Request for Additional Information No. 44, Revision 0

7/29/2008

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 10.03.06 - Steam and Feedwater System Materials
Application Section: 10.3.6
CIB1 Branch

QUESTIONS

10.03.06-1

FSAR Tier 2, Table 10.3-11 lists material specifications and grades for ASME Code, Class 2 and 3 MS and FW piping and non-code piping. The applicant did not, however, include material specifications and grades for components such as valves and fittings. In addition, the applicant did not list weld filler material specifications and classifications. In order for the staff to determine that MS and FW systems materials meet the requirements of GDC 1 and 10 CFR 50.55a, the staff requests that the applicant modify Table 10.3-11 to include material specifications and grades for components such as valves and fittings used in the ASME Code Class 2 and 3 portions of the MS and FW systems. The staff also requests that the applicant provide weld filler material specifications and classifications that will be used in the ASME Code Class 2 and 3 portions of the MS and FW systems.

10.03.06-2

FSAR Tier 2, Section 10.3.6.3 states that MSSS and feedwater system piping material is flow accelerated corrosion (FAC) resistant, unless the application is specially evaluated and found to be non-susceptible to FAC. The applicant indicates that piping material resistant to FAC is constructed of carbon steel which contains a minimum of 0.10 percent chromium. Given that the material specifications listed in Table 10.3-11 do not contain minimum chromium content requirements, the staff requests that the applicant provide a note to Table 10.3-11 to indicate the aforementioned requirement for minimum chromium content for components that the applicant has determined are susceptible to FAC. In addition, the staff requests that the applicant provide a basis for its determination that carbon steel piping containing a minimum of 0.10 percent chromium is FAC resistant.

10.03.06-3

FSAR Tier 2, Section 10.3.6.3 indicates that Chrome-molybdenum or stainless steel also may be used in certain parts of the MSSS and feedwater system. However, Section 10.3.6.1 indicates that the MSSS and feedwater system piping material is not low-alloy steel and, therefore, RG 1.50 does not apply to the MSSS and feedwater system. The staff requests that the applicant provide an explanation of this inconsistency and modify the FSAR accordingly.

10.03.06-4

FSAR Section 10.3.6.3 indicates that the design of the piping systems in the MSSS and feedwater system incorporates considerations to prevent erosion and corrosion. In order for the staff to complete its review of FSAR Section 10.3.6 regarding the EPR design attributes that mitigate the effects of FAC, the staff requests that the applicant provide the following information:

1. Provide a detailed discussion of how the design and layout of the MSSS, feedwater and condensate systems minimizes the effects of FAC from system piping and components configuration and geometry, water chemistry, piping and component material, fluid temperature (including flash points), and fluid velocity.

2. Identify the computer program (e.g., CHECWORKS) utilized to design systems in order to minimize the effects of FAC for the design life of the plant.

The staff requests that the aforementioned information be included in the EPR FSAR as it applies to all ASME Code and non-Code piping that may be susceptible to FAC.

10.03.06-5

Under SRP 10.3.6, specific areas of review by the staff include welding preheat temperatures for carbon steel and low alloy steel componentsand nondestructive examination procedures for tubular products. FSAR Section 10.3.6 does not include a discussion on either of the aforementioned topics.

1. The staff s expectations is that preheat temperatures for all carbon steel and low-alloy steel materials follow the guidance provided in ASME Section III, Appendix D, Article D-1000. The staff request that the applicant modify FSAR Section 10.3.6 accordingly.

2. With regard to nondestructive examination for tubular products, the staff requests that the applicant modify FSAR Section 10.3.6 to include the nondestructive examination requirements for tubular products in the ASME Code, Class 2 and 3 portions of MSSS and feedwater system.