AP1000DCDFileNPEm Resource

From: Adams II, Samuel L. [adamssl@westinghouse.com]
Sent: Tuesday, May 06, 2008 3:35 PM
To: Bill Gleaves
Cc: Perry Buckberg; Rhonda Carmon
Subject: FW: AP1000 RAIs from SPCV on Chapter 6
Attachments: SPCV RAIs Rev3.doc

Hi Billy,

I acknowledge receipt of the attached RAIs on SRP 6.2.1.2, 6.2.2, 6.2.4, 6.4 and 6.0.

Please note that I have assigned SRP6.0 into the numbers for the final 3 RAIs in place of 'MISC'.

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

Thanks.

Sam

From: Bill Gleaves [mailto:Bill.Gleaves@nrc.gov]
Sent: Tuesday, May 06, 2008 8:47 AM
To: Adams II, Samuel L.
Cc: David Jaffe
Subject: AP1000 RAIs from SPCV on Chapter 6

Sam,

Attached are 12 RAI questions from Chris Jackson's group on its SRP Chapter 6 review of your AP1000 DCD Rev. 16 as updated to date. Please acknowledge your receipt of this email. When you have finished your review of these questions, please reply stating either that you understand them and are preparing your responses or that you are requesting a conference call.

Respectfully,
Billy

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Subject: FW: AP1000 RAIs from SPCV on Chapter 6
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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

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AP1000 Design Certification Amendment
RAIs from Containment and Ventilation Branch 1 (SPCV)

RAI – SRP 6.2.1.2 – SPCV – 01
In DCD 6.2.1.2, the TMD computer code and models described in WCAP-15965-P were used to calculate the differential pressure across subcompartment walls. However, as described in APP-GW-GLR-016 (TR 36) Rev. 0, changes were later made to the pressurizer diameter and height and to the wall height of the pressurizer compartment. Describe the impact of these dimensional changes on the subcompartment model input and analysis results for the pressurizer compartment.

RAI – SRP 6.2.1.2 – SPCV – 02
DCD Rev. 16, Section 6.2.1.2.3.2 identifies the pressurizer compartment elevations assumed for a pressurizer spray break. APP-GW-GLR-134 (TR 134) Rev. 4 changed the upper elevation to be consistent with changes made to the pressurizer structure in APP-GW-GLR-016 (TR 36) Rev. 0. The revised height of the pressurizer wall is 160 feet, but the upper elevation of pressurizer compartment was changed to 163 feet. Explain the differences between the 160 and 163 foot heights.

RAI – SRP 6.2.2 – SPCV – 01
In DCD Rev. 16, Figure 6.2.2-1, the 2 inch L017 and 1 inch L001A were combined into a single 3 inch L001A. APP-GW-GLN-019 (TR 103) Rev. 2 states the change was made in order to achieve flow rates required for adequate containment cooling. Confirm that the design flow rates identified in Table 6.2.2-1 are unaffected and explain how the single 3 inch line will achieve these flow rates.

RAI – SRP 6.2.2 – SPCV – 02
In DCD Rev. 16, Figure 6.2.2-1, a spray system was added to the spent fuel pool. As a result, the line leading from the PCCWST to the spent fuel pool was moved to a lower tank connection and increased from 2 inch to 3 inch. Describe the impact these changes have on the PCCWST performance parameters specified in Table 6.2.2-1. Confirm that the parameters in this table related to the spent fuel pool include the supply to the new spent fuel pool spray header. Describe the way in which this change impacts the maximum flow for PCCWST long-term makeup to spent fuel pool.

In response to RAI-TR127-SPCV-01, Westinghouse stated “The use of the spent fuel pool spray is not anticipated during design basis postulated accidents.” Describe the consequence of unanticipated use of spent fuel pool spray during design basis postulated accidents. Describe the use and how the valves are controlled to ensure water is not distributed to the spent fuel pool cooling system when it is also needed for containment cooling and or passive residual heat removal systems.

RAI – SRP 6.2.2 – SPCV – 03
In DCD Rev. 15, 6.2.2.4 stated that the frequency of operational testing of the passive containment cooling system (PCS) was consistent with the plant technical specifications and the inservice testing program. APP-GW-GLN-138 (TR 138) Rev. 0 removed the reference to the plant technical specifications. This change was not specifically addressed in TR 138, and the plant technical specifications do contain the frequency for operational testing of the water flow and air flow. Provide the rationale for this change.

RAI – SRP 6.2.2 – SPCV – 04
In DCD Tier 1 Table 2.2.2-2, the Line Numbers identified for the last two rows are not consistent with the changes made to Figure 6.2.2-1. Describe any corrections, if necessary, to Table 2.2.2-2.

RAI – SRP 6.2.2 – SPCV – 05
In Westinghouse's response to RAI-TR127-SPCV-01, dated November 9, 2007, it is stated that the safety related SFP spray header isolation valve, PCS-PL-052, will be added to Table 3.2-3 of the DCD as an ASME Class III component. This change has yet to be made to DC Amendment. Describe how and when this change will be made.

RAI – SRP 6.2.4 – SPCV – 01
10CFR 50, Appendix A, General Design Criteria 55, 56, and 57 require that containment isolation valves outside containment be located as close to containment as practical. Standard Review Plan 6.2.4, Containment Isolation System, Acceptance Criterion 9 also invokes this requirement and directs the reviewer to review the location of the valves with respect to the containment. In the DCD, Rev. 16 amendment, the normal position of an outside containment isolation valve is being changed and Table 6.2.3-1, Containment Mechanical Penetrations and Isolation Valves, is being revised, however the length of pipe from the containment to the outboard containment isolation valve is not provided. Provide the length of pipe from the containment to the outboard containment isolation valve.

RAI – SRP 6.4 – SPCV – 01
NRC issued Generic Letter 2003-11 to alert addressees to findings that the control room licensing and design bases, and applicable regulatory requirements may not be met, and that existing specification surveillance requirements (SRs) may not be adequate.

In 2006, NRC staff approved modification to the standard technical specification (STS) (NUREGs 1430-1434) that were proposed by the pressurized and boiling water reactor owners groups Technical Specifications Task Force (TSTF), in STS change traveler TSTF-448 Rev. 3. TSTF-448 Rev. 3 addresses the trace gas surveillance, adding a Technical Specification Action for an inoperable Control Room Envelope (CRE), and by instituting a CRE Habitability Program that will ensure that CRE habitability is maintained.

DCD Rev. 16, Tier 2 Sections 6.4.5.1 and 6.4.5.4 commit to performing tracer gas testing during preoperational inspection and testing, and periodically during the life of the unit in accordance with Regulatory Guide 1.197; it also commits to perform follow up self-assessments, However, AP1000 generic technical specifications (GTS) do not contain a SR to measure unfiltered inleakage into the CRE (the tracer gas test), required actions for an inoperable CRE boundary, and a CRE Habitability Program as approved by the NRC in STS generic change TSTF-448, "Control Room Habitability," Rev. 3.

Provide changes to the DCD or the justification for this deviation from the STS made by TSTF-448 in AP1000 DCD Chapter 16, "Technical Specifications."

RAI – MISC – SPCV – 01
DCD Rev. 16, Figure 6.2.2-1 Note 11 was changed from, "Tank Volume Contained Between the Termination Points of Lines L064 and L069 shall provide for the minimum fire water volume." TO "L069, and L205 are designed to withstand a safe shutdown earthquake. L064 and L069 shall provide for the minimum fire water volume." Explain the significance of this change.

RAI – MISC – SPCV – 02
DCD Section 6.5.2.1 describes the containment spray system, "as shown in Figure 9.5.1-1, sheets 1 through 3." The 6.5.2.1 text was not altered in the DCD Amendment, but Figure 9.5.1-1 was changed as described in APP-GW-GLN-131 (TR 131) Rev. 1. As a result of this change, a) 6.5.2.1 text states that the source of containment spray water is the secondary fire protection system water tank, but Figure 9.5.1-1 shows source is "PCS TK/YARD MAIN", b) 6.5.2.1.1 text describes V701 as a normally closed remotely-operated valve, but Figure 9.5.1-1 shows it as normally open, and c) 6.5.2.1.2 text states ring header elevations are 260 ft and 275 ft and Tier 1 Table 2.3.4-2 Item 6 states containment spray nozzle elevations are at least 260 ft and 275 ft but Figure 9.5.1-1 shows 250 ft and 235 ft. For each item a) – c), explain the discrepancy.

RAI – MISC – SPCV – 03
Westinghouse submitted a request to modify the DCD to incorporate the ability to inject a small quantity of zinc acetate into the reactor coolant system. The description of this proposed change is in APP-GW-GLN-002 (TR-32). The modification results in changing the outside containment isolation valve, CVS-V092, from normally closed, failed closed (NC/FC) to normally open, failed closed (NO/FC). This change is indicated in DCD, Rev. 16, Tier 2, Table 6.2.3-1, "Containment Mechanical Penetrations and Isolation Valves" and shown in Figure 9.3.6-1, sheet 1 of 2. However, DCD, Rev 16, section 9.3.6, "Hydrogen Addition Containment Isolation Valve", should indicate that the valve is normally open and fails closed. Also, Table 9.3.1-1, "Safety-Related Air Operated Valves", CVS-PL-V092 position should read NO/FC. Describe the correct configuration.