ArevaEPRDCPEm Resource

From: BRYAN Martin (EXTERNAL AREVA) [Martin.Bryan.ext@areva.com]
Sent: Monday, February 14, 2011 4:56 PM
To: Tesfaye, Getachew
Cc: DELANO Karen (AREVA); ROMINE Judy (AREVA); BENNETT Kathy (AREVA); LENTZ Tony (EXTERNAL AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 12, FSAR Ch. 6, Supplement 1
Attachments: RAI 12 Supplement 1 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. provided responses to the nine questions of RAI No. 12 on July 3, 2008. For question 06.02.04-03, the markup of FSAR, Tier 2, Table 6.2.4-1 for the CEC and CSC instrument lines was inadvertly omitted from the original response.

The attached file, "RAI 12 Supplement 1 Response US EPR DC.pdf" provides technically correct and complete responses to question 06.02.04-03. 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 12 Question 06.02.04-03.

The following table indicates the respective pages in the response document, "RAI 12 Supplement 1 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 12 — 06.02.04-03	2	2

This concludes the formal AREVA NP response to RAI 12, 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: Pederson Ronda M (AREVA NP INC)
Sent: Thursday, July 03, 2008 5:24 PM
To: 'Getachew Tesfaye'
Cc: 'John Rycyna'; DUNCAN Leslie E (AFS); BENNETT Kathy (RS/NB); DELANO Karen (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 12, FSAR Ch. 6

Getachew,

Attached is the AREVA NP Inc. response to the subject request for additional information (RAI). The attached file, "RAI 12 Response US EPR DC.pdf" provides technically correct and complete responses to all 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 12 questions 6.2.6-1, 6.2.6-2, 6.2.4-3, 6.2.4-4, 6.2.4-5, and 6.2.4-7.

Question #	Start Page	End Page
RAI 12 6.2.6-1	2	3
RAI 12 6.2.6-2	4	4
RAI 12 6.2.4-1	5	5
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RAI 12 6.2.4-5	9	9
RAI 12 6.2.4-6	10	10
RAI 12 6.2.4-7	11	13

The provided response meets NRC's stated expectation and supports the established review schedule for the U.S. EPR design certification application.

Sincerely,

Ronda Pederson
ronda.pederson@areva.com
Licensing Manager, U.S. EPR Design Certification
New Plants Deployment
AREVA NP, Inc.
An AREVA and Siemens company
3315 Old Forest Road
Lynchburg, VA 24506-0935
Phone: 434-832-3694
Cell: 434-841-8788

From: Getachew Tesfaye [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Tuesday, June 03, 2008 3:56 PM
To: ZZ-DL-A-USEPR-DL
Cc: Surinder Arora; Anne-Marie Grady; Christopher Jackson; Joseph Colaccino; Peter Hearn
Subject: U.S. EPR Design Certification Application RAI No. 12

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on May 18, 2008, and discussed with your staff on May 29, 2008. With the exception of few minor error corrections, no changes were made to the RAI as a result of that discussion. 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.

Getachew Tesfaye
Office of New Reactors
U.S. Nuclear Regulatory Commission
(301) 415-3361

Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 2555

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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
"LENTZ Tony (EXTERNAL AREVA)" <Tony.Lentz.ext@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	3979	2/14/2011 4:56:03 PM
RAI 12 Supplement 1 Response US EPR DC.pdf	55496	

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Return Notification: No
Reply Requested: No
Sensitivity: Normal
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Response to

Request for Additional Information No. 12, Revision 0, Supplement 1

6/03/2008

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 06.02.06 - Containment Leakage Testing
SRP Section: 06.02.04 - Containment Isolation System
Application Section: 6.2
SPCV Branch

Question 06.02.04-03:

10 CFR 50.34(f)(2)(xiv)(A) states that containment isolation systems ensure all non-essential systems are isolated automatically by the containment isolation system. However, a number of valves listed in DCA Tier 2, Table 6.2.4-1 are listed as non-essential (a “no” listed in column 6), but are provided with no containment isolation signal. Examples include valves, KAB30 AA052/51, KAB30 AA053/55/56. In addition, a number of CEC and CSC air system penetrations which are listed as non-essential penetrate containment with normally open inside and outside manual valves (12 valves, sheet 11 of DCA Tier 2, Table 6.2.4-1). What is the bases for meeting 10 CFR 50.34(f)(2)(xiv)(A) for the above CIVs?

Response to Question 06.02.04-03:

The subject Component Cooling Water System (CCWS) valves are the supply and return containment isolations valves for the CCWS to the Reactor Coolant Pumps (RCP) seals thermal barrier coolers. These valves are essential because the RCPs require cooling of the thermal barriers when they are running. These valves do not receive a stage 1 or stage 2 signal to close, and are remotely operated from the Main Control Room in the event of a leak in the thermal barrier heat exchanger of the RCP.

In addition, the CCWS penetrations are incorrectly listed as 3-inch pipe diameter in FSAR, Tier 2, Table 6.2.4-1. The pipe diameter for these penetrations is 4 inches. Therefore, FSAR, Tier 2, Table 6.2.4 -1 will be modified to indicate that the lines are essential and are 4 inches in diameter.

CEC and CSC instrument lines are connected to pressure transmitters outside containment. Signals from these transmitters can initiate safety injection and containment isolation on high containment pressure. The lines are designed to implement the recommendations of ANSI/ANS-56.2 under the allowance of “other defined bases.” These lines are required to remain functional following a LOCA or steam break; therefore, the lines are essential and must remain open and not be isolated following an accident. FSAR, Tier 2, Table 6.2.4-1 will be modified to indicate that these instrument lines are essential.

FSAR Impact:

The markup of FSAR, Tier 2, Table 6.2.4-1 for the CEC and CSC instrument lines was inadvertly omitted from the original response.

FSAR, Tier 2, Table 6.2.4-1 will be revised as described in the response and indicated on the enclosed markup.

U.S. EPR Final Safety Analysis Report Markups

Table 6.2.4-1—Containment Penetration, Isolation Valve, and Actuator Data
Sheet 10 of 22

Penetration No.	GDC Req.	System Name	Fluid	Line Size (in)	Essent System	Potent Bypass Path	Valve Number	Valve Location	LLRT	Valve Type and Operator	Primary Actuation	Secondary Actuation	Normal Position	Shutdown Position	Post Accident Position	Power Failure Position	Cont. Isolation Signal	Valve Closure Time	Power Source
60BQ421	57	CCWS return RCP	water	4.0	yes	no	KAB30 AA056	outside	C	gate/ MOV	RM	RM	open	open	open	as-is	no	≤ 15 sec	34BNB03
10BQ002	55	CVCS Charging	water	4.0	no	no	KBA34 AA003	inside	C	swing check	self	self	open	close	close	n/a	n/a	n/a	n/a
10BQ002	55	CVCS Charging	water	4.0	no	no	KBA34 AA002	outside	C	globe/ MOV	PS	RM	open	close	close	as-is	stage 2	≤ 20 sec	31BNB03
10BQ003	55	CVCS Letdown	water	6.0	no	no	KBA14 AA002	inside	C	globe/ MOV	PS	RM	open	close	close	as-is	stage 1	≤ 30 sec	31BRA
10BQ003	55	CVCS Letdown	water	6.0	no	no	KBA14 AA003	outside	C	globe/ MOV	PS	RM	open	close	close	as-is	stage 1	≤ 30 sec	34BNB03
30BQ044	56	CVS supply	air	39.0	no	no	KLA30 AA003	inside	C	special/air	PS	RM	close	o/c	close	close	stage 1	n/a	n/a
30BQ044	56	CVS supply	air	39.0	no	no	KLA30 AA002	outside	C	special/air	PS	RM	close	o/c	close	close	stage 1	n/a	n/a
40BQ045	56	CVS exhaust	air	39.0	no	no	KLA40 AA001	inside	C	special/air	PS	RM	close	o/c	close	close	stage 1	n/a	n/a
40BQ045	56	CVS exhaust	air	39.0	no	no	KLA40 AA002	outside	C	special/air	PS	RM	close	o/c	close	close	stage 1	n/a	n/a
20BQ046	56	CVS exhaust	air	20.0	no	no	KLA20 AA001	inside	C	special/air	PS	RM	o/c	o/c	close	close	stage 1	≤ 5 sec	n/a
20BQ046	56	CVS exhaust	air	20.0	no	no	KLA20 AA003	outside	C	special/air	PS	RM	o/c	o/c	close	close	stage 1	≤ 5 sec	n/a
10BQ047	56	CVS supply	air	20.0	no	no	KLA10 AA003	inside	C	special/air	PS	RM	o/c	o/c	close	close	stage 1	≤ 5 sec	n/a
10BQ047	56	CVS supply	air	20.0	no	no	KLA10 AA001	outside	C	special/air	PS	RM	o/c	o/c	close	close	stage 1	≤ 5 sec	n/a
60BQ250	56	CEC pressure	air	0.5	~~no~~yes	no	KLA60 AA703	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a
60BQ250	56	CSC pressure	air	0.5	~~no~~yes	no	KLA70 AA706	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a
60BQ250	56	CSC pressure	air	0.5	~~no~~yes	no	KLA70 AA707	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a

06.02.04-03

06.02.04-03

Table 6.2.4-1—Containment Penetration, Isolation Valve, and Actuator Data
Sheet 11 of 22

Penetration No.	GDC Req.	System Name	Fluid	Line Size (in)	Essent System	Potent Bypass Path	Valve Number	Valve Location	LLRT	Valve Type and Operator	Primary Actuation	Secondary Actuation	Normal Position	Shutdown Position	Post Accident Position	Power Failure Position	Cont. Isolation Signal	Valve Closure Time	Power Source
60BQ350	56	CEC pressure	air	0.5	~~no~~yes	no	KLA60 AA701	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a
60BQ350	56	CSC pressure	air	0.5	~~no~~yes	no	KLA70 AA701	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a
60BQ350	56	CSC pressure	air	0.5	~~no~~yes	no	KLA70 AA702	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a
60BQ151	56	CEC pressure	air	0.5	~~no~~yes	no	KLA60 AA704	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a
60BQ151	56	CSC pressure	air	0.5	~~no~~yes	no	KLA70 AA708	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a
60BQ151	56	CSC pressure	air	0.5	~~no~~yes	no	KLA70 AA709	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a
60BQ452	56	CEC pressure	air	0.5	~~no~~yes	no	KLA60 AA702	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a
60BQ452	56	CSC pressure	air	0.5	~~no~~yes	no	KLA70 AA703	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a
60BQ452	56	CSC pressure	air	0.5	~~no~~yes	no	KLA70 AA704	outside	C	gate/ manual	manual	manual	open	open	open	n/a	n/a	n/a	n/a
60BQ005	55	GWPS	gas	2.0	no	no	KPL84 AA003	inside	C	globe/ MOV	PS	RM	open	o/c	close	as-is	stage 1	≤ 15 sec	31BRA
60BQ005	55	GWPS	gas	2.0	no	no	KPL84 AA002	outside	C	globe/ MOV	PS	RM	open	o/c	close	as-is	stage 1	≤ 15 sec	34BNB03
60BQ006	55	GWPS	gas	2.0	no	no	KPL85 AA003	inside	C	globe/ MOV	PS	RM	open	o/c	close	as-is	stage 1	≤ 15 sec	31BRA
60BQ006	55	GWPS	gas	2.0	no	no	KPL85 AA004	outside	C	globe/ MOV	PS	RM	open	o/c	close	as-is	stage 1	≤ 15 sec	34BNB03
10BQ007	57	NIDVS	water	3.0	no	no	KTA10 AA017	inside	C	globe/ MOV	PS	RM	open	open	close	as-is	stage 1	≤ 15 sec	34BRA
10BQ007	57	NIDVS	water	3.0	no	no	KTA10 AA018	outside	C	globe/ MOV	PS	RM	open	open	close	as-is	stage 1	≤ 15 sec	31BNB03
10BQ008	56	NIDVS	water	2.0	no	no	KTC10 AA005	inside	C	globe/ MOV	PS	RM	close	o/c	close	as-is	stage 1	≤ 15 sec	31BRA