

AP1000DCDFileNPEm Resource

From: Butler, Rhonda
Sent: Monday, November 30, 2009 8:15 AM
To: AP1000DCDFileNPEm Resource
Subject: AP1000 DCD Capture - 11/25/09 re: Acknowledgement of RAI-SRP17.4-SPLA-05
Attachments: Shutdown DRAP RAI.DOC

From: Loza, Paul G. [mailto:lozapg@westinghouse.com]
Sent: Wednesday, November 25, 2009 1:30 PM
To: Clark, Phyllis
Cc: Butler, Rhonda; Buckberg, Perry; Jaffe, David; Sisk, Robert B.; Peck, Donald E.; Miller, Joshua D
Subject: Acknowledgement of RAI-SRP17.4-SPLA-05

Hi Phyllis,

I acknowledge receipt for Westinghouse of RAI-SRP17.4-SPLA-05.

Thanks,

Paul

From: Clark, Phyllis [mailto:Phyllis.Clark@nrc.gov]
Sent: Wednesday, November 25, 2009 8:49 AM
To: Loza, Paul G.
Cc: Butler, Rhonda; Buckberg, Perry; Jaffe, David
Subject: FW: RAI
Importance: High

Hi Paul,

Attached is **RAI-SRP17.4-SPLA-05**. Please acknowledge receipt and let me know if a conference call is needed.

Thanks,

Phyllis

Hearing Identifier: AP1000_DCD_Review
Email Number: 249

Mail Envelope Properties (44CD2E65B0FF0E499CB32BC30CF781F00359AEC51B)

Subject: AP1000 DCD Capture - 11/25/09 re: Acknowledgement of
RAI-SRP17.4-SPLA-05
Sent Date: 11/30/2009 8:15:25 AM
Received Date: 11/30/2009 8:15:23 AM
From: Butler, Rhonda

Created By: Rhonda.Butler@nrc.gov

Recipients:
"AP1000DCDFileNPEm Resource" <AP1000DCDFileNPEm.Resource@nrc.gov>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

Files	Size	Date & Time
MESSAGE	783	11/30/2009 8:15:23 AM
Shutdown DRAP RAI.DOC	23106	

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

RAI-SRP17.4-SPLA-05

The staff reviewed Appendix E of DCD Chapter 19, Revision 17, where the applicant describes the safety-related chemical and volume control system (CVS) letdown isolation function during shutdown. During shutdown, the safety-related CVS containment isolation valves must automatically isolate on low hot leg level. This signal is generated by the safety-related protection and monitoring system (PMS). The failure of these CVS valves contributes significantly to the frequency of over-draining the reactor coolant system while attempting to achieve mid-loop conditions (IEV-RCSOD). This initiating event has a risk achievement worth (RAW) on the order of one thousand.

Similarly, when the reactor coolant system is pressurized, the inadvertent opening of a valve in the normal residual heat removal system can result in a LOCA during safe/cold shutdown (IEV-LOCA24ND). The RAW value for this initiating event is also on the order of one thousand.

Both of these valves were listed in the DCD Table 17.4, "Design Reliability Assurance Program"; however, only the function of closure on manual actuation of containment isolation using the diverse actuation system was identified as the basis for their inclusion. According to the SRP, all reasons for including components in the D-RAP should be documented in Table 17.4.

It appears that component failures used to calculate initiating event frequencies with high RAW values were not evaluated as a reason for the inclusion of SSCs within the scope of D-RAP. Based on these findings, the staff requests the following actions:

1. Update Table 17.4 of the DCD to include the closure of the safety-related CVS containment isolation valves by PMS to support the safety-related shutdown letdown isolation function.
2. Review all initiating events with frequencies that were calculated on the basis of component failure data (other than those explicitly addressed in the at-power model). Address both core damage frequency and large release frequency, in all MODES. (Initiating events of low RAW may be screened.) Please evaluate the associated components for inclusion within the scope of the D-RAP. Document the rationale for their inclusion (in RAP) in Table 17.4 of the AP1000 DCD and the associated tables in Tier 1 Section 3.7.