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.: **ER 1-8428**

SRP Section: **Environmental Report**

Application Section: **APR1400 Environmental Report**

Date of RAI Issued: **03/22/2016**

Question No. EIS ACC/SA-12

10 CFR 51.55(a) requires each applicant for a standard design certification under subpart B of 10 CFR Part 52 (i.e., 10 CFR 52.47(b)(2)) to submit with its application a separate document entitled, "Applicant's Environmental Report—Standard Design Certification." The environmental report must address the costs and benefits of severe accident mitigation design alternatives, and the bases for not incorporating severe accident mitigation design alternatives in the design to be certified.

The environmental standard review plan (ESRP) Section 7.2, Severe Accidents, of NUREG 1555 directs the staff to evaluate and independently confirm severe accident risks and analyses presented in an Environmental Report (ER) (i.e., the APR1400 ER, “Applicant’s Environmental Report – Standard Design Certification,” found under ML15006A038 and the proprietary technical report, “Severe Accident Mitigation Design Alternatives (SAMDAs) for the APR1400,’ under ML15012A105) of accidents involving radioactive material that can be postulated for the plant under review. The scope of this review should include probability-weighted consequence

(i.e., risks) analysis for severe accidents, including dose and socioeconomic risk impacts based on plant specific data in sufficient detail to appropriately evaluate the risks for severe accidents.

The staff requires the following additional information in order to complete its review of the environmental impacts of severe accidents and to ensure appropriate documentation of the applicant’s assessment in the APR1400 Environmental Report.

Provide in the ER and APR1400-E-NR-14006-P the source of information and specific references regarding the data and results from the Level 1 PRA documents, Level 2 PRA documents, and supporting Level 3 PRA documents that are mentioned throughout the respective document.

The degree of detail provided by the applicant in their Environmental Report should satisfy Regulatory Guide 4.2, Revision 2, Preparation of Environmental Reports for Nuclear Power

Stations, Section A.7.c, “Presentation of Information,” and support the staff guidance in NUREG-1555, Environmental Standard Review Plan, Section 7.2 under “Data and Information Need” and “Review Procedures” for the staff’s environmental finding (see Regulatory Guide 4.2 (ML003739519) page x and NUREG-1555 Section 7.2 (ML071690007) pages 7.2-2 through 7.2-5). For example, for material that can be found in a particular section or chapter of a reference, the location of the information should be provided in the ER.

The NRC staff request that any revisions to the ER or supporting technical reports be provided as a markup as part of the response to this RAI.

This RAI is related to the Environmental Audit Information Needs ER-COM-2 (ML15198A023).

Response

The Environmental Report (ER) (APR1400-K-X-ER-14001-NP, Rev. 1) and SAMDA report (APR1400-E-P-NR-14006-P, Rev. 1) have been revised to provide specific reference to the source of information used. For example, Section 5 of the ER provides specific references to all basic event information considered in the SAMDA, and Section 8 of the ER provides references to cost estimates used in the SAMDA.

Note that due to the extensive nature of the revisions, specific markups are not provided.

Impact on DCD

There is no impact on the DCD.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

There is no impact on the Technical Specifications.

Impact on Technical/Topical/Environmental Reports

The Environmental Report and SAMDA Report are updated to reflect the changes discussed above.