

## KHNPDCDRAIsPEm Resource

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**Sent:** Tuesday, August 18, 2015 6:19 AM  
**To:** apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Harry (Hyun Seung) Chang; Jiyong Andy Oh; Christopher Tyree  
**Cc:** Williams, Stephen; McCoppin, Michael; Olson, Bruce; Lee, Samuel  
**Subject:** APR1400 Design Certification Application RAI 156-8146 (11.02 - Liquid Waste Management System)  
**Attachments:** APR1400 DC RAI 156 RPAC 8146.pdf; image001.jpg

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,

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image001.jpg	5040	

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## REQUEST FOR ADDITIONAL INFORMATION 156-8146

Issue Date: 08/18/2015  
Application Title: APR1400 Design Certification Review – 52-046  
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.  
Docket No. 52-046  
Review Section: 11.02 - Liquid Waste Management System  
Application Section: 11.2

### QUESTIONS

11.02-2

The applicant follows the guidance provided in RG 1.143 to classify structures and components of the LWMS.

Staff was unable to confirm the results provided for the Rad Waste Classifications listed in Tables 11.2-13 and 11.2-14. Indications are that the A1 and A2 values for the following radionuclides were chosen as zero.

- Table 11.2-13: Ba-137m, Br-84, Rb-88, and Te-131,
- Table 11.2-14: Ba-137m, Br-84, Nb-95m, Pr-144, Rb-88, Rh-106m, Te-131, Xe-133m, Xe-135m, Y-89m, and Y-90m.

In section 5.3 of RG 1.143, the use of 10 CFR 71 Appendix A is referenced for use in determining the classification of systems in an RW-IIa through the use of A1 and A2 values. 10 CFR 71, Appendix A, Table 1 contains the values for the A1 and A2 values. Missing from Table 1 are the values for the radionuclides listed above from Table 11.2-13 and 11.2-14. Appendix A to Part 71 states:

“II. a. For individual radionuclides whose identities are known, but which are not listed in Table A-1, the A<sub>1</sub> and A<sub>2</sub> values contained in Table A-3 may be used. Otherwise, the licensee shall obtain prior Commission approval of the A<sub>1</sub> and A<sub>2</sub> values for radionuclides not listed in Table A-1, before shipping the material.”

The staff requests that the applicant provide the A1 and A2 values for all radionuclides in accordance with the regulations in determining the radwaste classifications provided in Tables 11.2-13 and 11.2-14.

The staff also requests that all calculations are provided for the determinations made in the above two tables.

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

