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## 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.: 348-8279  
SRP Section: 07.09 – Data Communication Systems  
Application Section:  
Date of RAI Issue: 12/24/2015

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### **Question No. 07.09-15**

Address DI&C-ISG-04, "Highly Integrated Control Room - Communication," Rev. 1, Positions 12, 13, 14, 15 and 17 for the IFPD to ESCM interface.

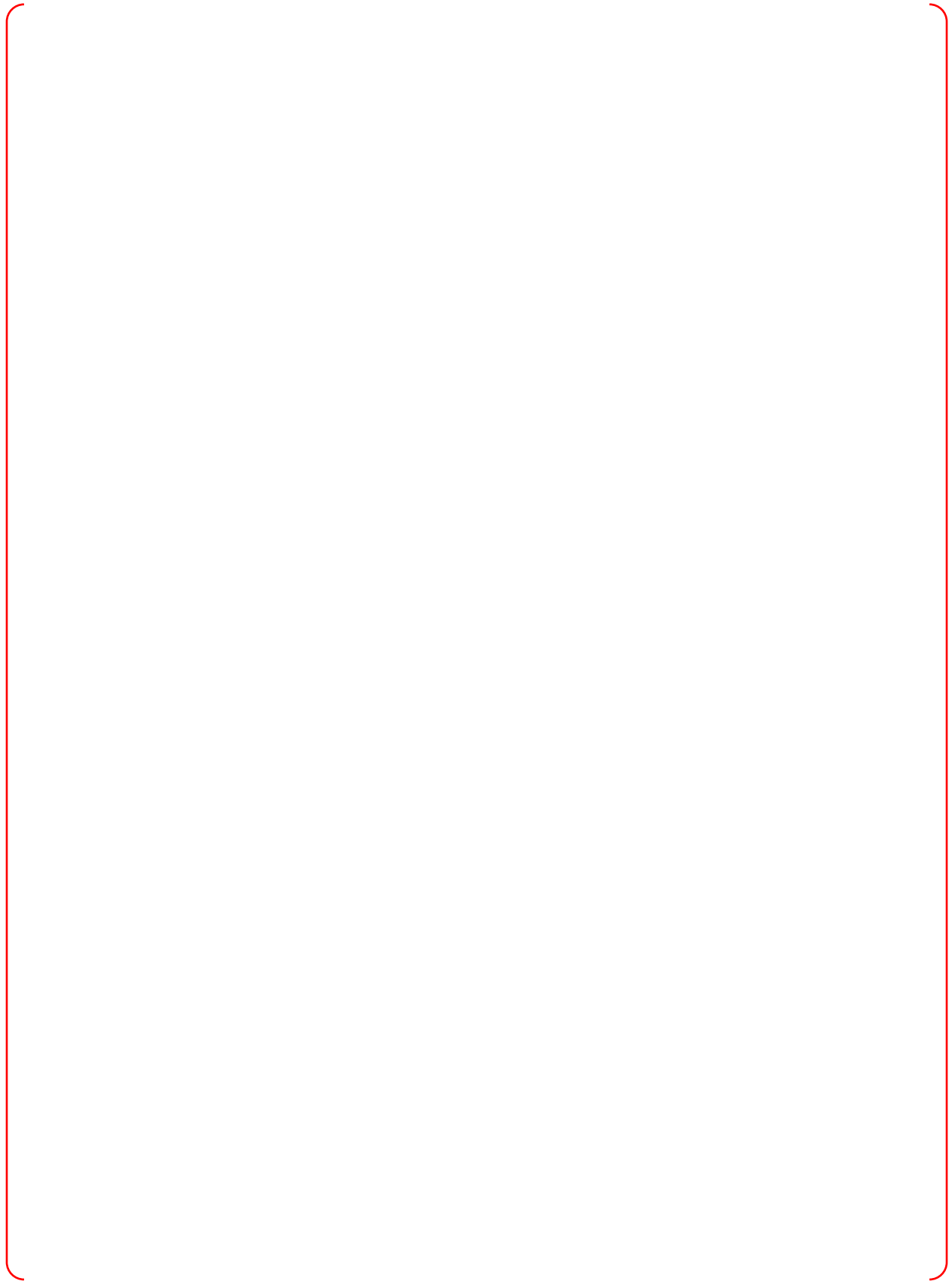
10 CFR 50.55a(h) requires compliance to IEEE Std 603-1991. IEEE Std 603-1991, Clause 5.6.1, states, in part, "Redundant portions of a safety system provided for a safety function shall be independent of and physically separated from each other to the degree necessary to retain the capability to accomplish 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." Digital I&C Interim Staff Guidance (DI&C-ISG)-04 provides guidance for meeting the communications independence requirements of IEEE Std. 603-1991, Clause 5.6.

For DI&C-ISG-04, Section 1, Positions 12, 13, 14, 15, and 17, in technical report APR1400-Z-JNR- 14001-P, section C.5.1.5, the applicant stated that DI&C-ISG-04 position is not applicable to the communication between IFPD and the ESCM. The staff disagrees. DI&C-ISG-04 states "vital communication as used are communications that are needed to support a safety function," and based on the discussions in Technical Report APR1400-Z-J-NR-14001-P, the IFPD and ESCM connectivity supports a safety function (e.g., steam generator tube rupture manual actions). Address DI&C-ISG-04 Positions 12, 13, 14, 15, and 17 for the IFPD to ESCM interface.

### **Response – (Rev. 1)**

KHNP had previously addressed the DI&C-ISG-04, Positions 12 for the IFPD to ESCM interface in the response to RAI 45-7883, Question No.07.09-7.

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**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**

APR1400-Z-J-NR-14001-NP, Rev.0, "Safety I&C System", Section C.5.1.5 will be revised, as indicated in the attachment associated with this response.







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