Request for Additional Information No. 36 (553, 1026), Revision 0

8/14/2008

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 09.05.02 - Communications Systems
Application Section: 9.5.2.1

QUESTIONS

09.05.02-1

Section 9.5.2.1 of the U.S. EPR states that an isolation device is placed between the non-Class 1E COMS system and the Class 1E power supply to provide the required independence per IEEE Std 384-1992 (Reference 2). What is the isolation device employed? Provide information demonstrating the adequacy of this isolation device as required by IEEE 603 clause 5.6.3, Independence between safety systems and other systems.

09.05.02-2

Section 9.5.2.1.4 states the structures, systems, and components (SSC) of the COMS are designed, fabricated, erected, constructed, tested, and inspected to quality standards as required by industry standards. The SSC are installed in structures and anchored to sustain earthquake or other natural events without causing damage to any Class 1E SSC that are important to safety. The staff finds that additional information is required to determine whether the SSCs meet 10 CFR 50.55a. Provide the industry standards that will be used to design, fabricate, erect, construct, test, and inspect the SSCs of the COMS within the U.S. EPR design.

09.05.02-3

Section 9.5.2.1 states the communications subsystems are designed in accordance with applicable codes and standards regarding adverse environmental conditions (including weather, moisture, noise level, electromagnetic interference, and radio frequency interference). However, AREVA NP does not provide sufficient information regarding what applicable codes and standards are used. Provide the detail list of which applicable codes will be used in the design of the communications subsystems and how will they be applied.

09.05.02-4

The staff finds the PA and alarm system description does not provide sufficient information to meet 10 CFR 50.47(a)(8) and 10 CFR 50 Appendix E regarding the types of sirens or tones that will be used by plant personnel. Provide the specific design detail regarding the types of alarms that are incorporated in the

PA and alarm system. For example, how many tones will be available for the alarms?

09.05.02-5

Section 9.5.2.2.4 in the DC-FSAR describes the sound-powered system provided for normal, abnormal, and accident conditions. This system allows uninterrupted communication between the MCR and the control rod drive equipment areas, refueling platform area, turbine generator operating deck, areas containing switchgear, motor control centers, and other maintenance areas. 10 CFR 50 Appendix E Part IV.E (9) requires one onsite and one offsite emergency communications system; each with a backup power source. The staff understands that the sound-powered system is provided in addition to the one onsite and one offsite emergency communications systems. However, the staff requests additional information regarding the operation and design of the sound-powered system and an update to Section 9.5.2.2.4 to reflect this additional information.

09.05.02-6

Section 9.5.2 of the FSAR states that the emergency communications equipment are adequately described in this section, but no specific information follows this statement that is identifiable as applicable to the COLA Emergency Response Plan. The statement is therefore considered inaccurate.

09.05.02-7

Section 9.5.2.1.1 states that the offsite communication consists of at least two independent communication subsystems to provide communication links from the Emergency Operation Facility to the onsite main control room and Technical Support Center, as well as to the NRC and other federal, state, and local government agencies. Part IV E(9) of 10 CFR Part 50, Appendix E, Emergency Planning and Preparedness or Production and Utilization Facilities, requires that emergency facilities and equipment include at least onsite and one offsite communication system with each system having a backup power source. Provide specific details regarding the two types of communications subsystem that is available for offsite communication, including the details on the communications subsystem interfaces with these facilities. In addition, Table 2.4.21-2-Communciations System ITTAC, does not address testing of offsite communications systems to the NRC and other federal/state/local government agencies. Demonstrate how testing of the communications equipment to these offsite agencies will be completed.

09.05.02-8

NRC Bulletin 80-15 requires licensees to address Emergency Notification System backup power requirements in case of loss-of-offsite power. Section 9.5.2.1 states that one offsite communication consists of at least two independent communication subsystems to provide emergency communication links from the Emergency Operation Facility to the onsite main control room and Technical Support Center as well as to the NRC and other federal/state/local government agencies. A backup power source is provided for the offsite

communication systems. AREVA NP has not provided any specific information regarding the backup power source in case of loss-of-offsite power. Demonstrate how the U.S. EPR offsite communications systems address this Bulletin 80-15.

09.05.02-10

IEEE Std. 603-1991, Clause 5.4 discusses equipment qualification. SRP Section 9.5.2 provides reviewer guidance on the design of communication systems. Part of that guidance states, "Communication systems will be protected from EMI/RFI effects of other plant equipment and there will be adequate testing and field measurements where necessary to demonstrate effective communications." In addition, SPR Section 9.5.2 discusses the general equipments for communication equipment to provide effective communication during the "full spectrum of…conditions…under maximum potential noise levels."

The staff believes that the FSAR does not adequately cover communications testing for plant startup and operations in sufficient detail, including the EMI/RFI effects on equipment, to understand how effective communications will be demonstrated. For example, how will the EMI/RFI levels be tested and to what maximum level will the equipment be tested. The staff also believes that the FSAR does not sufficiently address how effective communications will be sustained during maximum potential noise levels. How does AREVA NP plan to meet the testing requirements for EMI/RFI effects? In addition, how will AREVA NP demonstrate that effective communications will be sustained during maximum potential noise levels?

09.05.02-11

Section 9.5.2.2.1 of the U.S. EPR FSAR describes the portable wireless communication system. The applicant has not provided sufficient information regarding the application of the portable wireless communication system to meet 10 CFR 73.55(f)(3). 10 CFR 75.55(f)(3) requires the licensee to provide the capability of continuous communication, radio or microwave transmitted two-way voice communication, either directly or through an intermediary, in addition to conventional telephone service, between local law enforcement authorities and the facility and shall terminate in each continuously manned alarm station. Demonstrate how the communications systems described for offsite communications addresses the requirements of 10 CFR 73.55(f)(3).