

June 9, 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 MAY 18, 2016, PUBLIC TELECONFERENCE WITH
KOREA HYDRO AND NUCLEAR POWER CO. LTD. TO DISCUSS
CHAPTER 12 TOPICS RELATED TO THE ADVANCED POWER
REACTOR 1400 DESIGN

On May 18, 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 May 5, 2016, and was documented in the NRC Agencywide Documents Access and Management System (ADAMS) under Accession Number ML16126A062. 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 the APR1400 design control document, Chapter 12 and related application sections.

The following document pertaining to the May 5, 2016, teleconference contains non-proprietary information and is available in ADAMS under Accession Number ML16153A008, "Chapter 12 Discussion Topics List." A List of Attendees is provided as an enclosure.

The staff and the applicant discussed the applicant's responses to; and the staff's feedback regarding questions associated with RAIs 8254, 8275, 8353, 8247, 8098, and 8389.

Topics:

1. RAI 8254, Question 12.03-17:

The NRC staff requested the applicant to explain why there are different maximum peaking factors (such as 1.55, 1.2353, 1.80) being used in different parts of the DCD. The applicant specified that the 1.80 value used in DCD Chapter 15, is a conservative radial peaking factor for an individual fuel rod, the 1.55 value is the maximum expected rod radial peaking factor, and 1.2353 is the maximum assembly peaking factor. The applicant agreed to supplement the response to this Question and revise the information in Chapter 12 – 12.3.2.3, in order to specify what the 1.55 and 1.2353 values represent.

2. RAI 8275, Question 12.03-40:

The applicant agreed to revise its response to correct inaccurate information (stating that the ranges and coverage area of the containment upper and lower monitors are the same) and to revise the technical specifications Table 3.3.11-1 designation for the containment upper operating area monitors from "F" to "E".

The applicant agreed to revise its response to this question and will provide a revised mark-up.

3. RAI 8254, Question 12.03-20:

The NRC staff agreed that a monitor in the remote shutdown room is not needed.

The applicant will update Figure 12.3-6 with a note indicating the meaning ("raised floor") of the small oblong area of the north-west portion of the room.

4. RAI 8254, Question 12.03-13, Part 1:

The temperature and humidity instrumentation installed at wall mounted piping racks that include valves, was discussed. For clarification, the NRC staff asked if a worker would need to enter a charcoal delay bed room if the instruments malfunctioned, or if it can be accessed from the piping racks.

The applicant indicated that the physical instruments are not inside the beds, however the sensor is inside, and provided an explanation of the GWMS system. The applicant will further check with the Systems Engineer and will provide its response.

5. RAI 8353, Question 12.02-21:

The NRC staff asked the applicant to clarify how the value of the concentration of Cs-137 in the Holdup Tank was determined, since this value is inconsistent with information in the DCD.

The applicant will respond after they review and check the difference.

On the subject of the single diaphragm valve separating the Reactor Makeup Water Tank (RMWT) from the fire protection system, the NRC staff expressed concern that potential leaks through the valve could contaminate the non-radiological fire protection system. The NRC staff is reviewing the issue and may issue an RAI.

The NRC staff will review, in detail, the applicant's response, which was provided on the same day when the public teleconference was held (see ML16153A008).

6. RAI 8247, Question 12.02-15:

The applicant stated that since the United States practice appears to be different from Korean NPPs, they are still reviewing how to process the spent CPS resin for the APR1400 DC. KHNP needs to obtain more information on this subject, then will provide the second revised response along with the corresponding DCD markups as soon as possible.

The applicant agreed to update Figure 12.3-17 to include that this area contains CPS demineralizers and the spent resin hold tanks, as a second revised response to RAI 8098, Question 12.03-8, or as a second revised response to RAI 8247, Question 12.02-15.

7. RAI 8098, Question 12.03-10:

With regard to the NRC staff's comments regarding ceiling thickness(es) for room 077-P01 in the DCD, the applicant will update the DCD Tier 1, Table 2.2.1-1 to provide varying physical concrete thicknesses of the floors, as a revised response to RAI 8054, Question 14.03.08-1.

8. RAI 8389, Question 12.03-48:

With respect to KHNP adding the information of the cobalt content of the fuel rods to the DCD, an agreement was not reached. The NRC staff and KHNP stated that they would further research this issue independently.

The applicant indicated that it would revise its response to provide a corrected weight percentage of cobalt in the fuel rods.

On May 24, 2016, the NRC staff agreed with the applicant to not add the cobalt content of zircaloy to the DCD.

9. RAI 8098, Question 12.03-8:

The applicant agreed to correct the physical concrete thickness of the south wall of the VCT room to be 42 inches, and will update Table 2.2.1-1 in Tier 1 as a revised response to RAI 8054, Question 14.03.08-1.

10. The NRC staff did not complete the review of the applicant's response, which was provided the same day when the public teleconference was held (see ML16153A008). The NRC staff will also need to consult with the Chapters 9 and 11 Technical Staff.

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 to Alina Schiller at 301-415-8177 or via e-mail to alina.schiller@nrc.gov.

Docket No.: 52-046

Enclosure:
List of Attendees

cc w/enclosure: See next page

D. Williams

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Please direct any inquiries to Alina Schiller at 301-415-8177 or via e-mail to alina.schiller@nrc.gov.

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cc w/enclosure: See next page

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NRC-001

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