
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.: 235-8275
SRP Section: 12.03-12.04 – Radiation Protection Design Features
Application Section: 12.3-12.4
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Question No. 12.03-40

The accident monitoring instrumentation is needed so that response to corrective actions can be observed and the need for further actions can be determined in accordance with NUREG-0737.

In Technical Specification 3.3.11, Table 3.3.11-1, the containment upper operating area radiation monitors are provided with the designation “F,” indicating that if the monitors are not restored to operable status within 7 days, that a report has to be issued, instead of being required to be in MODE 3 in 6 hours and MODE 4 in 12 hours, as is required for most other accident monitoring instrumentation, which are provided with a designation of “E.”

Please explain why it is acceptable for the containment upper operating area monitors to have the designation of “F” instead of “E,” in Technical Specification 3.3.11, Table 3.3.11-1.

Response

The containment upper operating area monitors, Item 10 of Table 3.3.11-1 provides measurement of significant radiation releases. These two monitors are an alternate means to the containment operating area monitors, Item 25 of the same table. The containment operating area monitors are the primary monitors that monitor the significant radiation releases from an event occurring in containment (e.g., fuel handling accident) and provides this information for use by operators in determining the need to invoke the site emergency plan. In addition, these monitors initiate the Containment Purge Isolation Actuation Signal (CPIAS) to prevent radioactivity being released through the containment purge system.

Per LCO 3.3.11 and reporting requirement 5.6.5, if the primary monitors cannot be restored to operable status within the specified time as specified in LCO 3.3.11, the required action is not to shutdown the plant, but rather the containment upper operating area monitors will be used to monitor containment area radiation. A report will also be submitted within 14 days that outlines the preplanned alternate method of monitoring, the cause of the inoperability and plans for restoring the instrumentation channels to an operable status.

These alternate monitors have the identical measurement range and equipment qualification of those of the primary monitors. The measurement coverage area is essentially the same. The only difference is the sensor location. The upper operating area monitors are located at elevation of 200'-0" and 232'-1" while the primary monitors are located at elevation of 162'-0" and 162'-3".

This is in accordance with the required action designation of F.1 for the alternate monitors, provided in Bases B.3.3.11.

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.