

## KHNPDCDRAIsPEm Resource

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**From:** Ciocco, Jeff  
**Sent:** Thursday, July 23, 2015 9:54 AM  
**To:** apr1400rai@khnp.co.kr; KHNPDCDRAIsPEm Resource; Harry (Hyun Seung) Chang; Yunho Kim; Christopher Tyree  
**Cc:** Ward, William; McCoppin, Michael; Olson, Bruce; Ward, William; Lee, Samuel  
**Subject:** APR1400 Design Certification Application RAI 110-7919 (11.01 - Source Terms)  
**Attachments:** APR1400 DC RAI 110 RPAC 7919.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,

Jeff Ciocco  
New Nuclear Reactor Licensing  
301.415.6391  
[jeff.ciocco@nrc.gov](mailto:jeff.ciocco@nrc.gov)



**Hearing Identifier:** KHNP\_APR1400\_DCD\_RAI\_Public  
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**From:** Ciocco, Jeff

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

**Recipients:**

"Ward, William" <William.Ward@nrc.gov>  
Tracking Status: None  
"McCoppin, Michael" <Michael.McCoppin@nrc.gov>  
Tracking Status: None  
"Olson, Bruce" <Bruce.Olson@nrc.gov>  
Tracking Status: None  
"Ward, William" <William.Ward@nrc.gov>  
Tracking Status: None  
"Lee, Samuel" <Samuel.Lee@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  
"Yunho Kim" <yshh8226@gmail.com>  
Tracking Status: None  
"Christopher Tyree" <Christopher.tyree@aeacom.com>  
Tracking Status: None

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**Options**

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## REQUEST FOR ADDITIONAL INFORMATION 110-7919

Issue Date: 07/23/2015  
Application Title: APR1400 Design Certification Review – 52-046  
Operating Company: Korea Hydro & Nuclear Power Co. Ltd.  
Docket No. 52-046  
Review Section: 11.01 - Source Terms  
Application Section: SRP 11.1

### QUESTIONS

11.01-2

This question is a follow-up to Question 11.01-1 in RAI 10-7850. The KHNP response can be found in the ADAMS package with accession number ML15166A298.

NRC staff reviewed the response to question 11.01-1 and has noted that effluent output values (Curies/Year) generated by the applicant, using a modified NRC PWR-GALE86 computer Code (NUREG-0017) in Tables 11.2-1 and 11.3-1 can not be verified.

The input RCS activity values generated by the applicant in Section 11.1, using ANSI 18.1-1999, and reported in the RAI 7850 response for Table 11.1-9 are accurate in accordance with the methodology of ANSI 18.1-1999.

The NRC GALE Code, however, does not create input RCS activities in the same manner. The NRC PWR-GALE86 computer Code (NUREG-0017), has not been updated to include ANSI 18.1-1999. The NRC PWR GALE86 Code uses its own input RCS activities hard coded in the NRC PWR-GALE86 computer Code. The NRC can not modify this RCS activity generated within the NRC GALE Computer Code.

Therefore, the information provided by the applicant is verified and accurate, but the applicant within the regulations, modified the NRC GALE Computer Code to input their calculated RCS activity values from Table 11.1-9 of their application. When an applicant decides to use any different approach than the method described by NRC guidance, they must justify their method.

1. The NRC requests copies of the input and output files and the applicants modified NRC GALE Computer Code.
2. The NRC requests documentation and explanation of any and all changes made to the NRC GALE Computer Code and all QA documentation.
3. The NRC requests that the applicant provide all documentation of any modifications to the NRC GALE86 computer code and justification of the changes by the applicant.
4. The NRC requests that the applicant provides a justification of the method they chose to use versus the method described, the NRC guidance (NUREG-0017).
5. Please revise all DCD values to uCi or both uCi and Bequerels in Chapter 11 of the application. As stated in RAI 7850, conversion to Bq/g is not required (but can be provided) when submitting information to the NRC per 10 CFR 20.2101.

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

