

KHNPDCDRAIsPEm Resource

From: Ciocco, Jeff
Sent: Thursday, March 31, 2016 6:55 AM
To: KHNPDCDRAIsPEm Resource
Subject: FW: APR1400 Design Certification Application RAI 219-8199 (11.03 - Gaseous Waste Management System)
Attachments: APR1400 DC RAI 219 RPAC 8199.pdf

From: Ciocco, Jeff
Sent: Monday, September 21, 2015 8:28 AM
To: apr1400rai@khnp.co.kr; Harry (Hyun Seung) Chang <hyunseung.chang@gmail.com>; Andy Jiyong Oh <jiyong.oh5@gmail.com>; Christopher Tyree <Christopher.tyree@aecom.com>
Cc: Williams, Stephen <Stephen.Williams@nrc.gov>; McCoppin, Michael <Michael.McCoppin@nrc.gov>; Olson, Bruce <Bruce.Olson@nrc.gov>; Lee, Samuel <Samuel.Lee@nrc.gov>
Subject: APR1400 Design Certification Application RAI 219-8199 (11.03 - Gaseous Waste Management System)

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, 45 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,

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Hearing Identifier: KHNP_APR1400_DCD_RAI_Public
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Subject: FW: APR1400 Design Certification Application RAI 219-8199 (11.03 - Gaseous Waste Management System)
Sent Date: 3/31/2016 6:55:22 AM
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From: Ciocco, Jeff

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Recipients:
"KHNPDCDRAIsPEm Resource" <KHNPDCDRAIsPEm.Resource@nrc.gov>
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MESSAGE	1130	3/31/2016 6:55:23 AM
APR1400 DC RAI 219 RPAC 8199.pdf		83317
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Options
Priority: Standard
Return Notification: No
Reply Requested: No
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REQUEST FOR ADDITIONAL INFORMATION 219-8199

Issue Date: 09/21/2015

Application Title: APR1400 Design Certification Review – 52-046

Operating Company: Korea Hydro & Nuclear Power Co. Ltd.

Docket No. 52-046

Review Section: 11.03 - Gaseous Waste Management System

Application Section: 11.3

QUESTIONS

11.03-6

Staff review of DCD Tier 1, Revision 2, Section 2.7.6.2 and Table 2.7.6.2-1 found that information on ITAAC for the GWMS to demonstrate compliance with 10 CFR 52.47(b)(1) and to provide reasonable assurance that a plant that incorporates the APR 1400 design certification and operates in accordance with the design certification will meet the provisions of the Atomic Energy Act and NRC regulations was not fully described. Without confirming the initial introduction of the proper types and amounts of charcoal media and desiccants, and delay time, the GWMS would fail to meet the design criteria in the DCD Tier 2, Revision 2, Section 11.3.1.2. As a result, gaseous releases could exceed 10 CFR 20, Appendix B, Table 1, effluent concentration and dose limits, and 10 CFR 50, Appendix I dose objectives. The staff requests the applicant to address the following:

1. Describe in DCD Tier 1, Section 2.7.6.2.1, how the GWMS is designed to process gaseous waste prior to release and ensure compliance with 10 CFR 20, Appendix B, Table 1 effluent concentration and dose limits, and 10 CFR 50, Appendix I dose objectives for gaseous effluents when the plant is operational.
2. Describe in DCD Tier 1, Section 2.7.6.2.1, the process design of the GWMS subsystems and how the initial loading of the subsystem demineralizers and vessels includes the proper types and amounts of charcoal media and desiccant, and delay time that will meet or exceed the system design descriptions and parameters listed in DCD Tier 2, Revision 2, Tables 11.3-1 and 11.3-2. Provide in DCD Tier 1, Table 2.7.6.2-1, the assigned ITAAC to confirm the charcoal quantity.
3. Provide in DCD Tier 1, Table 2.7.6.2-1, the assigned ITAAC to confirm the radiation monitor at the discharge side of the adsorbers which sends a signal to close the GWMS discharge valves upon detection of radiation levels above the set point monitor, source test of the radiation monitor, alarms, indications, and automatic initiation functions as described in DCD Tier 1, Revision 2, Section 2.7.6.2.1 and DCD Tier 2, Revision 2, Sections 11.3.2.1.6 and 11.5.2.4.1.

Please revise the DCD to include this information and provide a markup.

REQUEST FOR ADDITIONAL INFORMATION 219-8199

11.03-7

In the description of the Inspection, Test Analysis for the following design commitments in Table 2.7.6.2-4 the applicant states the following:

- In design commitment 3 the applicant states “Tests will be conducted for the GRS discharge valve using simulated test signal.”

In review of “simulated test signal” the NRC staff believes that this implies that an electric signal will be used in place of a radiation source. NRC staff finds that this method does not test the system as a whole as it does not functionally test the radiation detector which is an essential component. Testing of this component is essential in verifying information that would be used to justify compliance with 10 CFR 50 Appendix I Dose Objectives, 10 CFR 20 Appendix B Table 2 limits, and 10 CFR 20.1301 and 1302 dose limits to a member of the public.

NRC staff requests that the applicant address the use of a radiation source in testing the LWMS in place of the currently cited simulated test signal.



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