
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.: 317-8271

SRP Section: 14.03.05 – Instrumentation and Controls - Inspections, Tests, Analyses, and Acceptance Criteria

Application Section: 14.03.05

Date of RAI Issue: 11/17/2015

Question No. 14.03.05-24

Provide design descriptions and corresponding ITAAC to address Type A variables.

10 CFR 50.55a(h)(3) states, in part, that an application filed on or after May 13, 1999, for design certifications must meet the requirements for safety systems in IEEE Std 603-1991 and the correction sheet dated January 30, 1995. IEEE Std 603-1991, Clause 5.8.1, states that the display instrumentation provided for manually controlled actions for which no automatic control is provided and the display instrumentation required for the safety systems to accomplish their safety functions shall be part of the safety systems.”

In RAI 38-7878, Question 07.05-1, the staff requested the applicant to justify why Type A variables are not required for this design when it appears that manually controlled actions were credited for cases where no automatic controls exist during several events analyzed in Chapter 15. As such, if the applicant determines that Type A variables are needed in response to this RAI, the staff requests the applicant to provide design descriptions and a corresponding ITAAC to verify that the as-built design provides indications for manually controlled actions for which no automatic control is provided as required by IEEE Std 603-1991, Clause 5.8.1.

Response – (Rev. 1)

As a result of discussions between KHNP and the NRC staff pertaining to the supplied response to RAI 38-7878, Question 07.05-1, a list of Type A variables as well as Type B and C variables has been provided in a revised response to RAI 38-7878, Question 07.05-1. That revised response addresses all of the related changes associated with incorporating Type A variables into APR1400 design. [In addition, the supplied response to RAI 294-8302, Question 07.05-6 has provided the basis and analysis for the Type A variables.](#)

Impact on DCD

DCD Tier 1, Table 2.5.3-2 and DCD Tier 2, Chapter 7 have been revised as indicated in the attachment of the revised response to RAI 38-7878, Question 07.05-1.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

Table 3.3.11 and B 3.3.11 have been revised as indicated in the attachment of the revised response to RAI 38-7878, Question 07.05-1.

Impact on Technical/Topical/Environmental Reports

The Safety I&C System Technical Report, APR1400-Z-J-NR-14001-P, and Section 3.5.2 of Basic Human-System Interface Technical Report, APR1400-E-I-NR-14011-P, have been revised as indicated in the attachment of the revised response to RAI 38-7878, Question 07.05-1.