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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.: 116-8054  
SRP Section: 14.03.08 - Radiation Protection Inspections, Tests, Analyses, and Acceptance Criteria  
Application Section: Tier 1, Various Sections  
Date of RAI Issued: 07/27/2015

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### **Question No. 14.03.08-8**

10 CFR 50, GDC 61, requires that the fuel storage and handling, radioactive waste, and other systems which may contain radioactivity shall be designed to assure adequate safety under normal and postulated accident conditions. These systems shall be designed (1) with a capability to permit appropriate periodic inspection and testing of components important to safety, (2) with suitable shielding for radiation protection, (3) with appropriate containment, confinement, and filtering systems, (4) with a residual heat removal capability having reliability and testability that reflects the importance to safety of decay heat and other residual heat removal, and (5) to prevent significant reduction in fuel storage coolant inventory under accident conditions.

SRP Section 14.3 indicates that the purpose of inspections, tests, analysis, and acceptance criteria (ITAAC), is to verify that a facility referencing the design certification is built and operates in accordance with the design certification and applicable regulations.

In addition, SRP Section 14.3.8 indicates that the reviewer should ensure that Tier 1 identifies and describes, commensurate with their safety significance, those SSCs that provide radiation shielding, confinement or containment of radioactivity, ventilation of airborne contamination, or radiation (or radioactivity concentration) monitoring for normal operations and during accidents.

Tier 1 Table 2.4.7-1, item 1.e, indicates that a containment airborne particulate radioactivity monitor will be used to detect reactor coolant leakage. It is unclear to staff which monitor is being credited to do this. Please provide the monitor tag number of the monitor in Table 2.4.7-1, item 1.e, so that it is clear which monitor is being credited for detecting RCS leakage.

### **Response – (Rev. 1)**

The credited containment airborne particulate radioactivity monitors used to detect reactor coolant leakage are PR-RE-039A and PR-RE-040B. A new table, Table 2.4.7-2, [has been](#) added |

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to [the DCD Tier 1 in](#) subsection 2.4.7.1 that provides all of the monitors used for the Leakage Detection System including the containment airborne particulate radioactivity monitors.

[DCD Tier 1, Table 2.4.7-2 will be revised to change Tag No of containment building sump level and containment ICI cavity sump level as shown in the attachment associated with this response.](#)

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### **Impact on DCD**

DCD Tier 1, Subsection 2.4.7.1 and Table 2.4.7-1 [have been](#) revised and Table 2.4.7-2 [has been](#) added as indicated in the [attachment associated with the Rev.0 response.](#)

[DCD Tier 1, Rev.1, Table 2.4.7-2 will be revised, as indicated in the attachment associated with this response.](#)

### **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.

Table 2.4.7-2

## Leakage Detection System Monitors List

Description	Tag No	Location	Class <sup>(1)</sup>			Display & Alarm at MCR/RSR
			S	SE	E	
Containment Airborne Particulate	PR-RE-039A	Containment	3	I	A	Yes/Yes
Containment Airborne Particulate	PR-RE-040B	Containment	3	I	B	Yes/Yes
Containment Atmosphere Humidity	VP-ME-3013	Containment	N	II	N	Yes/Yes
Containment Atmosphere Humidity	VP-ME-3014	Containment	N	II	N	Yes/Yes
Containment Atmosphere Humidity	VP-ME-3015	Containment	N	II	N	Yes/Yes
Containment Atmosphere Humidity	VP-ME-3016	Containment	N	II	N	Yes/Yes
Containment Building Sump Level	DE-LE-006	Containment	N	II	N	Yes/Yes
Containment ICI Cavity Sump Level	DE-LE-007	Containment	N	II	N	Yes/Yes

- (1) S : Safety Class per ANSI/ANS-51.1; 1=SC-1, 2=SC-2, 3=SC-3, N=NNS  
SE : Seismic Category; I, II, III  
E : Electrical Class ; A, B, C, D=Class 1E Separation Division, N=Non-Class 1E

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