

## 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.: 300-8297  
SRP Section: 7.3  
Application Section: 07.03 – Engineered Safety Features Systems  
Date of RAI Issue: 11/10/2015

### **Question No. 07.03-5**

Demonstrate how the ESF-2 initiation signals from the PPS will not be overridden or prevented from the completion of the protection action by any erroneous commands from the ESCM on the operator console. Also, clarify where the manual reset will be conducted for the ESF control commands.

10 CFR 50.55a(h)(3) states “Applications filed on or after May 13, 1999, for construction permits and operating licenses under this part, and for design approvals, design certifications, and combined licenses under Part 52 of this chapter, 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 5.2 requires that the safety system be designed so that once initiated automatically or manually, the intended sequence of protective actions of the execute features shall continue until completion.

Based on the logic of Figure 4-15, "Simplified Component Control Logic," in Technical Report APR1400-Z-J-NR-14001, Rev. 0, “Safety I&C System,” ESF-2 commands could be overridden by erroneous commands from ESCM on the operator console. Describe why ESF-2 initiation signals from PPS are overridden by commands from the ESCM, including spurious commands from ESCM. In addition, clarify where the ESF signals are manually reset after steady state conditions are reached.

### **Response**

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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.**

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