AP1000DCDFileNPEm Resource

From: Melton, Michael A [melto1ma@westinghouse.com]
Sent: Wednesday, July 14, 2010 1:12 PM
To: Donnelly, Patrick
Cc: Behnke, Donald H.; Loza, Paul G.
Subject: Gas Accumulation draft DCD Changes
Attachments: 07-07-10 R2 Holder Item.doc

Patrick,

We worked these draft DCD changes through with the DCWG and are now ready to discuss with the staff. Please review the proposed DCD changes. I will call you to discuss.

Don Behnke is out this week so I can help with the interface.

-Thanks, Mike

Hearing Identifier: AP1000_DCD_Review
Email Number: 501

Mail Envelope Properties (61EA882EF664FC40AEFFD704C92059670604F72374)

Subject: Gas Accumulation draft DCD Changes
Sent Date: 7/14/2010 1:11:59 PM
Received Date: 7/14/2010 1:12:01 PM
From: Melton, Michael A

Created By: melto1ma@westinghouse.com

Recipients:
"Behnke, Donald H." <behnkedh@westinghouse.com>
Tracking Status: None
"Loza, Paul G." <lozapg@westinghouse.com>
Tracking Status: None
"Donnelly, Patrick" <Patrick.Donnelly@nrc.gov>
Tracking Status: None

Post Office: SWEC9982.w-intra.net

Files	**Size**	**Date & Time**
MESSAGE	269	7/14/2010 1:12:01 PM
07-07-10 R2 Holder Item.doc	31296	

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

DRAFT DCD Additions to address Gas Accumulation

5.4.7.6.2 Periodic Inspection

Periodic system surveillance and venting procedures are implemented to prevent gas accumulation and minimize or eliminate gas whenever identified. These procedures include a means to track and trend accumulated gas such that problem areas can be systematically identified, documented and corrected.

6.3.6.3 Mitigation of Gas Accumulation

Periodic system surveillance and venting procedures are implemented that aim to prevent gas accumulation and minimize or eliminate gas whenever found. These procedures include a means to track and trend accumulated gas such that problem areas can be systematically identified, monitored and corrected.

6.3.8.3 System Gas Accumulation Assessment

The AP1000 passive plant design has implemented passive safety system design features, including some continuously gas monitored and alarmed locations, and Technical Specifications and Surveillance Requirements, specifically intended to identify unintended gas accumulations that could potentially challenge passive safety system equipment operability. These gas intrusion design features have been reviewed and accepted as part of AP1000 DCD Revision 15 certification.

AP1000 design finalization activities include reviews of pipe layout and routing drawings to identify high-point vent and low-point drain locations. This existing design activity was expanded for the passive safety systems, to integrate the draft ISG-019 gas intrusion assessment guidance into the AP1000 design process, helping to confirm that the potential issues identified in Generic Letter (GL) 2008-01 have been addressed within the AP1000 design. Westinghouse also performed a comprehensive assessment for gas intrusion within the AP1000 passive safety systems, consistent with the methodology in NEI 09-10 as applied in current operating plants, and consistent with the additional guidance in the ISG.

For AP1000, the Structures, Systems, and Components (SSCs) of the passive safety systems that are used to establish and maintain safe shutdown conditions for the plant are identified and discussed in DCD Sections 7.4.1.1 and 7.4.2, and listed in Table 7.4-1. These same SSCs that provide the AP1000 safe shutdown capability also provide the passive, safety-related accident mitigation functions, including those that are equivalent to the ECCS, DHR, and containment spray system functions for active plants specified in the GL.

As a result of this review, Westinghouse incorporated design modifications to improve system venting capability and eliminate potential nitrogen gas accumulation in the accumulator discharge connection to a higher elevation in the vertical portion of the DVI line. In addition, Westinghouse added additional vent valves to appropriate safety system lines evaluated as described above.

DRAFT