ArevaEPRDCPEm Resource

From: RYAN Tom (AREVA) [Tom.Ryan@areva.com]
Sent: Thursday, June 13, 2013 1:41 PM
To: Snyder, Amy
Cc: ANDERSON Katherine (EXTERNAL AREVA); DELANO Karen (AREVA); HONMA George (EXTERNAL AREVA); LEIGHLITER John (AREVA); LEWIS Ray (EXTERNAL AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); SHEPHERD Tracey (AREVA); VANCE Brian (AREVA); NOXON David (AREVA); RITCHEY Calvin (AREVA); Ford, Tanya
Subject: Advanced Response to U.S. EPR Design Certification Application FINAL RAI No. 572, FSAR Ch. 19, Question 19-364
Attachments: Advanced Response to RAI 572 Question 19-364 US EPR DC.PDF

Amy,

Attached is an Advanced Response for RAI 572, Question 19-364 in advance of the July 18, 2013 final date.

To keep our commitment to send a final response to this question by the commitment date, we need to receive all NRC staff feedback and comments no later than **July 9, 2013**.

Please let me know if NRC staff has any questions or if the response to this question can be sent as final.

Sincerely,

Tom Ryan for
Dennis Williford, P.E.
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
7207 IBM Drive, Mail Code CLT 2B
Charlotte, NC 28262
Phone: 704-805-2223
Email: Dennis.Williford@areva.com

From: RYAN Tom (RS/NB)
Sent: Thursday, June 13, 2013 10:10 AM
To: Amy.Snyder@nrc.gov
Cc: GUCWA Len (External RS/NB); DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WILLS Tiffany (CORP/QP); ANDERSON Katherine (External AREVA NP INC.); WILLIFORD Dennis (RS/NB); VANCE Brian (RS/NB); NOXON David (RS/NB); Tanya Ford (Tanya.Ford@nrc.gov)
Subject: Response to U.S. EPR Design Certification Application FINAL RAI No. 572, FSAR Ch. 19, Supplement 1

Amy,

AREVA NP Inc.'s provided a schedule for the responses to the two questions of RAI 572 on April 12, 2013.

The schedule for a technically correct and complete response to question 19-365 is changed and provided below:

Question #	Advanced Response Date	Response Date
RAI 572 — 19-365	**June 28, 2013**	**August 9, 2013**

The schedule for a technically correct and complete response to question 19-364 is unchanged and provided below:

Question #	Advanced Response Date	Response Date
RAI 572 — 19-364	June 14, 2013	July 18, 2013

Sincerely,

Tom Ryan
Project Engineer
Regulatory Affairs
AREVA NP
An AREVA and Siemens company
7207 IBM Drive - CLT2B
Charlotte, NC 28262
Phone: 704-805-2643, Cell : 704-292-5627
Fax: 434-382-6657

From: RYAN Tom (RS/NB)
Sent: Friday, April 12, 2013 10:17 AM
To: Snyder, Amy
Cc: DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WILLS Tiffany (CORP/QP); HONMA George (EXT); NOXON David (RS/NB); WILLIFORD Dennis (RS/NB)
Subject: Response to U.S. EPR Design Certification Application FINAL RAI No. 572, FSAR Ch. 19

Amy,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 572 Response US EPR DC.pdf," provides a schedule since a technically correct and complete response to the two questions cannot be provided at this time.

The following table indicates the respective pages in the response document, "RAI 572 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 572 — 19-364	2	2
RAI 572 — 19-365	3	3

The schedule for technically correct and complete responses to these questions is provided below.

Question #	Response Date
RAI 572 — 19-364	July 18, 2013
RAI 572 — 19-365	July 18, 2013

Sincerely,

Tom Ryan
Project Engineer
Regulatory Affairs
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An AREVA and Siemens company
7207 IBM Drive - CLT2B
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Phone: 704-805-2643, Cell : 704-292-5627
Fax: 434-382-6657

From: Snyder, Amy [mailto:Amy.Snyder@nrc.gov]
Sent: Thursday, March 14, 2013 9:03 AM
To: ZZ-DL-A-USEPR-DL
Cc: Pohida, Marie; Mrowca, Lynn; Ford, Tanya; Segala, John
Subject: U.S. EPR Design Certification Application FINAL RAI No. 572, FSAR Ch. 19

Attached, please find the subject requests for additional information (RAI). An advanced RAI was provided to you on February 8, 2013, and discussed with your staff on March 1, 2013. The advanced RAI was modified as a result of that discussion. On March 8, 2013, you informed us that the advanced RAI is clear and no further clarification is needed and that the RAI does not contain any proprietary information. 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 or April 12, 2013**, 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."

Thank You,

Amy

Amy Snyder, U.S. EPR Design Certification Lead Project Manager
Licensing Branch 1 (LB1)
Division of New Reactor Licensing
Office of New Reactors
U.S. Nuclear Regulatory Commission
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Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 4552

Mail Envelope Properties (88F9B30A3139B1498DA89BEBA7B31B901291E4)

Subject: Advanced Response to U.S. EPR Design Certification Application FINAL RAI No. 572, FSAR Ch. 19, Question 19-364
Sent Date: 6/13/2013 1:41:00 PM
Received Date: 6/13/2013 1:41:12 PM
From: RYAN Tom (AREVA)

Created By: Tom.Ryan@areva.com

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Tracking Status: None
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"Snyder, Amy" <Amy.Snyder@nrc.gov>
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Post Office: FUSLYNCMX03.fdom.ad.corp

Files	**Size**	**Date & Time**	
MESSAGE	5072	6/13/2013 1:41:12 PM	
Advanced Response to RAI 572 Question 19-364 US EPR DC.PDF			520175

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

Advanced Response to

Request for Additional Information No.572, Question 19-364

3/12/2013
U.S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
Review Section: 19 - Probabilistic Risk Assessment and Severe Accident Evaluation
Application Section: 19
SRSB Branch

Question 19-364:

The staff has reviewed the applicant's response to RAI 19-348 and 19-349 containment closure during Modes 5 and 6 with low water level. The staff has reviewed the new containment closure TS during Modes 5 and 6 which significantly reduces LRF. However, this statement in the Rev 4 TS, it states, "The other containment penetrations that provide direct access from containment atmosphere to outside atmosphere must be isolated on at least one side. Isolation may be achieved by an OPERABLE automatic isolation valve, or by a manual isolation valve, blind flange, or equivalent. Equivalent isolation methods must be approved and may include use of a material that can provide a temporary, atmospheric pressure, ventilation barrier for the other containment penetrations during reduced inventory conditions with fuel in the reactor vessel."

The staff requests information regarding the definition of the word, “equivalent”. The staff is concerned that the use of equivalent methods may permit containment penetrations that would not keep the containment closed as defined in GL 88-17. As stated in GL 88-17 Enclosure 3, definition of closed containment, “.. that a barrier to the escape of radioactive material is reasonably expected to remain in place following a core melt accident…”.

The staff read the Westinghouse Improved TS basis that AREVA submitted regarding “equivalent isolations methods” for containment closure to limit radioactive releases. In this context, Westinghouse's use of “equivalent isolation methods” are intended to limit releases following a postulated **fuel handling accident during** core alterations occur when vessel level is > 23 feet above the reactor vessel flange not a postulated core melt accident.

Response to Question 19-364:

U.S EPR FSAR Tier 2, Chapter 16, Section 3.9.7, Containment Penetrations, will be revised to delete “or equivalent” from the LCO statement. The Bases for Section 3.9.7 will be revised to conform to the LCO statement and GL 88-17.

FSAR Impact:

U.S. EPR FSAR Tier 2, Chapter 16, Section 3.9.7 and B 3.9.7 will be revised as described in the response and indicated on the enclosed markup.

U.S. EPR Final Safety Analysis Report Markups

3.9 REFUELING OPERATIONS

3.9.7 Containment Penetrations

LCO 3.9.7 The containment penetrations shall be in the following status:

a. The containment equipment hatch is closed:

b. One door in each containment air lock is closed; and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere is either:

1. Closed by a containment isolation valve or~~,~~ blind flange~~, or equivalent~~, or

2. Capable of being closed by a containment isolation valve from the Main Control Room.

APPLICABILITY: MODE 5 with RCS loops not filled, and
MODE 6 with the refueling cavity water level < 23 ft above the top of the reactor vessel flange.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more containment penetrations not in required status.	A.1	Initiate action to place containment penetration(s) in required status.	Immediately
	OR		
	A.2	Initiate action to be in MODE 5 with the RCS pressure boundary intact and ≥ 25% pressurizer level.	Immediately
	OR		
	A.3	Initiate action to achieve refueling cavity water level ≥ 23 feet above top of the reactor vessel flange.	Immediately

BASES

LCO

This LCO limits the consequences of postulated loss of residual heat removal event during reduced inventory conditions with fuel in the reactor vessel by limiting the potential escape paths for steam and radioactive material released within containment. The LCO requires containment penetrations to be in one of the following status:

a. The containment equipment hatch is closed:

b. One door in each containment air lock is closed; and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere is either:

1. Closed by a containment isolation valve or blind flange, or

2. Capable of being closed by a containment isolation valve from the Main Control Room.

~~any penetration providing direct access from the containment atmosphere to the outside atmosphere to be closed except for penetrations capable of being closed by an OPERABLE CBVS. The OPERABILITY requirements for this LCO ensure that these penetrations are isolable by the CBVS.~~ Closure by a valve or blind flange used for containment isolation during power operation meets this specification. Closure by other valves or blind flanges may be used if they are similar in capability to those provided for containment isolation. The OPERABILITY requirements for this LCO ensure that ~~the automatic CBVS valve~~ containment closure ~~times specified in the FSAR~~ can be achieved and, therefore, meet the assumptions used in the PRA analysis.

APPLICABILITY

The containment penetration requirements are applicable in MODES 5 and 6 during reduced inventory conditions. In MODES 1, 2, 3, and 4, containment penetration requirements are addressed by LCO 3.6.1, “Containment.”

ACTIONS

A.1, A.2, and A.3

If the containment equipment hatch, air locks, or any containment penetration that provides direct access from the containment atmosphere to the outside atmosphere is not in the required status, action must be initiated to place the containment penetrations in their required status, place the unit in MODE 5 with the RCS pressure boundary intact and ≥ 25% pressurizer level, or to increase the RCS water inventory by raising the reactor cavity water level to ≥ 23 feet above the top of the reactor vessel flange.

SURVEILLANCE REQUIREMENTS

SR 3.9.7.1

This Surveillance demonstrates that each of the containment penetrations required to be in its closed position is in that position. The Surveillance on the open valves will demonstrate that the valves are not blocked from closing. Also, the Surveillance will demonstrate that each valve operator on the open valves has motive power, which will ensure that each valve is capable of being closed from the Main Control Room.

The Surveillance is performed every 7 days with the unit in reduced inventory conditions. The Surveillance interval is selected to ensure that the required penetration status is maintained during reduced inventory conditions.

SR 3.9.7.2

This Surveillance demonstrates that each CBVS valve actuates to its isolation position on manual initiation. The 24 month Frequency maintains consistency with other similar ~~DCS~~ Protection System instrumentation and valve testing requirements.

The SR is modified by a Note stating that this Surveillance is not required to be met for valves in closed penetrations. The LCO provides the option to close penetrations in lieu of requiring remote actuation capability.