REVISED RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.:	**297-8309**
SRP Section:	**19.03 – Beyond Design Basis External Event (APR1400)**
Application Section:	**19.3**
Date of RAI Issue:	**11/09/2015**

Question No. 19.03-3

The NRC staff requests that the APR1400 design certification applicant describe the provisions for design, manufacture, testing, installation, and surveillance to provide assurance of the seismic, environmental, and functional capability of all nonsafety-related installed pumps, valves, and dynamic restraints to perform their intended functions as part of the mitigation strategies (including initial full-power operation and mid-loop operation) to ensure core cooling, containment function, and spent fuel pool cooling capabilities during an extended loss of ac power event at an APR1400 nuclear power plant. In addition, the applicant should indicate where the APR1400 DCD Tier 2 specifies the provisions for the design, manufacture, testing, installation, and surveillance for the nonsafety-related installed pumps, valves, and dynamic restraints that perform functions as part of the mitigation strategies, or provide proposed modifications to the APR1400 DCD Tier 2 to incorporate these provisions.

Response – (Rev. 1)

As stated in response to RAI 19.03-1, Item (1), the installed non safety valves for the Spent Fuel Pool external makeup water and Emergency Containment Spray Backup system are identified in the Technical Report APR1400-E-P-NR-14005-P, Section 6.2.3 for SFP and Section 5.1.2.5.3 for ECSBS respectively. Further, Figure 6.3 of the Technical Report APR1400-E-P-NR-14005-P depicts the installed non safety valves in the SFP external makeup lines and DCD Tier 2, Figure 6.2.2-1 provides the installed valves in the ECSBS. Figure 6-2 of Technical Report APR1400-E-P-NR-14005-P depicts the Raw Water Supply Isolation Valves; these are in-line valves to supply raw water to the FLEX pumps. The Raw Water Supply Isolation Valves are non safety-related (Quality Group D) and seismic Category I. Further, please note that the mitigating strategy does not have installed non safety-related pumps and/or snubbers in the scope of the APR1400 design.

The specific site related seismic and environmental (including flooding) requirements is a COL item, as indicated in DCD Chapter 19.3.4, COL Items 19.3(1) and 19.2(2), which will be addressed by the COL Applicant. However, the in-line valves for the mitigating strategies for

BDBEE are designed as Quality Group D and Seismic Category I. The design, manufacture, testing, and installation will be in accordance with the industry codes and standards as discussed in response to RAI 19.03-4.

Impact on DCD

There is no impact on DCD.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

There is no impact on Technical Specifications.

Impact on Technical/Topical/Environmental Reports

There is no impact on any Technical, Topical, or Environmental Report.