ArevaEPRDCPEm Resource

From: Pederson Ronda M (AREVA NP INC) [Ronda.Pederson@areva.com]
Sent: Wednesday, October 21, 2009 6:28 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); DUNCAN Leslie E (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 279, FSARCh. 14, Supplement 1
Attachments: RAI 279 Supplement 1 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. (AREVA NP) provided responses to parts of the one question of RAI No. 279 on September 23, 2009. The attached file, "RAI 279 Supplement 1 Response US EPR DC.pdf," provides technically correct and complete responses to the remaining parts of the question, as committed.

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 279 Question 14.02-126.

The following table indicates the page in the response document, "RAI 279 Supplement 1 Response US EPR DC.pdf," that contains AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 279 — 14.02-126	2	2

This concludes the formal AREVA NP response to RAI 279, and there are no questions from this RAI for which AREVA NP has not provided responses.

Sincerely,

Ronda Pederson
ronda.pederson@areva.com
Licensing Manager, U.S. EPR Design Certification
AREVA NP Inc.
An AREVA and Siemens company
3315 Old Forest Road
Lynchburg, VA 24506-0935
Phone: 434-832-3694
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From: Pederson Ronda M (AREVA NP INC)
Sent: Wednesday, September 23, 2009 4:07 PM
To: 'Tesfaye, Getachew'
Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); NOXON David B (AREVA NP INC); DUNCAN Leslie E (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 279, FSARCh. 14

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 279 Response US EPR DC.pdf" provides a technically correct response to parts of the one question and a schedule for the remaining parts of the question.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the responses to RAI 279 Question 14.02-126.

The following table indicates the respective pages in the response document, "RAI 279 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 279 — 14.02-126	2	3

A complete answer is not provided for two parts of RAI 279, Question 14.02-126. The schedule for a technically correct and complete response to these parts of the question is provided below.

Question #	Response Date
RAI 279 — 14.02-126c	October 22, 2009
RAI 279 — 14.02-126d	October 22, 2009

Sincerely,

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From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Tuesday, August 25, 2009 1:49 PM
To: ZZ-DL-A-USEPR-DL
Cc: Tomon, John; Crane, Samantha; Peralta, Juan; Miernicki, Michael; Jennings, Jason; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 279 (3541), FSARCh. 14

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on August 17, 2009, and on August 24, 2009, 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: 900

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Subject: Response to U.S. EPR Design Certification Application RAI No. 279, FSARCh. 14, Supplement 1
Sent Date: 10/21/2009 6:27:43 PM
Received Date: 10/21/2009 6:27:47 PM
From: Pederson Ronda M (AREVA NP INC)

Created By: Ronda.Pederson@areva.com

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

Response to

Request for Additional Information No. 279, Supplement 1

8/25/2009

U.S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 14.02 - Initial Plant Test Program - Design Certification and New License Applicants
Application Section: Section 14.2 and 9.2.7

QUESTIONS for Quality and Vendor Branch 1 (AP1000/EPR Projects) (CQVP)

Question 14.02-126:

The NRC staff reviewed section 14.2.12.5.3, "Seal Water Supply System (SWSS) (Test #045)," of the U.S. EPR FSAR, and requests that the applicant clarifies and/or includes the following information into U.S. EPR FSAR section 9.2.7 or test abstract #045, as appropriate:

a. In section 9.2.7, "Seal Water Supply System," of the U.S. EPR FSAR the applicant designates the Seal Water Supply System by the acronym (SEWSS); however, in section 14.2.12.5.3 the applicant designates this system by the acronym (SWSS). The staff requests that the applicant clarify the acronym for the Seal Water Supply System and correctly update section 9.2.7 or 14.2.12.5.3 as appropriate.

b. Acceptance criteria 5.1.1 states that the "SWSS pump and system flow meet design specification (refer to section 9.2.7)"; however, no design specifications are provided in FSAR section 9.2.7. Accordingly, the staff requests that the applicant provide the design specifications for the SWSS pump and system flow in section 9.2.7 of the FSAR.

c. Test method item 3.3 and acceptance criteria 5.1.4 states that the "SWSS provides designed rated flow to systems that are supplied by the seal water header"; however, no flow rate specifications are provided in FSAR section 9.2.7. The staff requests that the applicant provide the design specifications for the SWSS system flow rates to its supplied components in section 9.2.7 of the FSAR.

d. Test method item 3.5 requires confirmation that power operated valves fail in the proper position; however, the failure position of the buffer tank supply solenoid valves is not identified in FSAR Section 9.2.7. The staff requests that the applicant identifythe failure position of the buffer tank supply valve upon a loss of operating power.

e. Test method item 3.7 requires verification that the SWSS can meet minimum and maximum design requirements (pressure and temperature); however, the minimum and maximum design pressure and temperature are not identified in FSAR Section 9.2.7. The staff requests that the applicant identify the SWSS minimum and maximum design pressure and temperature in section 9.2.7of the FSAR.

f. The staff requests that the applicant includes a test method item that provides verification of the proper operation of the SWSS buffer tank upon a Loss of off-site Power (LOOP).

Response to Question 14.02-126, Parts c and d:

c. U.S. EPR FSAR Tier 2, Section 9.2.7 will be revised to list the average consumption flow rate of the seal water supply system (SEWSS).

d. U.S. EPR FSAR Tier 2, Section 9.2.7 will be revised to explain that the buffer tank supply valve fails in the closed position on loss of power.

FSAR Impact:

U.S. EPR FSAR Tier 2, Section 9.2.7 will be revised as described in the response and indicated on the enclosed markup.

U.S. EPR Final Safety Analysis Report Markups

supply line. The SEWSS supply solenoid valves fail in the closed position on loss of power.

Buffer Tank Isolation Valves

Isolation valve (30GHW4~~J~~5 AA005) downstream of the solenoid-operated isolation valve is normally open. However, this valve can be closed to isolate the buffer tank for maintenance or in the event of tank failure.

14.02-126

A valve is not provided downstream of the solenoid-operated isolation valve (30GHW44 AA002) because the severe accident heat removal (JMQ) pump seal is only supplied by seal water from the buffer tank during severe accidents.

9.2.7.3 System Operation

9.2.7.3.1 Normal Operation

During normal operation, one seal water pump is continuously operating to deliver seal water at the required pressure to the seal water consumers. The second pump is on standby. The minimum recirculation flow required for the operating pump is returned to the demineralized water storage tanks via the pump minimum flow line. Normal pump flow and minimum recirculation flow are listed in Table 9.2.7-1—Seal Water Supply System Parameters.

The SEWSS average consumption flow is listed in Table 9.2.7-1.

The isolation valves in the suction, discharge, and minimum flow lines are positioned fully open; the suction and minimum flow isolation valves are locked fully open. The isolation valves for the buffer tank users are normally open. The valves upstream of the solenoid valves are adjusted and locked in the open position. The solenoid valves that supply makeup to the buffer tanks are in automatic operation, controlled by their respective buffer tank level. The pressure reducing valve in the RWB maintains proper pressure in the downstream piping to the consumers.

The normal source of seal water to the CVCS charging pumps is the Fuel Building buffer tank during plant operation and loss of offsite power (LOOP) conditions.

In the event of a failure of the operating pump, the standby pump automatically starts to provide proper pressure and flows to the seal water consumers. If maintenance of the operating pump is required, the standby pump can be manually started from the main control room and the pump requiring maintenance can be removed from service, isolated and repaired.

Table 9.2.7-1—Seal Water Supply System Parameters

Description	Technical Data
Seal Water Pumps 30GHW11/12 AP001 Normal flow rate	2.43 E+04 lb_m/hr
Seal Water Pumps 30GHW11/12 AP001 Minimum recirculation flow rate	2.21 E+04 lb_m/hr
Seal Water System Design Pressure	235 psig
Seal Water System Design Temperature	140°F
Seal Water Average Consumption Flow	28.7 lb_m/hr

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