AP1000DCDFileNPEm Resource

From: Adams II, Samuel L. [adamssl@westinghouse.com]
Sent: Wednesday, September 03, 2008 7:55 AM
To: Bill Gleaves
Cc: Perry Buckberg; Rhonda Carmon
Subject: FW: AP1000 SRP 6.2.1.1 Containment External Pressure & Wet Bulb Draft RAIs
Attachments: image001.jpg; AP1000 SRP6.2.1.1 draft RAIs.doc

Hi Billy,

We do not require a clarification call for the attached RAIs on SRP6.2.1.1.

Our current schedule for response is October 3, 2008.

Thanks.

Sam

From: Bill Gleaves [mailto:Bill.Gleaves@nrc.gov]
Sent: Monday, August 18, 2008 10:33 AM
To: Adams II, Samuel L.
Cc: Christopher Jackson; Michelle Hayes (NRO); Ruth Reyes; Eileen McKenna; Rhonda Carmon
Subject: AP1000 SRP 6.2.1.1 Containment External Pressure & Wet Bulb Draft RAIs

Sam,

Attached are new RAIs from our SRP 6.2.1.1 based review of your proposed AP1000 design. Please review these draft RAIs and respond with a list of those draft RAIs with which you desire a teleconference and those RAIs that you accept. For the RAIs which you request a teleconference, we will consider them to be "draft" until the completion of the conference call. For those RAIs you accept, we will consider those to be "final" RAIs. We suggest a response time of 30 days.

Sincerely,
Billy

William Gleaves
US NRC/NRO/DNRL/NWE2
Sr. Project Manager

(301) 415-5848 Work
(443) 756-9019 Mobile
Bill.Gleaves@nrc.gov
Mail Stop T-7F27
Washington, DC 20555

Hearing Identifier: AP1000_DCD_Review
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Subject: FW: AP1000 SRP 6.2.1.1 Containment External Pressure & Wet Bulb Draft RAIs
Sent Date: 9/3/2008 7:54:37 AM
Received Date: 9/3/2008 7:54:41 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
"Bill Gleaves" <Bill.Gleaves@nrc.gov>
Tracking Status: None

Post Office: SWEC9966.w-intra.net

Files	**Size**	**Date & Time**
MESSAGE	1360	9/3/2008 7:54:41 AM
image001.jpg	11171	
AP1000 SRP6.2.1.1 draft RAIs.doc	27200	

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

William Gleaves
US NRC/NRO/DNRL/NWE2
Sr. Project Manager

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SRP 6.2.1.1
Requests for Additional Information
AP1000 Design Certification Amendment, Revision 16
Containment External Pressure & Wet Bulb

Change to External Pressure Analysis

RAI-SRP 6.2.1.1-SPCV-01
APP-GW-GLR-134 Rev. 5 reduces the initial containment temperature used in the external pressure analysis in DCD Section 6.2.1.1.4 from the technical specification maximum of 120°F to a "conservatively calculated" 69°F. Provide details of the analysis that was used to calculate this new internal temperature. Include assumptions and explain why the result is conservative. In order for the staff to perform confirmatory calculations, provide the heat transfer coefficients assumed at the external and internal surfaces of the containment, baffle, and shield building, and the heat loads into the containment atmosphere. Specify whether or not operational leakage was included as a heat source.

RAI-SRP 6.2.1.1-SPCV-02
APP-GW-GLR-134 Rev. 5 changes the limiting event of the containment external pressure analysis of DCD Section 6.2.1.1.4 from loss of ac power during operation at low ambient conditions to inadvertent actuation of fan coolers at low ambient conditions. Explain why the change was made and which event is more conservative. Explain why the selected event is more limiting than a sudden decrease in ambient temperature.

RAI-SRP 6.2.1.1-SPCV-03
APP-GW-GLR-134 Rev. 5 revises the containment external pressure analysis of DCD Section 6.2.1.1.4 by changing the limiting event and reducing the initial containment temperature. In order for the staff to perform confirmatory calculations, provide the heat removal capability of the containment fan coolers, the heat transfer coefficients assumed at the external and internal surfaces of the containment steel vessel, baffle, and shield building, and the heat loads into the containment atmosphere. Address the fact that the WGOTHIC model described in Chapter 13 of WCAP-15846 is conservatively biased to maximize containment pressure, whereas the WGOTHIC model used in this analysis should be conservatively biased to minimize containment pressure.

RAI-SRP 6.2.1.1-SPCV-04
The external pressure analysis in DCD Section 6.2.1.1.4 assumes a steady 48 mph wind. Provide the basis for this assumption and describe the calculations and assumptions which were made to determine the effect of wind on the external containment vessel heat transfer.

Increase in Wet Bulb Temperature

RAI-SRP 6.2.1.1-SPCV-05
APP-GW-GLE-036 proposes changing the ambient wet bulb temperature initial condition for the containment analysis documented in DC Section 6.2. The basis for the change is stated to be a bounding sensitivity analysis performed and documented in the "Nuclear Safety Containment Analysis for AP1000." Because this reference cannot be located, provide details on the assumptions, modeling and results of the bounding sensitivity analysis.