

KHNPDCDRAIsPEm Resource

From: Ciocco, Jeff
Sent: Monday, November 21, 2016 9:28 AM
To: apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Jung-ho Kim (jhokim082@gmail.com); Andy Jiyong Oh; Tony Daegeun Ahn; Tyree, Christopher
Cc: Nolan, Ryan; Dias, Antonio; Wunder, George; McCoppin, Michael
Subject: APR1400 Design Certification Application RAI 530-8714 (10.03 - Main Steam Supply System)
Attachments: APR1400 DC RAI 530 SPSB 8714.pdf

KHNP,

The attachment contains the subject request for additional information (RAI). This RAI was sent to you in draft form. Your licensing review schedule assumes technically correct and complete responses within 30 days of receipt of RAIs. However, KHNP requests, and we grant, 60 days to respond to this RAI. We may adjust the schedule accordingly.

Please submit your RAI response to the NRC Document Control Desk.

Thank you,

Jeff Ciocco
New Nuclear Reactor Licensing
301.415.6391
jeff.ciocco@nrc.gov



Hearing Identifier: KHNP_APR1400_DCD_RAI_Public
Email Number: 588

Mail Envelope Properties (b97bad4e63b04a58a25f171e37ebe98d)

Subject: APR1400 Design Certification Application RAI 530-8714 (10.03 - Main Steam Supply System)
Sent Date: 11/21/2016 9:27:45 AM
Received Date: 11/21/2016 9:27:51 AM
From: Ciocco, Jeff

Created By: Jeff.Ciocco@nrc.gov

Recipients:

"Nolan, Ryan" <Ryan.Nolan@nrc.gov>
Tracking Status: None
"Dias, Antonio" <Antonio.Dias@nrc.gov>
Tracking Status: None
"Wunder, George" <George.Wunder@nrc.gov>
Tracking Status: None
"McCoppin, Michael" <Michael.McCoppin@nrc.gov>
Tracking Status: None
"apr1400rai@khnp.co.kr" <apr1400rai@khnp.co.kr>
Tracking Status: None
"KHNPDCDRAIsPEM Resource" <KHNPDCDRAIsPEM.Resource@nrc.gov>
Tracking Status: None
"Jungcho Kim (jhokim082@gmail.com)" <jhokim082@gmail.com>
Tracking Status: None
"Andy Jiyong Oh" <jiyong.oh5@gmail.com>
Tracking Status: None
"Tony Daegeun Ahn" <daegeun.ahn@gmail.com>
Tracking Status: None
"Tyree, Christopher" <christopher.tyree@aeacom.com>
Tracking Status: None

Post Office: R4PWMSMRS03.nrc.gov

Files	Size	Date & Time
MESSAGE	608	11/21/2016 9:27:51 AM
APR1400 DC RAI 530 SPSB 8714.pdf	106827	
image001.jpg	5040	

Options

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

REQUEST FOR ADDITIONAL INFORMATION 530-8714

Issue Date: 11/21/2016
Application Title: APR1400 Design Certification Review – 52-046
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.
Docket No. 52-046
Review Section: 10.03 - Main Steam Supply System
Application Section: 10.3

QUESTIONS

10.03-7

Follow-up to RAI 8570, Question 10.03-4

GDC 2 requires that SSCs important to safety are designed to withstand the effects of natural phenomena, such as earthquakes, without loss of the capability to perform their safety function. In addition, SRP 10.3, Section III, item 3 specifies that essential portions of the main steam supply system are designed to Quality Group B and/or seismic Category I requirements.

On June 29, 2016, KHNP provided its response to RAI 8570, Question 10.03-4, related to the classification of the discharge piping of the main steam atmospheric dump valves (MSADVs) and the main steam safety valves (MSSVs). Specifically, the response states:

“... the discharge piping (vent stack) from the outlet of the MSSVs and MSADVs does not have a safety-related function... the discharge piping maintains its structural integrity in the event of an SSE.”

The staff disagrees with the above statement because one of the primary safety-related functions of the main steam system (MSS) is to dissipate heat from the reactor coolant system to the atmosphere when the condenser is not available. The MSS cannot perform the function to relieve steam to the atmosphere if the discharge piping (inside the main steam valve house) of the MSADVs and MSSVs are not appropriately designed and qualified. Designing the discharge piping inside the main steam valve house to seismic Category II ensures the piping will not break away from its restraints during an SSE and adversely interact with adjacent safety-related SSCs; however, it does not ensure the piping can perform a safety function or maintain functional capability (see NUREG-1367). Therefore, the staff requests the applicant to revise the classification of this section of piping located in the MSVHs to seismic Category I and/or to a suitable design standard to meet functional capability requirements (for example, ASME BPV Code, Section III as discussed in NUREG-1367).

The staff also notes that DCD Tier 2, Figure 10.3.2-1, “Main Steam System Flow Diagram (1 of 2),” identifies the MSADV on main steam line #1 from steam generator #1 as valve no. 012. The staff believes this MSADV should be identified as valve no. 102. The applicant is requested to review Figure 10.3.2-1 and make any necessary corrections in order to ensure consistency with the DCD.

