

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.: 348-8279
SRP Section: 07.09 - Data Communication Systems
Application Section: 07.09
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Question No. 07.09-8

In Technical Report APR1400-Z-J-NR-14001-P, Rev. 0, "Safety I&C System," clarify that the Maintenance Test Panel (MTP) is not used for maintenance and software loading.

10 CFR 50.55a(h) requires compliance to IEEE Std 603-1991. IEEE Std 603-1991, Clause 5.6.1, states, in part, "Redundant portions of a safety system provided for a safety function shall be independent of and physically separated from each other to the degree necessary to retain the capability to accomplish the safety function during and following any design basis event requiring that safety function," and Clause 5.6.3, states, in part, "The safety system design shall be such that credible failures in and consequential actions by other systems, as documented in 4.8 of the design basis, shall not prevent the safety systems from meeting the requirements of this standard." Section C.5.1 of Technical Report APR1400-Z-J-NR-14001-P, DI&C-ISG-04, Position 10, states conformance to DI&C-ISG-04, Interdivisional Communications, Staff Position 10, and in "SDL Compliance," it states that "...software is loaded into the..." The compliance of the platform is provided in Reference 12 [Common Qualified Topical Report]." Section 5.6.10, "ISG-4 Position 10," of the Common Q Topical Report states "When the reboot occurs...". It was not clear to the staff if the MTP is used for maintenance and software loading as discussed in the Common Q Topical Report. At a public meeting in August 2015, the applicant said that the MTP is not used for maintenance and software loading.

Staff requests applicant update Technical Report APR1400-Z-J-NR-14001-P to clarify the MTP and its relation with maintenance and software loading.

Response

The purpose of MTP is to provide the capability to perform maintenance, initiate tests, and display system status. The MTP is not used for software loading. Software loading to the safety programmable logic controller (PLC) is done by serial connection between the PLC and the portable engineering station, as described in Section C.5.1 of the Safety I&C System technical report, APR1400-Z-J-NR-14001-P.

The Safety I&C System technical report, APR1400-Z-J-NR-14001-P, will be revised by the response to RAI 317-8271, Question 14.03.05-18 to indicate the MTP is not used for software loading.

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 Safety I&C System technical report, APR1400-Z-J-NR-14001, will be revised as indicated in the attachment associated with KHNP's response to RAI 317-8271, Question 14.03.05-18.