ArevaEPRDCPEm Resource

From: BRYAN Martin (EXTERNAL AREVA) [Martin.Bryan.ext@areva.com]
Sent: Friday, October 15, 2010 8:49 AM
To: Tesfaye, Getachew
Cc: KOWALSKI David (AREVA); Hearn, Peter
Subject: FW: DRAFT RESPONSES FOR FSAR Chapter 9 Weekly NRC Telecon
Attachments: Blank Bkgrd.gif; DRAFT RESPONSE RAI 351 Q.09.02.05-33.pdf; DRAFT FSAR Figure 9.2.5-1 Markup RAI 351 Q.09.02.05-33.pdf; DRAFT FSAR Figure 9.2.5-2 Markup RAI 351 Q.09.02.05-33.pdf

Importance: High

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Sent: Friday, October 15, 2010 8:45 AM
To: BRYAN Martin (External RS/NB)
Cc: BALLARD Bob (EP/PE); HUDDLESTON Stephen (EP/PE); BRYANT Chad (EP/PE); GARDNER Darrell (RS/NB); MCINTYRE Brian (RS/NB); SLOAN Sandra (RS/NB)
Subject: DRAFT RESPONSES FOR FSAR Chapter 9 Weekly NRC Telecon
Importance: High

Marty:

Please transmit to Getachew Tesfaye the attached partial set of DRAFT responses to RAI 351 questions. These responses will be discussed at today's (10/15/10) FSAR Chapter 9 Weekly Telecon/GoToMeeting with the NRC.

Attached are the following DRAFT response(s):

- Response to RAI 351 - Question 09.02.01-33.
- Response to RAI 351 - Question 09.02.01-33 FSAR Figure 9.2.5-1.
- Response to RAI 351 - Question 09.02.01-33 FSAR Figure 9.2.5-2.

Note that these DRAFT responses have not been through the final Licensing review/approval process; nor do they reflect technical editing.

Please call me if you have any questions. Thanks.

David J. Kowalski, P.E.

Principal Engineer
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DRAFT FSAR Figure 9.2.5-2 Markup RAI 351 Q.09.02.05-33.pdf	1612712	

Options
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Response to

Request for Additional Information No. 351(4112, 4163), Revision 1

01/15/2010

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 09.02.05 - Ultimate Heat Sink
SRP Section: 09.05.01 - Fire Protection Program

Application Section: FSAR Chapter 9

QUESTIONS for Balance of Plant Branch 1 (AP1000/EPR Projects) (SBPA)

DRAFT

Question 09.02.05-33:

Follow-up to RAI 175, Question 9.2.5-20:

10 CFR 52.47(a)25 relates to requirements for site specific items to be identified by the design certification (DC) applicant that must be addressed by the combined operating license (COL) applicant.

1. As a result of this review the staff recommended the addition of a new item to address the final selection of ultimate heat sink (UHS) system piping materials. Accordingly, Final Safety Analysis Report (FSAR) Tier 2 paragraph 9.2.5.3.2 indicates that system materials are selected that are suitable to the site location, UHS fluid properties and site installation. The staff noted that for some site locations the selection of service water system materials in combination with chemical treatment and ongoing inspection programs have proven to be essential for continued assurance of system integrity. Accordingly, the staff recommended that a new COL item be added to FSAR Tier 2 Table 1.8-2, "U.S. EPR Combined License Information Items," that states "A COL applicant that references the U.S. EPR Design Certification will identify the site specific materials selected for UHS piping and components, including the bases for the selections."
2. The staff noted in FSAR Tier 2, Section 9.2.5.2, "System Description" several COL items including UHS makeup water, blowdown and chemical treatment for the control of bidfouling. In accordance with 10 CFR52.47, part 24 a conceptual design of makeup water and blowdown is needed in order to aid the staff it is review and to determine the adequacy of the interface requirements.
3. The staff has identified that Item 2.3-10 which states "A COL applicant that references the U.S. EPR design certification will describe the means for providing UHS makeup sufficient to meet the maximum evaporative and drift water loss after 72 hours through the remainder of the 30 day period consistent with RG 1.27". This item may need clarification due to Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Power Plant", Rev 2, Jan 1976, Section C3, which states in part the UHS should consist of at least two highly reliable water sources.

Based on the staff's review of the applicant's response to RAI 9.2.5-20 (ID1817/7156) AREVA #175, Supplement 2, the following were determined as unresolved and needed further clarification/resolution by the applicant.

In general, the staff found that the conceptual design information that was provided was not sufficiently detailed to demonstrate how NRC regulations and review criteria (such as Regulatory Guide 1.27) are satisfied by the conceptual design. The descriptive information should include the design-bases for the UHS support systems and explain how they are achieved for the certified design, including how applicable NRC requirements and review criteria are satisfied by the conceptual designs. The descriptive information and figures should clearly indicate what parts (if any) are included within the scope of the certified design (the staff noted that this distinction was not made on proposed Figure 9.2.5-2). Based on this more detailed description, Tier 1 interface requirements should be established as appropriate. Therefore, both the descriptive information and the figure that was provided need to be revised accordingly.

DRAFT

Response to Question 09.02.05-33:

In general, the design of the site specific UHS support systems are the responsibility of the COL applicant as stated in Tier 2 Table 1.8-2 Items 2.3-10 and 9.2-1, In addition, the following responses provide additional design information for the UHS support systems:

Refer to the response to RAI 397 09.02.05-36 for the emergency and normal makeup water systems.

Refer to the responses to RAI 351 09.02.05-22, 09.02.05-23(a)(b) and 09.02.05-24(b)(c) for the blowdown systems.

Refer to the responses to RAI 351 09.02.05-23(c) and 09.02.05-24(b) for the chemical treatment system.

Figures 9.2.5-1 and 9.2.5-2 will be revised to clarify the scope of the certified design for the UHS support systems.

Note (for information only): Figures 9.2.5-1 and 9.2.5-2 were also revised as illustrated in responses to RAI 351 09.02.05-23 and RAI 345 09.02.01-35.

FSAR Impact:

U.S. EPR FSAR, Tier 2, Figure 9.2.5-1 and 9.2.5-2 will be revised as described in the response and indicated on the enclosed markup.

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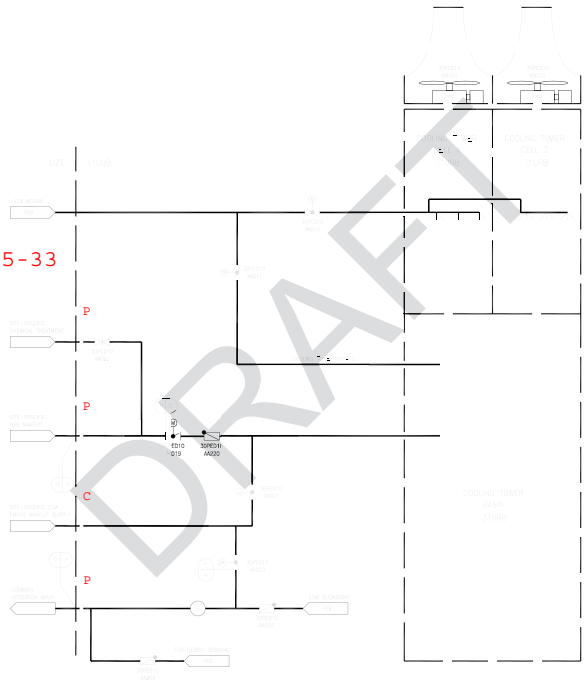
Figure 9.2.5-1—Ultimate Heat Sink Piping and Instrumentation Diagram

RAI 351 09.02.05-33



RAI 351 09.02.05-33

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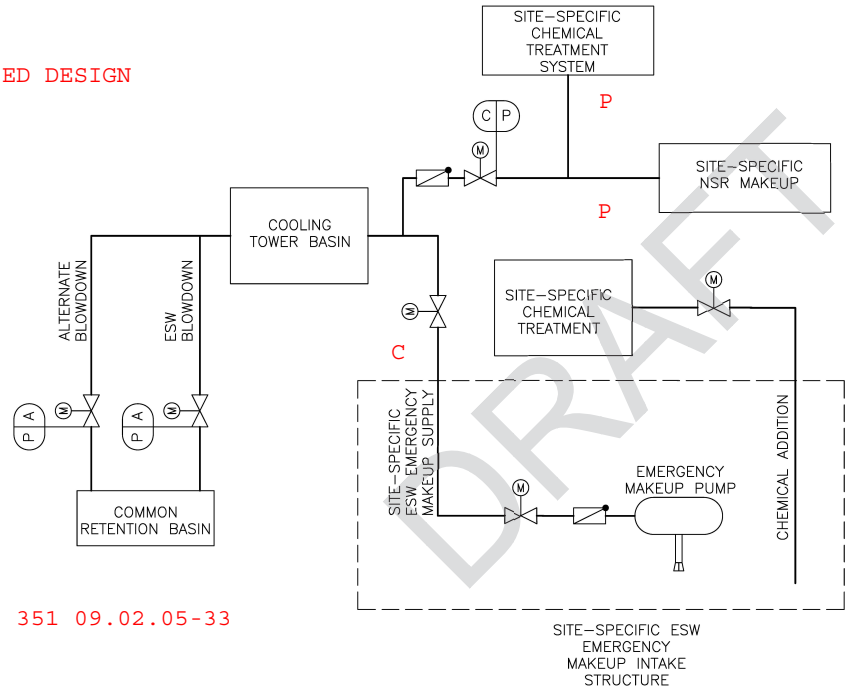
Figure 9.2.5-2—[[Conceptual Site-Specific UHS Systems]]

CERTIFIED DESIGN



RAI 351 09.02.05-33

RAI 351 09.02.05-33

NOTE:
CONFIGURATION SHOWN IS REPRESENTATIVE FOR TRAINS 1, 2, 3, & 4

P	E	NSC
C	C	I
A	C	I
DESIGN AREA	SSC QUALITY GROUP	SSC SEISMIC CLASS

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