



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, DC 20555 - 0001**

July 26, 2017

Mr. Victor M. McCree  
Executive Director for Operations  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**SUBJECT: INTERIM LETTER: CHAPTERS 3, 4, 9, AND 15 OF THE NRC STAFF'S  
SAFETY EVALUATION REPORT WITH OPEN ITEMS RELATED TO THE  
CERTIFICATION OF THE APR1400 DESIGN**

Dear Mr. McCree:

During the 645<sup>th</sup> meeting of the Advisory Committee on Reactor Safeguards, July 12-14, 2017, we met with representatives of the Korea Electric Power Corporation (KEPCO) and Korea Hydro & Nuclear Power Company, Ltd. (KHNP) and the NRC staff to review the following chapters of the safety evaluation report (SER) with open items associated with the APR1400 design certification application:

- Chapter 3, "Design of Structures, Systems, Components, and Equipment"
- Chapter 4, "Reactor"
- Chapter 9, "Auxiliary Systems"
- Chapter 15, "Transient and Accident Analysis"

Our APR1400 Subcommittee reviewed these chapters during meetings on February 8, March 21-23, May 18-19, and June 5, 2017. We also had the benefit of the referenced documents.

## **CONCLUSION**

Our review of these chapters did not identify any issues with potentially significant safety implications that merit special attention at this stage of the review assuming satisfactory resolution of remaining open items.

## **BACKGROUND**

KHNP submitted a design certification application for the APR1400 on December 23, 2014. Our SER review is being conducted on a chapter-by-chapter basis to identify technical issues that may merit further consideration by the staff. This process will aid in the resolution of concerns and facilitate timely completion of the design certification review. The staff's SER and our review of these chapters addressed design control document, Revision 0 and supplemental material, including KHNP responses to staff requests for additional information. Accordingly, the staff has provided Chapters 3, 4, 9 (with the exception of Chapter 9, Section 9.1.2: New and Spent Fuel Storage), and 15 of the SER with open items for our review.

## **DISCUSSION**

During the subcommittee presentations of these chapters, the staff discussed a significant number of open items. Many of the open items have been closed or a pathway to resolution has been identified. We have identified no issues with these chapters that merit special attention at this time.

Sincerely,

**/RA/**

Dennis C. Bley  
Chairman

## **REFERENCES**

1. Korea Electric Power Corporation and Korea Hydro & Nuclear Power Company, Ltd., "Korea Electric Power Corporation and Korea Hydro & Nuclear Power Co., Ltd Application for Design Certification of the APR1400 Standard Design," December 23, 2014 (ML15006A098).
2. U.S. Nuclear Regulatory Commission, "Advanced Power Reactor 1400 Design Certification Application – Safety Evaluation with Open Items for Chapter 3, 'Design of Structures, Systems, Components, and Equipment'," May 12, 2017 (ML17131A012).
3. U.S. Nuclear Regulatory Commission, "Advanced Power Reactor 1400 Design Certification Application – Safety Evaluation with Open Items for Chapter for Chapter 4, 'Reactor'," January 6, 2017 (ML16356A540).
4. U.S. Nuclear Regulatory Commission, "Advanced Power Reactor 1400 Design Certification Application – Safety Evaluation with Open Items for Chapter 9, 'Auxiliary Systems'," April 20, 2017 (ML17109A087).
5. U.S. Nuclear Regulatory Commission, "Advanced Power Reactor 1400 Design Certification Application – Safety Evaluation with Open Items for Chapter 15, 'Transient and Accident Analysis'," April 19, 2017 (ML17102B379).

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- 6. Korea Electric Power Corporation and Korea Hydro & Nuclear Power Company, Ltd., “Korea Electric Power Corporation and Korea Hydro & Nuclear Power Co., Ltd Application for Design Certification of the APR1400 Standard Design,” December 23, 2014 (ML15006A098).
- 7. U.S. Nuclear Regulatory Commission, “Advanced Power Reactor 1400 Design Certification Application – Safety Evaluation with Open Items for Chapter 3, ‘Design of Structures, Systems, Components, and Equipment’,” May 12, 2017 (ML17131A012).
- 8. U.S. Nuclear Regulatory Commission, “Advanced Power Reactor 1400 Design Certification Application – Safety Evaluation with Open Items for Chapter for Chapter 4, ‘Reactor’,” January 6, 2017 (ML16356A540).
- 9. U.S. Nuclear Regulatory Commission, “Advanced Power Reactor 1400 Design Certification Application – Safety Evaluation with Open Items for Chapter 9, ‘Auxiliary Systems’,” April 20, 2017 (ML17109A087).
- 10. U.S. Nuclear Regulatory Commission, “Advanced Power Reactor 1400 Design Certification Application – Safety Evaluation with Open Items for Chapter 15, ‘Transient and Accident Analysis’,” April 19, 2017 (ML17102B379).

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