
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.: 204-8237
SRP Section: 09.05.03 – Lighting Systems
Application Section:
Date of RAI Issue: 09/08/2015

Question No. 09.05.03-8

DCD Tier 2, Section 9.5.3.4 states: “The emergency lighting is inspected and tested periodically.”

Please identify the programs that will address inspection and testing of the emergency AC and DC lighting systems.

Response

The emergency lighting is inspected and tested periodically in accordance with the plant operating and maintenance procedures, which is identified in DCD Tier 2, Subsection 13.5.2.

DCD Tier 2, Subsection 9.5.3.4 will be revised to incorporate the information provided above.

Impact on DCD

DCD Tier 2, Subsection 9.5.3.4 will be revised as shown in the Attachment.

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.

APR1400 DCD TIER 2

- f. The emergency ac lighting powered from the Class 1E sources is classified as non-Class 1E circuits. Lighting circuits are electrically isolated from Class 1E circuits by the use of isolation devices and separation distance as indicated in IEEE Std. 384-1992.
- g. Lamps with mercury content are not to be installed in the fuel handling areas and inside the containment.

9.5.3.4 Inspection and Testing Requirements

The lighting system is inspected and tested prior to plant operation. Preoperational testing on the lighting systems is performed during initial startup as described in Subsections 14.2.12.1.80 and 14.2.12.1.81.

The normal lighting circuits are normally energized and require no periodic testing. The emergency lighting is inspected and tested periodically.

9.5.3.5 Instrumentation Requirements

, in accordance with the plant operating and maintenance procedures

There is no specific instrumentation associated with the lighting systems.

9.5.4 Emergency Diesel Engine Fuel Oil System

The emergency diesel engine fuel oil system (EDEFOS) provides for the required storage capacity and continuous supply of fuel oil to each of the four Class 1E emergency diesel generators (EDGs) to safely shut down the plant and maintain a safe shutdown condition following a design basis accident (DBA) concurrent with a loss of offsite power (LOOP) by supplying power to essential loads. Diesel fuel for each emergency diesel generator is supplied by fuel oil transfer pumps from a fuel oil storage tank to a fuel day tank.

9.5.4.1 Design Bases

- a. The EDEFOS is designed to provide storage capacity of at least a 7-day supply of fuel oil for the operation of the emergency diesel generator at its continuous rating, plus a margin to allow for periodic testing for each diesel engine, in accordance with ANSI/ANS 59.51 (Reference 78).