

August 5, 2016

MEMORANDUM TO: Donna Williams, Acting Chief  
Licensing Branch 2  
Division of New Reactor Licensing  
Office of New Reactors

FROM: Alina Schiller, Project Manager /RA/  
Licensing Branch 2  
Division of New Reactor Licensing  
Office of New Reactors

SUBJECT: SUMMARY OF THE JUNE 29, 2016, PUBLIC TELECONFERENCE  
WITH KOREA HYDRO AND NUCLEAR POWER CO. LTD. TO DISCUSS  
CHAPTER 12 TOPICS RELATED TO ADVANCED POWER REACTOR  
1400 DESIGN

On June 29, 2016, a Category 1 public teleconference was held between the U.S. Nuclear Regulatory Commission (NRC) staff and Korea Hydro and Nuclear Power Co. Ltd. (KHNP). The meeting was open to the public. The meeting notice was issued on June 16, 2016, and was documented in the NRC Agencywide Documents Access and Management System (ADAMS) under Accession Number ML16168A325. The notice included the meeting agenda.

The purpose of the meeting was to discuss various non-proprietary topics of the Advanced Power Reactor 1400 (APR1400) related to radiation protection described in APR1400 design control document, Chapter 12.

A non-proprietary handout provided during the meeting is available in ADAMS under accession number ML16190A038. A List of Attendees is provided as Enclosure 2 (ML16190A031).

The staff and the applicant discussed the applicant's responses to and the staff's feedback regarding questions associated with RAIs 8254 and 8353.

Topics:

1. RAI 8254, Question 12.03-17:

With regard to the 1.55 peaking factor issue, the staff agreed with the applicant's explanation, and proposed to keep the wording proposed in Revision 1 of the response. Revision 1 was acceptable.

2. RAI 8353, Question 12.02-20:

With respect to the airborne activity issue, for the first part of the discussion, the staff reiterated that: the applicant did not provide any relevant information supporting the claim that the contribution from other isotopes besides halogens, noble gases, and tritium is negligible; it was not necessary to show that every individual room of the plant is below 1.0 DAC fraction, and a few selected areas being above 1.0 DAC fraction can

be acceptable, as long as those areas are accessed infrequently and airborne activity is limited to the extent practicable. The staff mentioned an alternative approach, i.e., resolve the issue of not considering any radionuclides besides halogens, noble gases, and tritium and use correct partition factors and if some rooms are above a DAC fraction of 1, the applicant should provide a description of how areas which are frequently accessed are prevented from having highly airborne activity. The applicant stated that they can maintain the airborne concentration values and make sure that frequent access areas have a concentration below 1.0 DAC, and if they do not find back-up information, they can decrease concentration values in those areas. The staff further mentioned that provisions for portable air filtration can support claim airborne activity.

The applicant agreed to do more research and include contribution for other radionuclides in a revised response.

In the second part of the discussion of Question 12.02-20, the staff emphasized that the applicant's indication that Iodines' in cold fluid partition factor of 0.001, based on Korean guidance (which was not provided to the staff) and WASH 1258, is not a reasonable value, and that the partition factor is lower than numbers used by other applicants in the United States. The applicant stated that in European countries, similar numbers with 0.001 had been used or even lower. The staff agreed to do more research.

For the third part of the discussion, the staff agreed with the applicant's response (as seen in the meeting handout), provided that the first two parts above are resolved.

3. RAI 8254, Question 12.03-21:

The staff agreed with the applicant's responses to staff's comments, as captured in the meeting handout. The applicant will be submitting a second revised response.

4. At the end of the meeting, the staff brought into discussion, RAI 8496, Question 12.03-49, which had been discussed during a clarification call on May 24, 2016. With respect to the instrument calibration facility room, which the applicant indicated cannot be opened from outside, only from inside during calibration, the staff proposed that the applicant include wording in the DCD about this locking provision or include a COL item specifying that the COL applicant will describe design features for meeting the requirement of 10 CFR 20.1602 for this room. The applicant agreed to revise its response to include the above and submit a second revised response to RAI 8496, Question 12.03-49.

### **Future Interactions**

At the conclusion of the teleconference, KHNP and the NRC staff committed to consider all of the feedback from the meeting and engage to finalize the path forward to resolve the issues discussed.

D. Williams

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Please direct any inquiries Alina Schiller at (301) 415-8177 or via e-mail to [Alina.Schiller@nrc.gov](mailto:Alina.Schiller@nrc.gov).

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List of Attendees

cc w/enclosure: See next page

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accessed are prevented from having highly airborne activity. The applicant stated that Please direct any inquiries Alina Schiller at (301) 415-8177 or via e-mail to [Alina.Schiller@nrc.gov](mailto:Alina.Schiller@nrc.gov).

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Enclosure:  
List of Attendees

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