,
- ESF 7.b: MSRT Isolation on Low SG Pressure (Affected SG), and
- ESF 8.b: MSIV Isolation on Low SG Pressure (All SGs).

AREVA has verified that this list is complete.

The standard format utilized for the Protection System Technical Specification Bases defines each function associated with each permissive. It does not specify which functions are enabled or disabled when each permissive is either validated or inhibited. Therefore, the referenced paragraph for the Bases description of Permissive P12 was deleted in U.S. EPR FSAR Revision 2.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-147:

- d) Bases clarification regarding use of the word “ensures” in Permissive P12 Bases discussion associated with the transition from Hot Shutdown to Cold Shutdown.

Response to Question 16-147(d):

This issue was further clarified on Page 16-25 of the NRC's March 10, 2010 Safety Evaluation, which states:

- The P12 Permissive Bases discussion on Page B 3.3.1-65 of the FSAR markup provided with the June 30, 2009, response (third paragraph), inaccurately describes the capability of the permissive with respect to the cooling functions accomplished via Main Steam Bypass or the Main Steam Relief Train (MSRT).

U.S. EPR FSAR Tier 2 Chapter 16 Technical Specification Bases was revised in U.S. EPR FSAR Revision 2 to state P12 "allows" cooling by Main Steam Bypass or MSRT down to the LHSI/RHR connection temperature instead of P12 "ensures" cooling.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-147:

- e) Bases clarification regarding reference to “Increase in reactor coolant inventory” in Low DNBR Bases discussion associated with Anticipated Operational Occurrences.

Response to Question 16-147(e):

This issue was further clarified on Page 16-25 of the NRC's March 10, 2010 Safety Evaluation, which states:

- The Low DNBR Bases discussion on Page B 3.3.1-17 of the FSAR markup provided with the June 30, 2009, response (third paragraph), includes the “Increase in reactor coolant inventory” event as one of five anticipated operational occurrences for which protection is provided. It is unclear how the Low DNBR Trip function protects against an “increase in reactor coolant inventory.”

U.S. EPR FSAR Tier 2 Chapter 16 Technical Specification Bases was revised in U.S. EPR FSAR Revision 2 to delete the increase in reactor coolant inventory from the list of Anticipated Operational Occurrences protected by the Low DNBR Trip functions.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-150:

- d) Revision to FSAR Section 7.3.1.2.1 to address inconsistencies between the FSAR and Bases regarding postulated accidents/AOOs.

Response to Question 16-150(d):

This issue was further clarified on Page 16-26 of the NRC's March 10, 2010 Safety Evaluation, which states:

The Low Delta P_{sat} function Bases discussion on Page B 3.3.1-41 of the FSAR markup provided with the June 30, 2009, response (first paragraph), deletes three anticipated operational occurrences that are categorized as overcooling events. In an audit on August 13-14, 2009, the applicant indicated that overcooling events are no longer credited for this function and that FSAR Tier 2, Section 7.3.1.2.1, "Safety Injection System Actuation," would be updated to reflect this fact.

U.S. EPR FSAR, Section 7.3.1.2.1 contained the following description of the need for Safety Injection to mitigate an overcooling event. It stated:

"To mitigate a loss of coolant accident (LOCA) or overcooling event, a safety injection signal is required to actuate the appropriate ESF and support systems and to isolate non-qualified reactor coolant system (RCS) piping. ...

In case of an overcooling event, boron addition via MHSI can offset positive reactivity insertion if the RCS pressure decreases below the shut-off head of the MHSI pumps."

The information regarding the overcooling event was deleted from the FSAR in U.S. EPR FSAR Revision 2.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-162:

- c) Discrepancy regarding use of “and” versus “or” in Bases discussion describing the capability of Permissive P14 to enable Function B.5.

Response to Question 16-162(c):

This issue was further clarified on Page 16-29 of the NRC's March 10, 2010 Safety Evaluation, which states:

The Partial Cooldown Actuation on SIS Actuation function Bases discussion on Page B 3.3.1-44 of the FSAR markup provided with the June 30, 2009, response (third paragraph), inaccurately describes the specific plant conditions necessary to support P14 activation of Function B.5.

In U.S. EPR FSAR Revision 2, the word "or" was replaced with the word "and" in the discussion of how Permissive P14 functions.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-169:

- a) Discrepancy regarding the apparent omission of Bases text associated with the isolation of “low load lines.”

Response to Question 16-169(a):

This issue was further clarified on Page 16-30 of the NRC's March 10, 2010 Safety Evaluation, which states:

- The RTCB Position Indication Bases discussion on Page B 3.3.1-77 of the FSAR markup provided with the June 30, 2009, response, inaccurately describes the conditions specified by Footnote (k) in LCO Table 3.3.1-1 with respect to sensor operability requirements in Modes 2 and 3. The reference to “low load” lines is missing from the discussion.

The description of the Reactor Trip Circuit Breaker Position Indication sensors was revised in U.S. EPR FSAR Revision 2 to reference the Low Load Lines in the description of when the sensors are required to be operable.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-174:

b) Discrepancy regarding the reference to “16-171” in the markup associated with Question 16-174.

Response to Question 16-174(b):

This issue was further clarified on Page 16-31 of the NRC's March 10, 2010 Safety Evaluation, which states:

- The FSAR markup (RAI block identifier) for RAI 103, Question 16-174 includes references to both RAI 103, Questions 16-171 and 16-174. The reference to RAI 103, Question 16-171 is incorrect.

At the bottom of the markup to Bases Page B 3.3.1-31, which was submitted in response to Question 16-174, both Questions 16-171 and 16-174 were noted as being the source of the change to the text. The reference to Question 17-171 was erroneous and should be disregarded.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-185:

Contradiction between the FSAR and RCOLA/SCOLAs regarding the LTSP/Setting Basis value for Function B.11.b in Table 3.3.1-2. RAI response states that the LTSP for Function B.11.b is a fixed value. Departure Item 4 in "Part 4 - Technical Specifications and Bases," of the BBNPP SCOL Application states that the Setting Basis for B.11.b is a cycle-specific parameter value specified in the COLR. CCNPP Reference COL also specifies Function B.11.b Setting Basis as a cycle-specific value residing in the COLR.

Response to Question 16-185:

This issue was further clarified on Page 16-33 of the NRC's March 10, 2010 Safety Evaluation, which states:

- In RAI 103, Question 16-185, the staff requested that the applicant provide an explanation regarding the LTSP values specified for ESFAS Functions B.11.b and B.11.c. In a March 19, 2009, response to RAI 103, Question 16-185, the applicant stated that the LTSP for Function B.11.b, CVCS Isolation on ADM at Shutdown Conditions (RCP not operating), is a fixed value. The staff questioned the applicant's position on the basis that a departure item associated with this issue had initially been identified in Revision 0 of the Bell Bend COL Application referencing the U.S. EPR design certification, with a justification stating that (1) the change corrects an error in the GTS, (2) the values associated with the LTSP are cycle-specific parameter values, and (3) consistent with the LTSP specified in the GTS Table 3.3.1-2, for Function B.11.c, CVCS Isolation on ADM at Standard Shutdown Conditions, it is appropriate for the LTSP for Function B.11.b to also be specified in the COLR.

The current COL applications incorporated Chapter 16 Revision 1 of the U.S. EPR FSAR by reference. Numerical setpoints, such as the value provided for Function B.11.b, are replaced by a reference to the Setpoint Control Program. No contradiction in the current revisions of these documents was identified.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-190:

- h) Clarification regarding the Table B 3.3.1-1 Bases discussion and the response to Question 16-190 which state “[i]n general, when a sensor becomes inoperable, the Acquisition and Processing Unit (APU) that receives the signal from the sensor declares the functions supported by that sensor to be valid.”

Response to Question 16-190(h):

This issue was further clarified on Pages 16-34 and 16-35 of the NRC's March 10, 2010 Safety Evaluation, which states:

The Bases discussion on Page B 3.3.1-2 of the FSAR markup provided with the June 30, 2009, response (second full paragraph), inaccurately states that, “when a sensor becomes inoperable, the Acquisition and Processing Unit that receives the signal from the sensor declares the functions supported by that sensor to be invalid.” Single-failures upstream of the ALUs that could result in an invalid signal being used in a reactor trip or ESF actuation, are accommodated by modifying the vote at the ALU layer. The function is not invalidated by the APU.

Similarly, the first paragraph of the response to RAI 103, Question 16-190 on Page 58 of 63, inaccurately states that, “when a sensor becomes inoperable, the Acquisition and Processing Unit that receives the signal from the sensor declares the functions or permissives supported by that sensor to be invalid.” Single-failures upstream of the ALUs that could result in an invalid signal being used in a reactor trip or ESF actuation, are accommodated by modifying the vote at the ALU layer. Neither the function or the permissive are invalidated by the APU.

The previous response to Question 16-190 requires clarification. In general, when a sensor becomes inoperable, the Acquisition and Processing Unit (APU) that receives the signal from that sensor marks that signal as being invalid. When an APU marks a signal invalid, the ALUs change the voting logic to disregard the invalid signal. This clarification was incorporated into U.S. EPR FSAR Revision 2 (Bases Page B 3.3.1-2).

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-191:

- a) Table 3.3.1-1 footnote discrepancy associated with Modes 3, 4 and 5 for Actuation Device D.3.

Response to Question 16-191(a):

This issue was further clarified on Page 16-35 of the NRC's March 10, 2010 Safety Evaluation, which states:

In RAI 103, Question 16-191, the staff requested that the applicant provide a technical justification regarding inconsistencies identified in LCO Tables 3.3.1-1 and 3.3.1-2 of the GTS. In a June 30, 2009, response to RAI 103, Question 16-191, the applicant adequately addressed items a through g; however, the FSAR markup changes associated with item g for the Reactor Trip Contactors (D.3) in LCO Table 3.3.1-1 are incorrect. The Reactor Trip Contactors are required to be operable in Modes 1 and 2, and in Modes 3, 4, and 5 with the RCSL System capable of withdrawing an RCCA or one or more RCCAs not fully inserted. Footnote (m) was incorrectly specified for Actuation Device D.3 in Modes 3, 4, and 5.

The footnotes in U.S. EPR FSAR Tier 2, Chapter 16, Technical Specification Table 3.3.1-1 associated with Modes 3, 4 and 5 for Actuation Device D.3 were revised in U.S. EPR FSAR Revision 2 to reference "(g) With the Reactor Control, Surveillance and Limitation (RCSL) System capable of withdrawing a RCCA or one or more RCCAs not fully inserted."

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-191:

b) Ambiguities associated with the first sentences of the Bases discussions for ACTIONS Q.1 and R.1.

Response to Question 16-191(b):

This issue was further clarified on Page 16-35 of the NRC's March 10, 2010 Safety Evaluation, which states:

The first sentence of the Bases discussion for Action Q.1 on Page B 3.3.1-88 of the FSAR markup provided with the June 30, 2009, response, is ambiguous because it does not clearly convey that entry into Condition Q is the direct result of inoperable instrumentation relied upon to automatically mitigate dilution events.

The first sentence of the Bases discussion for Action R.1 on Page B 3.3.1-88 of the FSAR markup provided with the June 30, 2009, response, is ambiguous because it does not clearly convey that entry into Condition R is the direct result of inoperable instrumentation relied upon to automatically mitigate events in Modes 5 and 6 that could lead to a decrease in RCS inventory.

The first sentences of the U.S. EPR FSAR Tier 2, Chapter 16, Technical Specification Bases discussions for Protection System (LCO 3.3.1) Actions Q.1 and R.1 was revised in U.S. EPR FSAR Revision 2 to change the phrase "may be impacted" to "may have been impacted."

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-200:

Discrepancies regarding the reference to "ACTUATION" in SR 3.3.1.3 and SR 3.3.1.8.

Response to Question 16-200:

This issue was further clarified on Page 16-40 of the NRC's March 10, 2010 Safety Evaluation, which states:

In addition, the staff noted that the surveillance descriptions for SR 3.3.1.3 and SR 3.3.1.8 in the GTS were inaccurate. The word ACTUATION should be changed to ACTUATING to ensure consistency with the surveillance description provided in GTS Section 1.1, "Definitions."

The term "ACTUATION" was changed to "ACTUATING" in U.S. EPR FSAR Tier 2 Chapter 16 Surveillance Requirements 3.3.1.3 and 3.3.1.8 in U.S. EPR FSAR Revision 2.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-311:

Followup to Question 16-207:

Reviewer's Notes provided in the U.S. EPR GTS allowing the optional approach of specifying a yet to be defined Setpoint Control Program (SCP) Administrative Controls Tech Spec (TS), instead of placing brackets around a fully developed SCP Administrative Controls TS and Surveillance Requirement (SR) or table references to the SCP TS, do not satisfy 10 CFR 52.47(a)(11).

Response to Question 16-207:

This issue was further clarified on Page 16-43 of the NRC's March 10, 2010 Safety Evaluation, which states:

In RAI 103, Question 16-207, the staff requested that the applicant provide an explanation regarding GTS Table 3.3.1-2 footnote content and Bases Reviewer's Note information pertaining to the LTSP and methodologies for calculating the associated As-Found and As-Left tolerances. In a November 26, 2008, response to RAI 103, Question 16-207, the applicant proposed a revision to the footnote and Bases to correct inconsistencies identified by the staff; however, the issue regarding the specification of calculated LTSP values for functions identified in LCO Table 3.3.1-2 remains unresolved. The LTSP is a plant-specific value based on instrumentation uncertainties. The uncertainties used in LTSP calculations would not ordinarily be determined until after completion of the detailed design. Uncertainty determinations rely upon supporting information such as equipment selections and manufacturer recommendations. Obtaining uncertainty information needed to obtain final LTSP technical specification values prior to combined license issuance is, therefore, impractical. In addition, the staff also noted that Reviewer's Note information provided in the GTS and Bases (Revision 1 and the FSAR markup provided with the June 30, 2009, response) allowing the optional approach of specifying a yet-to-be-defined Setpoint Control Program (SCP) Administrative Controls TS, instead of placing brackets around a fully developed SCP Administrative Controls TS and SR or table references to the SCP TS, do not satisfy 10 CFR 52.47(a)(11).

As discussed in draft Revision 3 of NUREG-0800, Standard Review Plan Section 16.0, Technical Specifications:

At the PSAR and DC application stage, numerical values, graphs, and other data are not as complete as necessary for plant operation because of the preliminary nature of the plant design or because determination of specific numerical values is pending future decisions by the OL or COL applicant on selection and procurement of hardware after issuance of the CP or the DC rule. The review of information provided in this area is limited to whether the values reasonably agree with the expected operational capability of the plant, as stated in the PSAR or the generic DCD. At the OL or COL application stage, site-specific information (usually denoted by brackets) in the reference TS must be replaced with the final operational information, which must be in conformance with the FSAR (also referred to as the plant-specific DCD in COL applications)."

The bracketed values reflected in the U.S. EPR Technical Specifications reflect the assumption made in the safety analysis as shown in U.S. EPR Tier 2 FSAR Tables 15.0-7 and 15.0-8. The U.S. EPR Technical Specifications reflect current and proposed regulatory guidance.

The Reviewer's Notes on U.S. EPR FSAR Tier 2, Chapter 16, Technical Specifications 3.3, 5.5, and 3.3 Bases that allow the optional approach of specifying a Setpoint Control Program (SCP) Administrative Controls Technical Specification were deleted in U.S. EPR FSAR Revision 2.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-312

OPEN ITEM

Provide the additional information and update the following RAI responses for each of the Instrumentation System Tech Spec items identified, based on the results of Audit Meetings between AREVA NP and NRC Staff on 7/30/09, 7/31/09, 8/13/09 and 8/14/09.

Request for Additional Information No. 110 (1295)

Question 16-312:

Followup to Question 16-217:

- a) Inconsistencies between Chapter 15 FSAR Tables 15.0-7 and 15.0-8 regarding the use of "Normal/Degraded" in the "Uncertainty" column header.

Response to Question 16-217(a):

This issue was further clarified on Page 16-47 of the NRC's March 10, 2010 Safety Evaluation, which states:

In addition, the following issues were also identified based on evaluation of the response:

Inconsistencies were noted between FSAR Tier 2, Tables 15.0-7 and 15.0-8 regarding the use of "Normal/Degraded" in the "Uncertainty" column headers.

The terms "Normal/Degraded" were added to the column heading in Table 15.0-8 in U.S. EPR FSAR Revision 2.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-312:

Followup to Question 16-217:

- e) Potential ambiguity associated with the bolding of initiating condition “SIS Actuation signal (Stage 1)” under the Containment Isolation Function in Table 15.0-8.

Response to Question 16-217(e):

This issue was further clarified on Page 16-48 of the NRC's March 10, 2010 Safety Evaluation, which states:

The bolding of “SIS Actuation signal (Stage1)” under the “Containment Isolation” group of functions listed in FSAR Tier 2, Table 15.0-8 is confusing in that bolding is only used as a means of categorizing the functions specified

The bold formatting was removed from initiating condition “SIS Actuation signal (Stage 1)” under the Containment Isolation Function in Table 15.0-8 as part of U.S. EPR FSAR Revision 2.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-312:

Followup to Question 16-223:

Potential discrepancy regarding the response to Question 16-223 which states “the hardwired logic will be periodically tested as part of U.S. EPR FSAR Tier 2, Chapter 16, Technical Specifications Surveillance Requirements (SR) 3.3.1.3 (for reactor trip functions) and 3.3.1.8 (for ESF functions).” SR 3.3.1.8 is currently specified for Sensors A.24, A.25, Manual Actuation Switches B.1, B.2, B.3, and Actuation Device D.1 in Table 3.3.1-1. Components A.25 and B.1 do not appear to be associated with ESF functions.

Response to Question 16-223:

This issue was further clarified on Page 16-49 of the NRC's March 10, 2010 Safety Evaluation, which states:

- In RAI 110, Question 16-223, the staff requested that the applicant provide an explanation regarding surveillance testing of the hardwired “AND” logic for reactor trip functions, and the hardwired “OR” logic for ESF actuation functions. In a March 19, 2009, response to RAI 110, Question 16-223, the applicant stated that hardwired logic will be periodically tested by Actuating Device Operational Test SR 3.3.1.3 (for reactor trip functions) and SR 3.3.1.8 (for ESF actuation functions). SR 3.3.1.8 is specified for Sensors A.24, A.25, Manual Actuation Switches B.1, B.2, B.3, and Actuation Device D.1 in LCO Table 3.3.1-1 of the FSAR markup provided with the June 30, 2009, response. Components A.25 and B.1 do not appear to be associated with ESF actuation functions. Although the assignments associated with SRs 3.3.1.3 and 3.3.1.8 are being evaluated under RAI 103, Question 16-193, it remains unclear whether or not SR 3.3.1.8 is applicable only to ESF actuation functions, as indicated in the response.

The parenthetical notes regarding reactor trip and ESF functions should not have been included in the response to RAI 110, Supplement 1, Question 16-223.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-313

OPEN ITEM

Provide the additional information and update the following RAI responses for each of the Electrical Power System Tech Spec items identified, based on the results of Audit Meeting between AREVA NP and NRC Staff on 6/24/09.

Request for Additional Information No. 74 (953)

Question 16-313:

Followup to Question 16-18:

The applicant is requested to enhance the AC Sources - Operating Bases (B 3.8.1) discussion associated with Required Actions C.1 and C.2 in order to provide a clearer understanding of the ability of these actions to ensure the availability of sufficient standby AC sources to 1) power the minimum required ESF Functions, and 2) achieve completion of required safety functions following an AOO or postulated accident, regardless of which two diesels are inoperable.

Response to Question 16-18:

Additionally, this issue was further clarified on Page 16-77 of the NRC's March 10, 2010 Safety Evaluation, which states:

- In RAI 74, Question 16-18, the staff requested that the applicant enhance the Bases discussion associated with Required Actions C.1 and C.2 of LCO 3.8.1, "AC Sources – Operating," to provide a clearer understanding of how these Actions are able to ensure the availability of sufficient standby AC sources to (1) power the minimum ESF functions credited in the safety analysis, and (2) achieve completion of safety functions credited in the safety analysis following an anticipated operational occurrence or postulated accident, regardless of which two diesels are inoperable. In an October 30, 2008, response to RAI 74, Question 16-18, the applicant described the alternate feed concept, but did not discuss alternate feed powering capabilities with respect to the four categories of safety-related systems (Two Train systems, Valve Isolation functions, Four Train systems, Support systems). This information is relevant and needs to be included in the Bases.

The U.S. EPR FSAR Tier 2, Chapter 16, Technical Specification Bases discussion associated with LCO 3.8.1, Required Actions C.1 and C.2 was enhanced in U.S. EPR FSAR Revision 2 to provide a clearer understanding of the ability of these actions to ensure the availability of sufficient standby AC sources to 1) power the minimum required ESF Functions, and 2) achieve completion of required safety functions following an AOO or postulated accident, regardless of which two diesels are inoperable.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-313:

Followup to Question 16-29:

- a) The applicant is requested to correct an inaccuracy associated with the response to Question 16-29 regarding the reference to "Chapter 16, Technical Specifications Section 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air." The indicated reference is not being revised as stated in the response and should be removed.

Response to Question 16-29(a):

Additionally, this issue was further clarified on Page 16-80 of the NRC's March 10, 2010 Safety Evaluation, which states:

- The response incorrectly lists Chapter 16, "Technical Specifications," Section 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," as one of several FSAR Tier 2 sections that are being revised to reflect a minimum required 7 day supply of fuel oil for each EDG. No changes are being made to TS Section 3.8.3 with respect to the minimum fuel oil inventory supply.

AREVA concurs with the NRC's observation. The response to Question 16-29 erroneously referenced "Chapter 16, Technical Specifications Section 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air."" The indicated reference was revised in response to Question 16-31.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-313:

Followup to Question 16-46:

The applicant is requested to enhance the AC Sources - Shutdown Bases (B 3.8.2) LCO discussion regarding the requirement for two diesels to reside within the same divisional pair, as opposed to one Operable EDG residing in each of two separate divisional pairs. The referenced Bases section does not currently address the potential inability of two emergency diesels in separate divisional pairs to supply the necessary electrical power for the various combinations of subsystems, equipment, and components required Operable by LCO 3.8.10 with the alternate feeds not aligned. This is relevant information which needs to be captured in the Bases.

Response to Question 16-46:

Additionally, this issue was further clarified on Page 16-82 of the NRC's March 10, 2010 Safety Evaluation, which states:

In RAI 74, Question 16-46, the staff requested that the applicant provide an explanation regarding the requirement in LCO 3.8.2, "AC Sources - Shutdown," that two operable EDGs reside within the same divisional pair, as opposed to one operable EDG residing in each of the two separate divisional pairs. The staff determined that associated Bases Section B 3.8.2 (LCO discussion) did not address the inability of two EDGs in separate divisional pairs to supply the necessary electrical power for the various combinations of subsystems, equipment, and components required operable by LCO 3.8.1.10 with the alternate feeds not aligned. In an October 30, 2008, response to RAI 74, Question 16-46, the applicant described the divisional pair concept, but did not provide the requested explanation. This information is relevant and needs to be included in the Bases.

The LCO section for U.S. EPR FSAR Tier 2, Chapter 16, Technical Specification Bases 3.8.2 currently states:

"Two OPERABLE Emergency Diesel Generators (EDGs) in one divisional pair are required to be OPERABLE by LCO 3.8.10, to ensure a diverse power source is available to provide electrical power support, assuming a loss of the offsite circuit. Together, OPERABILITY of the required offsite circuit and EDGs ensures the availability of sufficient AC sources to operate the unit in a safe manner and to mitigate the consequences of postulated events during shutdown (e.g., fuel handling accidents)."

The following sentence was added to the Bases discussion in U.S. EPR FSAR Revision 2:

"Both EDGs in a divisional pair are required to be OPERABLE because an OPERABLE EDG in each divisional pair may not provide the capability to supply the necessary electrical power for the various combinations of subsystems, equipment, and components required Operable by LCO 3.8.10 with the alternate feeds not aligned."

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-313:

Followup to Question 16-49:

- b) The applicant is requested to evaluate the technical accuracy of the EPR B 3.8.1 LCO Bases statement on page B 3.8.1-4 that reads “proper sequencing of loads is a required function for EDG OPERABILITY.” It appears that the bracketed phrase “including tripping of nonessential loads” in the comparable WOG B 3.8.1 LCO Bases statement, may be applicable to the referenced EPR Bases statement as well, on the basis of EPR surveillance requirement SR 3.8.1.11.b which verifies load shedding from the emergency buses on either an actual or simulated loss of offsite power signal.

Response to Question 16-49(b):

The phrase "including tripping of nonessential loads," was added to U.S. EPR FSAR Tier 2, Chapter 16, Technical Specification Bases in U.S. EPR FSAR Revision 2.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-314

OPEN ITEM

Provide the additional information and update the following RAI response for the Electrical Power System Tech Spec item identified, based on the results of Audit Meeting between AREVA NP and NRC Staff on 6/24/09.

Request for Additional Information No. 110 (1331)

Question 16-314:

Followup to Question 16-237:

- a) FSAR Markup for AC Sources - Operating Bases B 3.8.1, SURVEILLANCE REQUIREMENTS, states "this value allows for a combined variation in voltage and frequency of 60% when considering voltage drop to the terminals of 6600 V motors whose minimum operating voltage is specified as 90% or 5940 V." The combined variation in voltage and frequency should be 10% instead of 60%.

Response to Question 16-237(a):

This issue was further clarified on Page 16-83 of the NRC's March 10, 2010 Safety Evaluation, which states:

- In RAI 110, Question 16-237, the staff requested that the applicant confirm that the U.S. EPR EDG voltage acceptance criteria specified in SR 3.8.1.2 would result in acceptable voltage for all safety-related loads. In a March 19, 2009, response to RAI 110, Question 16-237, the applicant revised the EDG steady state output voltage acceptance criteria to indicate an allowable minimum voltage of -5 percent in SRs 3.8.1.2, 3.8.1.7, 3.8.1.9, 3.8.1.11, 3.8.1.12, 3.8.1.15, 3.8.1.18, and 3.8.1.19. The following discrepancies were noted in the associated FSAR markup:
 - The FSAR markup for AC Sources - Operating Bases B 3.8.1, "Surveillance Requirements," states, "This value allows for a combined variation in voltage and frequency of 60 percent when considering voltage drop to the terminals of 6,600 V motors whose minimum operating voltage is specified as 90 percent or 5,940 V." The 60 percent value is incorrect. The revised minimum voltage of -5 percent allows for a combined variation in voltage and frequency of 7 percent, which is within the 10 percent cumulative total variation permitted by NEMA MG 1-2006, "NEMA Standards Publication MG 1-2006 Motors and Generators," National Electrical Manufacturers Association, 2006.

The U.S. EPR FSAR Tier 2, Chapter 16, Technical Specification Bases 3.8.1 discussion of Surveillance Requirements was revised In U.S. EPR FSAR Revision 2 to reflect a combined variation of 10 percent instead of 60 percent.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 16-314

Followup to Question 16-237:

- b) FSAR Markup for AC Sources - Operating Bases B 3.8.1, SURVEILLANCE REQUIREMENTS, specifies "NEMA MG 1-2006 (Ref. 1)." The Reference number should be 11 instead of 1.

Response to Question 16-237(b):

This issue was further clarified on Page 16-83 of the NRC's March 10, 2010 Safety Evaluation, which states:

- In RAI 110, Question 16-237, the staff requested that the applicant confirm that the U.S. EPR EDG voltage acceptance criteria specified in SR 3.8.1.2 would result in acceptable voltage for all safety-related loads. In a March 19, 2009, response to RAI 110, Question 16-237, the applicant revised the EDG steady state output voltage acceptance criteria to indicate an allowable minimum voltage of -5 percent in SRs 3.8.1.2, 3.8.1.7, 3.8.1.9, 3.8.1.11, 3.8.1.12, 3.8.1.15, 3.8.1.18, and 3.8.1.19. The following discrepancies were noted in the associated FSAR markup:

The FSAR markup for AC Sources - Operating Bases B 3.8.1, Surveillance Requirements, states "motor terminal voltages and frequency requirements as indicated in NEMA MG 1-2006 (Ref. 1)." The reference number for NEMA MG 1-2006 should be 11 instead of 1.

The U.S. EPR FSAR Tier 2, Chapter 16, Technical Specification Bases 3.8.1 discussion of Surveillance Requirements was revised in U.S. EPR FSAR Revision 2 to cite Reference 11 instead of Reference 1.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.