AP1000DCDFileNPEm Resource

From: Loza, Paul G. [lozapg@westinghouse.com]
Sent: Monday, August 03, 2009 4:42 PM
To: Buckberg, Perry
Cc: Butler, Rhonda; Altmayer, Scott A
Subject: FW: New AP1000 SRP9.2.2 RAIs from Audit
Attachments: RAI-SRP9.2.2-SBPA-13-ccws.pdf; RAI-SRP9.2.2-SBPA-14-rxcws.pdf

Perry,

I acknowledge for Westinghouse receipt of RAI-SRP9.2.2-SBPA-13 and -14. I will advise you of the need for a phone call on the subject.

thanks,

Paul Loza

Hearing Identifier: AP1000_DCD_Review
Email Number: 230

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Subject: FW: New AP1000 SRP9.2.2 RAIs from Audit
Sent Date: 8/3/2009 4:42:22 PM
Received Date: 8/3/2009 4:42:29 PM
From: Loza, Paul G.

Created By: lozapg@westinghouse.com

Recipients:
"Butler, Rhonda" <Rhonda.Butler@nrc.gov>
Tracking Status: None
"Altmayer, Scott A" <altmaysa@westinghouse.com>
Tracking Status: None
"Buckberg, Perry" <Perry.Buckberg@nrc.gov>
Tracking Status: None

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Files	**Size**	**Date & Time**
MESSAGE	191	8/3/2009 4:42:29 PM
RAI-SRP9.2.2-SBPA-13-ccws.pdf	39598	
RAI-SRP9.2.2-SBPA-14-rxcws.pdf	43002	

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

New RAIs based on AP10001 R17
For central chilled water system (Section 9.2.7)
RAI SRP9.2.2-SBPA-xx
Specific sections of SRP Section 9.2.2, "Reactor Auxiliary Cooling Systems," apply to the central chilled water system (CCWS), such as the requirements of GDC 2, or the capability of structures housing the CCS or its components to withstand the effects of natural phenomena and not impact the nonsafety-related portions of the CCS to perform their intended functions, in accordance with the guidance of Regulatory Position C.2 of RG 1.29.
Since the CCWS is a nonsafety-related, closed-loop cooling system that transfers heat from various nonsafety-related plant components via water or air cooled chillers, portions of SRP 9.2.2 that apply to safety-related systems do not apply to the AP1000 CCWS, except for the containment isolation portion. Although the CCWS is non-safety-related, the low-capacity subsystem is considered to be important to safety because it provides chilled water for cooling safety-related and defense-indepth equipment rooms. The staff's evaluation focused primarily on confirming that the changes will not adversely affect safety-related SSCs or those that satisfy the criteria for regulatory treatment of non-safety systems (RTNSS), the capability of the CCWS to perform its RTNSS and defense-in-depth cooling functions, and the adequacy of ITAAC, test program specifications, and RTNSS availability controls that have been established for the CCWS.
In Revision 17 to DCD Tier 2 Section 9.2.7.2.2, "Component Description," the applicant proposed to revise the design temperature of the CCWS piping inside containment from 320" F to 200°F. The staff finds that lowering the design temperature of the CCWS piping inside containment is a reduction in conservatism. In order to determine the acceptability of this change, the staff requested, that Westinghouse provide the basis for the change in CCWS piping design temperature and justify, through evaluation, why this change is acceptable.

For reactor component cooling water system (Section 9.2.2)
RAI SRP9.2.2-SBPA-xx
Specific sections of SRP Section 9.2.2, "Reactor Auxiliary Cooling Systems," apply to the component cooling system (CCS), such as the requirements of GDC 2, or the capability of structures housing the CCS or its corr~ponentsto withstand the effects of natural phenomena and not impact the nonsafety-related portions of the CCS to perform their intended functions, in accordance with the guidance of Regulatory Position C.2 of RG 1.29.
Since the CCS is a nonsafety-related, closed-loop cooling system that transfers heat from various nonsafety-related plant components to the SWS during normal plant operation, portions of SRP 9.2.2 that apply to safety-related systems do not apply to the API 000 CCS, except for the containment isolation portion. Even though CCS also removes heat from various safety-related components such as the reactor cooling pumps, the cooling water to the reactor cooling pumps is not needed to perform its safety-related function.
CCS is considered important-to-safety because: 1) it supplies the normal (defensein-depth) capability of removing reactor and spent fuel decay heat, 2) it is part of the first line of defense for reducing challenges to passive safety systems in the event of transients and plant upsets, and 3) its cooling function is important for reducing shutdown risk when the reactor coolant system is open (e.g., mid-loop operation).
The risk importance of CCS makes it subject to regulatory treatment of non safety systems (RTNSS) in accordance with the Commission's policy for passive reactor designs. The staff's evaluation of the proposed changes focus primarily on confirming that the changes will not adversely affect safety-related systems, structures, and components (SSCs) or those that satisfy the criteria for RTNSS; the capability of the CCS to perform its defense-in-depth and RTNSS functions; and the adequacy of inspections, tests, analyses and acceptances criteria (ITAAC), test programs specifications, and availability controls that have been established for the CCS.
In APP-GW-GLE-036, the applicant states that the most limiting component is the RCP motor cooling system and temperatures of up to 37.8 "C (100 O F) for duration of 6 hours are acceptable. In the DCD Revision 17 Table 5.4-1, the RCP maximum continuous component cooling water inlet temperature is given as 35 "C (95 OF) with a 6 hour elevated temperature of up to 43.3 "C (1 10 OF). Additionally the applicant identifies in the DCD that an input to a reactor trip is RCP "Hi Bearing Temperature" but there is no mention of high motor temperature. As a result of the design change to canned RCPs, verify that the RCP motor cooling system is still the most limiting CCS supply temperature. If the RCP motor cooling system is no longer the most limiting CCS cooled component, identify and provide the evaluation of the impacts of the revised wet bulb temperature limit on the plant for the new limiting component.