
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.: 410-8357
SRP Section: SRP 19
Application Section: 19.1
Date of RAI Issue: 02/22/2015

Question No. 19-33

Item 11 of Section II, "Acceptance Criteria," of the (Draft) Revision 3 SRP, states, "The PRAs that meet the applicable supporting requirements for Capability Category I and meet the high level requirements as defined in the ASME PRA Standard (ASME/ANS RA-S-2008 and addenda ASME/ANS RA-Sa-2009) should generally be acceptable for DC and COL applications. Alternatively, the applicant may identify, and justify the acceptability of, alternative measures for addressing PRA quality and technical adequacy. The staff should specifically review the acceptability of these alternative measures in the context of the specific uses and applications of the PRA."

The staff reviewed the APR1400 design control document (DCD) Section 19.1.4.1.1, "Description of Level 1 Internal Events PRA for Operations at Power," and found insufficient information describing the initiating event analysis performed. Specifically, the applicant did not describe how it modeled the combination of individual component failures with the unavailability of other components during initiating event fault tree modeling (ASME/ANS PRA Standard supporting requirements – IE-C10). Therefore, in order for the staff to reach an assurance finding on the conformance to SRP Chapter 19.0 regarding PRA technical adequacy, please revise the DCD with a description of how the combination of component failures and unavailability were modeled.

Response

The initiator fault trees were developed for three initiating events, such as loss of component cooling water (LOCCW), loss of essential service water (LOESW) and loss of instrument air (LOIA). These fault trees consider the failure of the running component coupled with the failure to start and run of the backup component. Maintenance unavailability of the backup component is also considered.

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

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