

April 19, 2016

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

FROM: James Steckel, Project Manager **/RA/**  
Licensing Branch 2  
Division of New Reactor Licensing  
Office of New Reactors

SUBJECT: SUMMARY OF THE MARCH 3, 2016, PUBLIC MEETING WITH KOREA  
HYDRO AND NUCLEAR POWER CO. LTD. TO DISCUSS DESIGN  
CONTROL DOCUMENT CHAPTER 15 TOPICS RELATED TO THE  
ADVANCED POWER REACTOR 1400 DESIGN

On March 3, 2016, a Category 1 public meeting teleconference was held between the U.S. Nuclear Regulatory Commission (NRC) staff and Korea Hydro and Nuclear Power Co. Ltd. (KHNP). During the business portion of the meeting only a single non-proprietary item was discussed. There were no participants from the public at this teleconference. The meeting notice was issued on February 19, 2016, and is documented in the NRC Agencywide Documents Access and Management System (ADAMS) under Accession Number ML16055A348. The notice included the meeting agenda.

The purpose of the meeting was to discuss a topic related to Chapter 15, "Transient and Accident Analysis," described in the Advanced Power Reactor 1400 (APR1400) design control document Chapter 15 and related application sections that were submitted to the NRC on December 23, 2014, and formally accepted for review on March 5, 2015. A draft question in NRC's Request for Additional Information (RAI) 8504 that related to the thermal power level for the small break loss of coolant accident (SBLOCA) methodology used in the accident and transient analysis portion of Chapter 15 was discussed during this meeting, entitled "DRAFT Additional Question (29164) for Inclusion with RAI 8504," and is available in ADAMS under Accession number ML16091A045.

The List of Attendees is provided as an enclosure.

Discussion Summary:

The meeting discussion concerned the topic of a power rating approved for the CE-ABB SBLOCA methodology being used by KHNP and approved for power ratings up to 3800 MWt, per a letter from O.D. Parr (NRC) to F.M. Stern (C-E), issued June 13, 1975<sup>1</sup>.

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<sup>1</sup> O.D. Parr (NRC) to F.M. Stern (C-E), "NRC Staff Review of the Combustion Engineering ECCS Evaluation Model," June 13, 1975

The APR1400 SBLOCA calculations for the APR1400 design are conducted at a higher power level. For the NRC staff to make a safety determine on this issue, the NRC technical reviewers requested a number of items that KHNP agreed to provide. These include:

1. Document the revision of the SBLOCA methodology being used and provide justification for using the methodology and the computer codes at the higher power level.
2. Include references to other instances where the CE-ABB SBLOCA methodology has been approved by the NRC for higher power levels.
3. Demonstrate the conservatism in the methodology at the APR1400 power level.
4. Establish that there are no phenomenological departures due to APR1400 power level or design differences that would invalidate the use of the SBLOCA methodology or the computer codes approved up to 3800 MWt applications.

The KHNP representatives who participated in the teleconference indicated that they understood what was being requested in this draft question and agreed that the question should be included with the other questions in RAI 8504. The listed items were subsequently provided as a new question in RAI 8504 and submitted to KHNP for formal response.

There were no additional items discussed with KHNP at this teleconference.

Please direct any inquiries by phone to James Steckel at 301-415-1026 or via e-mail to [james.steckel@nrc.gov](mailto:james.steckel@nrc.gov)

Docket No.: 52-046

Enclosure:  
List of Attendees

cc w/enclosure: See next page

The APR1400 SBLOCA calculations for the APR1400 design are conducted at a higher power level. For the NRC staff to make a safety determine on this issue, the NRC technical reviewers requested a number of items that KHNP agreed to provide. These include:

1. Document the revision of the SBLOCA methodology being used and provide justification for using the methodology and the computer codes at the higher power level.
2. Include references to other instances where the CE-ABB SBLOCA methodology has been approved by the NRC for higher power levels.
3. Demonstrate the conservatism in the methodology at the APR1400 power level.
4. Establish that there are no phenomenological departures due to APR1400 power level or design differences that would invalidate the use of the SBLOCA methodology or the computer codes approved up to 3800 MWt applications.

The KHNP representatives who participated in the teleconference indicated that they understood what was being requested in this draft question and agreed that the question should be included with the other questions in RAI 8504. The listed items were subsequently provided as a new question in RAI 8504 and submitted to KHNP for formal response.

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Please direct any inquiries by phone to James Steckel at 301-415-1026 or via e-mail to [james.steckel@nrc.gov](mailto:james.steckel@nrc.gov)

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**ADAMS Accession No: ML16091A016**

**NRC-001**

OFFICE	DNRL/LB2: PM	DNRL/LB2: LA	DNRL/LB2: PM	DNRL/LB2: PM (signed)
NAME	JSteckel	CSmith	JCiocco	JSteckel
DATE	04/05/2016	04/18/2016	04/19/2016	04/19/2016

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List of Attendees

Public Teleconference Meeting with KHNP to Discuss Chapter 15 Topics, Held on  
March 3, 2016

<u>Name</u>	<u>Agency</u>
James Gilmer	NRC
Syed Haider	NRC
James Steckel	NRC
David Caraher - ISL	NRC
Ron Ellis - ORNL	NRC
Jiyong (Andy) Oh - KHNP	KHNP
Chris Tyree (AECOM)	KHNP
Woochong Chon - KNF	KHNP
Kae Yeol Lew	KHNP
Jill Monahan WEC	KHNP

Enclosure

## **KHNP Mailing List**

**9/22/2015**

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