

## **KHNPDCDRAIsPEm Resource**

---

**From:** Ward, William  
**Sent:** Monday, November 02, 2015 1:15 PM  
**To:** apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Harry (Hyun Seung) Chang; Andy Jiyong Oh; Mannon, Steven (steven.mannon@aecom.com); Tyree, Christopher (christopher.tyree@aecom.com)  
**Cc:** Lee, Samuel; Ciocco, Jeff; Gran, Zachary; McCoppin, Michael; Olson, Bruce  
**Subject:** APR1400 Design Certification Application RAI 284-8234 (14.2 - Initial Plant Test Program)  
**Attachments:** APR1400 DC RAI 284 RPAC 8234.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.

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

Thank you,

**William R. Ward, P.E.**  
**Senior Project Manager**  
**U.S. Nuclear Regulatory Commission**  
**m/s T6-D38M**  
**Washington, DC, 20555-0001**  
NRO/DNRL/Licensing Branch 2  
ofc T6-D31  
ofc (301) 415-7038

**U.S. NRC PROTECTING PEOPLE AND THE ENVIRONMENT**  
*Please consider the environment before printing this email.*

**Hearing Identifier:** KHNP\_APR1400\_DCD\_RAI\_Public  
**Email Number:** 333

**Mail Envelope Properties** (e9f92eb7b57b433f92d103df26af9456)

**Subject:** APR1400 Design Certification Application RAI 284-8234 (14.2 - Initial Plant Test Program)  
**Sent Date:** 11/2/2015 1:14:51 PM  
**Received Date:** 11/2/2015 1:14:52 PM  
**From:** Ward, William  
**Created By:** William.Ward@nrc.gov

**Recipients:**

"Lee, Samuel" <Samuel.Lee@nrc.gov>  
Tracking Status: None  
"Ciocco, Jeff" <Jeff.Ciocco@nrc.gov>  
Tracking Status: None  
"Gran, Zachary" <Zachary.Gran@nrc.gov>  
Tracking Status: None  
"McCoppin, Michael" <Michael.McCoppin@nrc.gov>  
Tracking Status: None  
"Olson, Bruce" <Bruce.Olson@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  
"Harry (Hyun Seung) Chang" <hyunseung.chang@gmail.com>  
Tracking Status: None  
"Andy Jiyong Oh" <jiyong.oh5@gmail.com>  
Tracking Status: None  
"Mannon, Steven (steven.mannon@aecom.com)" <steven.mannon@aecom.com>  
Tracking Status: None  
"Tyree, Christopher (christopher.tyree@aecom.com)" <christopher.tyree@aecom.com>  
Tracking Status: None

**Post Office:** HQPWMSMRS05.nrc.gov

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	666	11/2/2015 1:14:52 PM
APR1400 DC RAI 284 RPAC 8234.pdf		84355

**Options**

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

## REQUEST FOR ADDITIONAL INFORMATION 284-8234

Issue Date: 11/02/2015

Application Title: APR1400 Design Certification Review – 52-046

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

Docket No. 52-046

Review Section: 14.02 - Initial Plant Test Program - Design Certification and New License Applicants

Application Section:

### QUESTIONS

#### 14.02-65

10 CFR 50 Appendix I as it relates to the effluent releases to a member of the public, in being able to monitor and control effluent releases.

10 CFR 20 Appendix B as it relates to monitoring and complying with the effluent concentration limits specified.

10 CFR 20.1301 and 1302 as it relates to monitoring public dose limits.

In review of DCD Chapter 14.2, the staff was unable to verify inclusion of several inspection test programs. In review of regulatory guide 1.68 rev 4, which the applicant commits to, the staff notes a list of systems, components and features for which the test program should demonstrate operability in section A-1.m. The staff requests the following information be addressed:

- Describe or provide reference to the (Initial Test Program) ITP that addresses the power cycle off-gas system monitoring and controlling the presence of explosive gas mixtures (H<sub>2</sub>/O<sub>2</sub>) in gaseous waste management subsystems;
- Describe or provide reference to the ITP that addresses the isolation features for steam generator blow down, for both the presence of radioactivity and thermal protection of demineralizer beds;
- Describe or provide reference to the ITP that addresses the isolation features for condenser off-gas systems and diversion of process flow to appropriate subsystems;
- Describe or provide reference to the ITP that addresses the isolation features for ventilation systems and diversion of exhaust flows to HEPA/charcoal filtration subsystems;
- Describe or provide reference to the ITP that addresses the testing of liquid and wet waste solidification subsystems in verifying that residual amounts of free liquid present in process packaged wastes conform with regulatory requirements and waste acceptance criteria;
- Describe or provide reference to the ITP that addresses the for waste processing system supplemented with mobile skid-mounted processing equipment, as equipped, testing should include the hydraulic integrity of connections carrying radioactive fluids between mobile processing equipment and permanently installed plant subsystems.

Please address these items and provide a markup for the proposed DCD changes.