

## KHNPDCDRAIsPEm Resource

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**From:** Ciocco, Jeff  
**Sent:** Thursday, August 13, 2015 10:46 AM  
**To:** KHNPDCDRAIsPEm Resource  
**Subject:** FW: APR1400 Design Certification Application RAI 147-7933 (11.03 - Gaseous Waste Management System)  
**Attachments:** APR1400 DC RAI 147 RPAC 7933.pdf; image001.jpg

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**From:** Ciocco, Jeff  
**Sent:** Monday, August 10, 2015 1:07 PM  
**To:** apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource <KHNPDCDRAIsPEm.Resource@nrc.gov>; Harry (Hyun Seung) Chang <hyunseung.chang@gmail.com>; Yunho Kim <yshh8226@gmail.com>; Christopher Tyree <Christopher.tyree@aec.com>  
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**Subject:** APR1400 Design Certification Application RAI 147-7933 (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 the RAI question. 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  
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**Hearing Identifier:** KHNP\_APR1400\_DCD\_RAI\_Public  
**Email Number:** 174

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**Sent Date:** 8/13/2015 10:46:27 AM  
**Received Date:** 8/13/2015 10:46:28 AM  
**From:** Ciocco, Jeff

**Created By:** Jeff.Ciocco@nrc.gov

**Recipients:**  
"KHNPDCDRAIsPEm Resource" <KHNPDCDRAIsPEm.Resource@nrc.gov>  
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MESSAGE	1245	8/13/2015 10:46:28 AM
APR1400 DC RAI 147 RPAC 7933.pdf		104634
image001.jpg	5040	

**Options**  
**Priority:** Standard  
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**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
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## REQUEST FOR ADDITIONAL INFORMATION 147-7933

Issue Date: 08/10/2015

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:

### QUESTIONS

11.03-2

DCD Table 11.3-5 provides information related to the analyses which are done to show compliance with the 10 CFR 50 Appendix I dose objectives. To evaluate this information, the staff performed confirmatory calculations for gaseous effluents using the GASPARG information provided by the applicant and were unable to duplicate the values for Ground dose, Inhalation doses for Adult, and Inhalation doses for Teenager. In the current revision of the DCD the applicant provides an output file that supports the ground doses described in DCD Table 11.3-7 in the DCD, but the provided output file does not support the inhalation doses for Adult and Teenager pathways provided in DCD Table 11.3-7.

In the technical review of the data produced by GASPARG for DCD Table 11.3-7 the staff found that there are two sets of meteorological data being used. One set of meteorological data is referenced in DCD Table 2.0-1 for the Exclusion Area Boundary (EAB), and the second set of meteorological data found in DCD Table 11.3-7 is not referenced at all in DCD section 2.3.5.

DCD Table 11.3-5 provides a basis for the input parameters used for GASPARG II Code stating "Assumed that in food production area, X/Q will be reduced by half due to the distance from the site boundary." The staff is unable to support this statement since the possibility of food production existing at the site boundary within resident gardens, meat animals, and milk producing animals as likely receptors.

In accordance with 10 CFR 50 Appendix I the staff requests the following information:

1. The X/Q values used to determine gaseous effluent doses for food production animals be evaluated and values provided that are referenced in section 2.3.5, for Long-Term Atmospheric Dispersion Estimates for Routine Gaseous Effluent Releases.
2. Resolve the inconsistency with the data provided in the application and provided the data provided in the form of GASPARG output files and those numbers provided in DCD Table 11.3-7 for Ground Dose, Adult Inhalation Doses, and Teenager Inhalation Doses.
3. Provide a calculation package that further justifies the use of specific parameters for the GASPARG code by providing the basis for all design parameters and values used in the GASPARG code calculation.

Please address the items above and provide a mark-up on the proposed DCD changes.

