

## 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.: 187-8101

SRP Section: 14.02 - Initial Test Program - Design Certification and New License Applicants

Application Section: DCD Table 1.9-1 and Section 14.2.7

Date of RAI Issue: 09/01/2015

### **Question No. 14.02-10**

This question is also related to Question 27217 in RAI 7867 in the NRC eRAI system. The question was updated to add three hot functional tests needed to comply with RG 1.20.

In DCD Table 1.9.1, "APR 1400 Conformance with NRC Regulatory Guides," the table contains the following information related to NRC RG 1.20 but the information is incomplete:

NRC Regulatory Guides	Revision/ Issue Date	Conformance or Summary Description of Deviation	DCD Tier 2 Section
1.20 Comprehensive Vibration Assessment Program for Reactor Internals During Preoperational and Initial Startup Testing	Rev. 3 03/2007	The APR 1400 conforms with this NRC RG.	11.5, 12.3.4, TS Part 3, 5.0

For example, the NRC staff determined that this reference to RG 1.20 does not contain any references to APR 1400 DCD Subsections 14.2.12.1.41, "Internal Vibration Monitoring System Test," 14.2.12.1.42, "Loose Parts Monitoring System Test," 14.2.12.1.43, "Acoustic Leak Monitoring System Test," 14.2.12.2.2 "Loose Parts Monitoring System," 14.2.12.2.7, "Post-Core Reactor Coolant System Leak Rate Measurement," 14.2.12.2.10, "Post-Core Acoustic Leak Monitoring System Test," and 14.2.12.4.18, "Baseline Nuclear Steam Supply System Integrity Test." These preoperational tests, post core hot functional tests and the power ascension test may contain test objectives, prerequisites, methods, and acceptance criteria related to compliance with RG 1.20.

Please add references to the appropriate DCD Section 14.2 test abstracts in DCD Table 1.9.1 and/or Subsection 14.2.7 related to APR 1400 compliance with RG 1.20.

### **Response**

KHNP has reviewed the subject question and understands the staff's request. KHNP is in the process of upgrading the test plans presented in Section 14.2 of the DCD. This effort is focused on adding additional SSCs that are important to safety and risk significant as well as increasing the level of detail described in the DCD for test prerequisites, test methods and acceptance criteria for the various tests. It has been determined that the actions to be taken as a result of this question is within the scope of the upgrade effort. Therefore, KHNP will address the noted items in the upgrade effort, which is scheduled to be completed by February 1, 2016. A revised response to this question that incorporates the results of the upgrade effort will be submitted to the NRC after completion.

### **Response – (Rev. 1)**

This question is the same as that asked in RAI 91-7867 Question 14.02-9, but added three post core hot functional tests to the question of RG 1.20 compliance, namely: 14.2.12.2.2 "Loose Parts Monitoring System," 14.2.12.2.7, "Post-Core Reactor Coolant System Leak Rate Measurement," and 4.2.12.2.10, "Post-Core Acoustic Leak Monitoring System Test." These subsection test plans contain functional verification of each system during hot functional testing for their normal operation. Similar to the response provided to RAI 91-7867 Question 14.02-9 for the preoperational and initial startup tests of the other systems or programs listed (ref. MKD/NW-15-0102L dated August 28, 2015; ML15240A044) these three additional systems or programs are not used for measuring vibration of the reactor internals during post core hot functional testing. Therefore, these subsections are not applicable to RG 1.20 and it is not necessary to include reference to Sections 14.2.12.2.2, 14.2.12.2.7, or 14.2.14.2.10 in Table 1.9.10.

### **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.