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SUBJECT: TOPICAL REPORT SAFETY EVALUATION FOR TOPICAL REPORT APR1400-F-A-TR-12004, "REALISTIC EVALUATION METHODOLOGY FOR LARGE-BREAK LOSS OF COOLANT ACCIDENT OF THE APR1400"

Dear Dr. Kim:

The U.S. Nuclear Regulatory Commission (NRC) staff is preparing a Topical Report Safety Evaluation (TRSE) with no open items (OIs) for each topical report of the Advanced Power Reactor 1400 (APR1400) Design Certification Application submitted by Korea Electric Power Corporation (KEPCO) and Korea Hydro & Nuclear Power Co., Ltd. (KHNP) on December 23, 2014. By letter dated January 7, 2013, KHNP submitted, for the staff's review, Topical Report APR1400-F-A-TR-12004, Revision 0, "Realistic Evaluation Methodology for Large-Break Loss of Coolant Accident of the APR1400" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML130230128). Proprietary Revision 1 of the Topical Report was submitted on August 11, 2017 (ML17240A229) and Non-Proprietary Revision 1 was submitted on August 25, 2017 (ML17250A233).

The initial version of this TRSE was issued on March 23, 2018 (ML17265A104). However, on April 25, 2018 (ML18115A426), KHNP submitted a letter providing additional information related to condition (1) in the TRSE. The staff reviewed the letter and revised the TRSE to remove condition (1) and re-word condition (4), based on the additional information.

Unless otherwise stated in the TRSE, the staff's review was based on Revision 1 of the Topical Report. The staff's TRSE with no OIs for Topical Report APR1400-F-A-TR-12004, "Realistic Evaluation Methodology for Large-Break Loss of Coolant Accident of the APR1400," is being provided to the Advisory Committee on Reactor Safeguards (ACRS) Subcommittee to support upcoming meeting of the ACRS Subcommittee, scheduled to be held on June 6, 2018.

Document transmitted herewith contains sensitive unclassified information. When separated from the enclosure, this document is "DECONTROLLED."

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The enclosed TRSE is being provided only to KHNP for review of proprietary information pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 "Public Inspections, Exemptions, Requests for Withholding." The staff concludes that the enclosed TRSE does contain information for which exemption from public disclosure has been sought or approved, and does not contain any factual errors. However, the NRC will withhold the enclosed TRSE from public disclosure for ten business days from the date of this letter to allow you the opportunity to verify the staff's conclusion that the TRSE contains exempt information, but contains no factual errors. If within that ten day period you do not request that all or portions of the TRSE be withheld from public disclosure, a decision will be made by staff on whether the enclosure will be made available for public inspection through the NRC's Public Document Room and the Publicly Available Records component of NRC's Agencywide Documents Access and Management System and placed on the NRC's public web page for this application.

If you have any questions or comments concerning this matter, I can be reached at (301) 415-7038, or via e-mail address at William.Ward@nrc.gov.

Sincerely,

/RA/

William R. Ward, Senior Project Manager
Licensing Branch 2
Division of Licensing, Siting, and Environmental Analysis
Office of New Reactors

Docket No. 52-046

Enclosure:
As stated

cc w/enclosure: See Next Page

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DATED: JUNE 5, 2018

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