

Response to

Request for Additional Information No. 72 (1061), Revision 0

10/15/2008

U. S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 03.02.02 - System Quality Group Classification

Application Section: 3.2.2

EMB1 Branch

Question 03.02.02-1:

General Design Criterion 1 identifies, in part, that structures systems and components important to safety shall be designed, fabricated, erected and tested to quality standards commensurate with the importance of the safety functions to be performed. Where generally recognized codes and standards are used, they shall be supplemented or modified as necessary to assure a quality product in keeping with the required safety function. FSAR Subsection 3.2 in combination with Subsection 3.1.1.1.1 identify that safety-related SSCs are designed to quality standards commensurate with their safety-functions, or to fail in a safe condition. GDC 2 actually applies to all important to safety SSCs and not only SSCs that are considered safety-related. As defined in 10 CFR 50 Appendix A, important to safety SSCs are those that provide reasonable assurance that the facility can be operated without undue risk to the health and safety of the public.

The applicant is requested to expand FSAR Subsections 3.2 and 3.1.1.1.1 to clarify how GDC 2 is satisfied relative to SSCs that are not identified as safety-related, but are considered important to safety and have augmented quality requirements (e.g.; NS-AQ), such as the nonsafety-related fire protection system or any SSC that is classified as Seismic Category II.

Response to Question 03.02.02-1:

See the response to RAI No. 71, Question 03.02.01-1.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 03.02.02-2:

General Design Criterion 1 identifies, in part, that structures systems and components important to safety shall be designed, fabricated, erected and tested to quality standards commensurate with the importance of the safety functions to be performed. Where generally recognized codes and standards are used, they shall be supplemented or modified as necessary to assure a quality product in keeping with the required safety function. The QA Plan described in Topical Report ANP-10266A, Revision 1 applies to both safety-related and nonsafety-related SSCs, but this report does not identify a specific list of important to safety SSCs that require application of the 10 CFR 50 Appendix B QA Program or the list of nonsafety-related SSCs that apply the QA program that is not consistent with Appendix B. Table 3.2.2-1 of the FSAR does include a list of safety-related and nonsafety-related SSCs defined as NS-AQ that require the application of an Appendix B Program, but the list of specific nonsafety-related SSCs that apply the quality assurance program that is not consistent with Appendix B is not clearly defined.

The applicant is requested to clarify which nonsafety-related SSCs apply the QA Program for nonsafety-related SSCs and identify if these SSCs have a unique quality classification.

Response to Question 03.02.02-2:

As noted in U.S EPR FSAR, Tier 2, Section 3.2, those non-safety-related structures, systems, and components (SSC) that are classified as supplemented grade (NS-AQ) are included in the 10 CFR 50, Appendix B quality assurance program if inclusion is explicitly invoked by the relevant "significant licensing requirement or commitment." For example, non-safety-related components that meet the condition of RG 1.29 regulatory position C.2 are subject to the design requirements of RG 1.29 regulatory positions C.2 through C.4; the last of which invokes "pertinent quality assurance requirements of Appendix B to 10 CFR Part 50." In contrast with the foregoing, RG 1.143 regulatory position C.7, "Quality Assurance For Radwaste Management Systems," states that "Since the impact of these systems on safety is limited, the extent of control required by Appendix B to 10 CFR Part 50 is similarly limited. To ensure that systems will perform their intended functions, a quality assurance program sufficient to ensure that all design, construction, and testing provisions are met should be established and documented. A quality assurance program acceptable to the NRC staff is presented in ANSI/ANS-55.6-1993, 'Liquid Radioactive Waste Processing System for Pressurized Water Reactor Plants'."

Further discussion on the NS-AQ classification is provided in the response to RAI No. 71, Question 03.02.01-1.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 03.02.02-3:

FSAR Subsection 3.2 describes supplemented grade as those SSCs deemed to be important by NRC staff. Important to safety SSCs are not deemed important by NRC staff, but are identified as important to safety by the applicant's evaluation process such as the PRA, expert panel or other RTNSS process. FSAR Table 3.2.2-1 identifies those SSCs that are defined as NS-AQ. Revise the Subsection 3.2 wording to clarify the applicant's process to determine SSCs that are important to safety and, for those SSCs classified as NS-AQ, identify the supplemental design and quality requirements to ensure the reliability assumed in the PRA. If this information is not currently available and will be determined later, advise accordingly.

Response to Question 03.02.02-3:

See the response to RAI No. 71, Questions 03.02.01-1 and 03.02.01-4. See U.S. EPR FSAR Tier 2, Section 17.4 for a description of the reliability assurance program.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Question 03.02.02-4:

FSAR subsections 3.2.1.1 and 3.2.1.2 identify that Seismic Category I and II SSCs are subject to the quality assurance program requirements of 10 CFR Part 50, Appendix B. FSAR Table 3.2.2-1 typically identifies that the 10 CFR 50 Appendix B QA Program applies to SSCs classified as Seismic Category I or II. However, in FSAR Table 3.2.2-1, a limited number of nonsafety-related SSCs classified as Seismic Category I and Seismic Category II are not required to apply the 10 CFR 50 Appendix B Program. For example, certain nonsafety-related monitors supporting the leak detection system are identified as Seismic Category I with no 10 CFR 50 Appendix B Program applied.

The applicant is requested to correct this apparent discrepancy or justify the basis for not applying pertinent requirements of the 10 CFR 50 Appendix B Program to SSCs that are classified as Seismic Category I and II.

Response to Question 03.02.02-4:

A response to this question will be provided by January 27, 2009.

Question 03.02.02-5:

As acknowledged in FSAR Table 1.9-4 pertaining to issue II.A, SRM dated July 21, 1993 concerning SECY-93-087 identified that the staff will review both evolutionary and passive plant design applications using the newest codes and standards endorsed by the NRC and unapproved revisions to the codes will be reviewed on a case by case basis. Editions of various industrial codes and standards referenced in FSAR Subsections 3.2.3 and Table 3.2.2-1 notes are not current and industrial codes and standards for certain SSCs, such as structures and cooling tower fans, are not listed in FSAR Subsection 1.9 or Table 3.2.2-1. Consistent with GDC 1, RG 1.26 and SRP 3.2.2, codes and standards for important to safety fluid systems and their supports should be identified and supplemented as necessary to achieve a quality product.

The applicant is requested to include missing codes and standards and to clarify which code editions applied to the EPR design are currently endorsed by the NRC and clarify if current editions of industrial codes and standards will be applied to the detailed design and procurement of EPR SSCs so that these editions may be reviewed on a case by case basis.

Response to Question 03.02.02-5:

A response to this question will be provided by January 27, 2009.

Question 03.02.02-6:

10 CFR Part 52.47 identifies that the Commission will require prior to design certification, that information normally contained in certain procurement specifications and construction and installation specifications be completed and available for audit if the information is necessary for the Commission to make its safety determination. FSAR Tier 1 Chapter 2 includes system based design descriptions. This Chapter identifies that specifications exist for components, piping and supports shown as ASME Section III. It is understood that this information is based on the information included in FSAR Tier 2 and design specifications are required for ASME Section III systems and components, but it is not clear if specifications exist for non-ASME systems and components. The applicant is requested to clarify if the design information on quality group classification for all important to safety systems and components within the scope of the FSAR is included in specifications and if this information is now available for audit.

Response to Question 03.02.02-6:

See the response to RAI No. 71, Question 03.02.01-5.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.