Draft

Request for Additional Information No. 114 (1277), Revision 0

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U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 09.05.03 - Lighting Systems
Application Section: 9.5.3

QUESTIONS for Electrical Engineering Branch (EEB)

09.05.03-18

RAI 9.5.3-10 S1

In response to RAI 9.5.3-10, you stated that single Class 1E circuit breaker or fuse located at the motor control center is used as the isolation device. The isolation device meets the requirements of RG 1.75. RG 1.75, Position C (1) requires analysis and periodic testing. FSAR Tier 1, Table 2.5.1-3 and 2.5.2-3 includes ITAAC of the item (Table 2.5.1-3, item 5.2 and Table 2.5.2-3, item 5.2). However, the ITAAC (Table 2.5.1-3, item 5.2 and Table 2.5.2-3, item 5.2) states that an inspection will be performed. Describe the process for verifying by inspecition that RG 1.75, Position C (1) will be satified.

Modify Table 2.5.1-3, item 5.2 and Table 2.5.2-3, item 5.2 to include testing ("… periodic testing of circuit breakers … during every refueling must demonstrate that the overall coordination scheme under multiple faults of non-safety-related loads remains within the limits specified in the design criteria for the nuclear power plant,") to verify that recommendations of RG 1.75 are met.

Modify Table 2.5.1-3, item 5.2 and Table 2.5.2-3, item 5.2 to include analysis (the breaker time-current trip characteristics, for circuit faults "under bolted or arcing fault conditions [assuming multiple faults of all non-safety-related loads and load current of all safety-related circuits] will cause the nearest circuit breaker … to interrupt the fault current prior to initiation of a trip of any upstream protective device,") to verify that recommendations of RG 1.75 are met.

09.05.03-19

RAI 9.5.3-4 S1

The response to RAI 9.5.3-4, states that rooms containing safety-related equipment, for which routine access is expected for normal operations, surveillance and maintenance activities (e.g., emergency core cooling systems pump rooms, switchgear rooms, I&C rooms and emergency power generating buildings), will have approximately one-third of the area lighting supplied by the emergency lighting system. Additionally, emergency lighting will be provided for access to the Safeguard Buildings, Reactor Building, Fuel Building, and Emergency Power Generating Buildings. Emergency lighting is provided

in other areas of Nuclear Island that have limited or no safety-related equipment. On the basis of its review, the staff finds that you did not identify all areas/rooms where emergency lighting is provided (e.g., Class 1E DC equipment rooms, UPS rooms, operational support centers, and technical support centers, etc.). Identify areas/rooms where emergency lighting will be provided.

09.05.03-20

RAI 9.5.3-16 S1

The response to RAI 9.5.3-16, states that FSAR Tier 2, section 9.5.3.2.2 will be revised to indicate reference to Section 9.5.1 for use and location of emergency lighting for fire fighting and operator actions. Modify Section 9.5.3.2.2 as follows: “Battery pack emergency lighting fixtures are fixed, self-contained sealed beam units with eight hour battery packs. The batteries are charged from the NPSS during normal operation. The egress route from the MCR to the RSS is illuminated by independent fixed, self-contained eight-hour rated battery powered lighting units. Other post-fire safe shutdown activities performed by operators outside the MCR and RSS are supported by independent fixed, self-contained eight-hour rated battery powered lighting units at the task location and in access and egress routes. Refer to Section 9.5.1 for additional information regarding fire fighting and operator action.”