

Request for Additional Information No. 43, Revision 0

7/30/2008

U. S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 14.03.08 - Radiation Protection Inspections, Tests, Analyses, and Acceptance
Criteria

Application Section: Tier 2 Section 14.3 and Tier 1 Section 2.0
CHPB Branch

QUESTIONS

14.03.08-1

FSAR, Section 14.3 states that the EPR design complies with 10 CFR 52.47(b)(1). However, in the area of Radiation Protection, Tier 1 of the EPR FSAR is not consistent with the guidance provided in Regulatory Guide RG 1.206, "Combined License Applications for Nuclear Power Plants," Part C.II.1, "Inspections, Test, Analyses, and Acceptance Criteria" (ITAAC) as to what is acceptable content of ITAAC and Tier 1 information for meeting the requirements of 10 CFR 52.80(a). RG 1.206 Part C.II.1 states that a COL applicant should ensure they have ITAAC and Tier 1 information for those SSC features and functions that are necessary to satisfy NRC regulations in 10 CFR Part 20, "Standards for Protection Against Radiation." Therefore, those aspects of the EPR design which demonstrate compliance with the regulations in 10 CFR 20 (such as SSCs that provide radiation shielding, confinement or containment of radioactivity, ventilation of airborne contamination, and monitoring of radiation or radioactivity concentration for normal operations and during accidents) must have ITAAC and Tier 1 information associated with them in order for each COL applicant referencing the design to be in compliance with 10 CFR 52.80(a).

1. In accordance with 10 CFR 52.47(b)(1) and Regulatory Guide 1.206 Part C.II.1, provide:
 - a. ITAAC to verify the location and operability (including initiation of protective action, response to radiation, power source, seismic qualification, environmental qualification, and MCR alarms and indications) of safety-related radiation detection equipment described in Table 3.11-1, Tier 2 of the FSAR, Revision 0, List of Environmentally Qualified Electrical/I&C Equipment.
 - b. ITAAC to verify the adequacy of as-built walls, structures, and buildings as radiation shields, as applicable. Provide ITAAC that verifies, through inspection and/or calculation that the as-built structures, systems and components, result in dose rates in rooms and areas of the plant that are consistent with the planned access requirements described in Section 12.3.2.3, Tier 2, Radiation Zoning. Include rooms, corridors, and operating areas located in the Reactor

Building, Safeguards Buildings, Fuel Building, the Nuclear Auxiliary Building, and the Radwaste Building.

- c. (i) ITAAC to verify adequate containment of airborne radioactive materials through design of ventilation and airborne monitoring systems consistent with personnel access needs.
 - (ii) Location and radiation response of each airborne radioactivity monitor identified in Table 12.3-4, FSAR Tier 2, Airborne Radioactivity Detector Parameters, should be verified, along with local and MCR indication and alarm capability, as applicable.
 - (iii) Also provide ITAAC for the plant ventilation system in accordance with the guidance provided in Regulatory Guide 8.8 and Section 12.3-4 of the Standard Review Plan (NUREG-0800).
 - d. ITAAC to verify the location and operability of all Area Radiation Monitors (ARMs) listed in Table 12.3-3, FSAR Tier 2, Radiation Monitor Detector Parameters. ITAAC should verify the local audible and visual alarm capability of each ARM (as applicable), MCR indications and alarms, and each ARM channel's response to radiation.
 - e) Tier 1 descriptions for SSCs described in parts (a) – (d) of this question, including those that are safety-related, provide radiation shielding, confinement or containment of radioactivity, ventilation of airborne contamination, and monitoring of radiation (or radioactivity concentration) for normal operations and during accidents. For those radiation monitors that have accident functions (e.g., the in-containment high radiation monitor, the Fuel Building ventilation monitor, etc), describe the safety related function(s) which applies to that particular monitor.
2. Revise Section 14.3 of the FSAR to be consistent with the revised ITAAC and Tier 1 information.