AP1000DCDFileNPEm Resource

From: Adams II, Samuel L. [adamssl@westinghouse.com]
Sent: Thursday, April 24, 2008 9:43 AM
To: Michael Miernicki
Cc: Perry Buckberg; Rhonda Carmon
Subject: FW: RAI's SRP 3.4.1 - SBPA-01 through 05
Attachments: AP1000 SRP 3 4 1- RAI.doc

Hi Mike,

I acknowledge receipt of the attached RAIs on SRP Section 3.4.1.

I will let you know as soon as possible if a clarification call is necessary.

Thanks.

Sam

From: Michael Miernicki [mailto:Michael.Miernicki@nrc.gov]
Sent: Tuesday, April 15, 2008 3:43 PM
To: Adams II, Samuel L.
Cc: Perry Buckberg; Rhonda Carmon
Subject: RAI's SRP 3.4.1 - SBPA-01 through 05

Sam, please see attached RAIs, and let me know as soon as possible whether Westinghouse understands these questions or whether a conference call is necessary for any clarifications. Thanks.

Mike

Michael J. Miernicki
Project Manager
NRC/NRO/DNRL/NWE2
301-415-2304

Hearing Identifier: AP1000_DCD_Review
Email Number: 29

Mail Envelope Properties (9950B72C4C6D8D43958795C414DE477A05BF2A32)

Subject: FW: RAI's SRP 3.4.1 - SBPA-01 through 05
Sent Date: 4/24/2008 9:43:04 AM
Received Date: 4/24/2008 9:44:26 AM
From: Adams II, Samuel L.

Created By: adamssl@westinghouse.com

Recipients:
"Perry Buckberg" <Perry.Buckberg@nrc.gov>
Tracking Status: None
"Rhonda Carmon" <Rhonda.Carmon@nrc.gov>
Tracking Status: None
"Michael Miernicki" <Michael.Miernicki@nrc.gov>
Tracking Status: None

Post Office: SWEC9910.w-intra.net

Files	**Size**	**Date & Time**
MESSAGE	713	4/24/2008 9:44:26 AM
AP1000 SRP 3 4 1- RAI.doc	30784	

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

RAI - SRP 3.4.1 – SBPA - 01

In the AP1000 DCD Revision 16, Section 3.4.1.1.2, the applicant proposed to modify a statement to identify that two watertight doors on the two waste holdup tank compartments are needed to protect safe shutdown components from the effects of internal floods, and are provided to limit the consequences of failure on the spent fuel pit.

However, the applicant did not provide a justification for this change. Please address the following considerations to demonstrate compliance with GDC 4, "Environmental and Dynamic Effects Design Bases:"

1) identify the flood source(s) associated with the spent fuel pit flooding event and the potential flood volume;

2) provide the volume of a waste hold-up tank compartment; and

3) identify the safe shutdown components which are protected by these watertight doors, and provide the design criteria applied for the proper functioning of these doors in the internal flood events considered.

RAI - SRP 3.4.1 – SBPA - 02

In DCD Section 3.4.1.2.2.2, the applicant modified a statement with changes underlined as follows: "With the worst crack location being the 6 inch line between the valves and the flow control orifices. This leak is not isolable from the *755,000* ~~800,000~~ gallon passive containment cooling system water storage tank above the valve room."

In NUREG-1793, Section 6.2.1.6 the staff concluded that a usable volume of 756,700 gallons existed (which is slightly more) for passive containment heat removal.

Clarify and resolve the apparent discrepancy of the volume of water in the PCS water storage tank.

RAI - SRP 3.4.1 – SBPA - 03

In DCD Section 3.4.2.2.2.3, the applicant modified the following statement to read: "Water accumulation at elevation 100′-0″is minimized by floor drains to the annex building sump and by flow under the access doors to leading directly to the yard area."

This change eliminated reference to a previously credited flow path through the turbine building because the access door at the 100' elevation level has been eliminated from the design, as described in TR 105, APP-GW-GLN-105, "Building and Structure Configuration, Layout, and General Arrangement Design Updates."

Clarify the effect of eliminating this drainage pathway on the results of the internal flooding analysis and verify that it does not result in any increased water level buildup that would require further evaluation.

RAI - SRP 3.4.1 – SBPA - 04

In DCD Section 3.4.1.2.2.3, the applicant modified the following statement to read: "Water accumulation at elevation 100′-0″is minimized by floor drains to the annex building sump and by flow under the access doors to leading directly to the yard area."

This change eliminated reference to a previously credited flow path through the turbine building because the access door at the 100' elevation level has been eliminated from the design, as described in TR 105, APP-GW-GLN-105, "Building and Structure Configuration, Layout, and General Arrangement Design Updates." However, in the next paragraph in the DCD, the applicant credits a drainage path through the turbine building for preventing water accumulation in battery rooms as stated below:

> "The non-Class 1E dc and UPS system (EDS) equipment with regulatory treatment of nonsafety-related systems important missions is located on elevation 100′-0″ in separate battery rooms. Water in one of these rooms due to manual fire fighting in the room is collected by floor drains to the annex building sump *or flows to the turbine building under doors* or to the yard area through doors."

Clarify whether a drainage path through the turbine building remains in the flood analysis. If there is no longer a drainage path then clarify the effect of eliminating this drainage pathway on the results of the internal flooding analysis and verify that it does not result in any increased water level buildup that would require further evaluation.

RAI – SRP 3.4.1 – SBPA – 05

In TR 105, APP-GW-GLN-105, "Building and Structure Configuration, Layout, and General Arrangement Design Updates," Section 4.4, the applicant describes structural changes performed to the Auxiliary Building. Please confirm that the Auxiliary Building internal flooding analysis described in DCD Section 3.4.1.2.2.2 has been updated to reflect these changes and remains valid. Given that some of the proposed changes involve additional connections between the Annex Building and the Auxiliary Building, discuss how these changes affect the (Auxiliary Building) analysis with initiating events in the Annex Building.