ArevaEPRDCPEm Resource

From: Getachew Tesfaye
Sent: Tuesday, December 30, 2008 10:43 AM
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Cc: Robert Davis; David Terao; Peter Hearn; Joseph Colaccino; John Rycyna; ArevaEPRDCPEm Resource
Subject: Draft - U.S. EPR Design Certification Application RAI No. 165 (1855), FSAR Ch. 10
Attachments: Draft RAI_165_CIB1_1855.doc

Attached please find draft RAI No. 165 regarding your application for standard design certification of the U.S. EPR. If you have any question or need clarifications regarding this RAI, please let me know as soon as possible, I will have our technical Staff available to discuss them with you.

Please also review the RAI to ensure that we have not inadvertently included proprietary information. If there are any proprietary information, please let me know within the next ten days. If I do not hear from you within the next ten days, I will assume there are none and will make the draft RAI publicly available.

Thanks,
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Hearing Identifier: AREVA_EPR_DC_RAIs
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Request for Additional Information No. 165 (1855), Revision 0

12/30/2008

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

QUESTIONS for Component Integrity, Performance, and Testing Branch 1 (AP1000/EPR Projects) (CIB1)

10.03.06-7

RAI 10.03.06-1 requested, in part, that the applicant modify the FSAR to list weld filler material specifications and classifications to be used in the ASME Code Class 2 and 3 portions of the steam and feedwater systems. The applicant's response, dated October 16, 2008, did not include this information but instead indicated that the weld filler metal classifications used in the ASME Code Class 2 and 3 portions of the main steam supply system and main feedwater supply system are given in detailed specifications provided to the Certificate of Authorization Holder performing the welding on behalf of the owner. Given that the selection of weld filler material holds the same level of importance to safety as the selection of materials for piping, fittings and valves, the staff needs to review this information to determine whether the weld filler materials selected by the applicant meet the requirements of GDC 1, 10 CFR 50.55a and ASME Code, Section III. Therefore, the staff requests that the applicant modify the FSAR to include weld filler material specifications and classifications for ASME Code Class 2 and 3 steam and feedwater system piping and components.

10.03.06-8

RAI 10.03.06-5 requested, in part, that the applicant modify the FSAR to include nondestructive examination requirements for tubular products in the ASME Code Class 2 and 3 portions of the MSSS and feedwater system. The applicant responded on October 16, 2008 and stated that it would modify the FSAR to reference ASME Code, Section III Articles NC-5000 and ND-5000. The staff finds this response acceptable because it addresses the examination requirements of fabricated components. However, the staff notes that the requirements for examination and repair of tubular materials are located in NC-2550/ND2550 through NC2570/NC-2570 of ASME Code, Section III. The staff requests that the applicant modify the FSAR accordingly to address the examination requirements for tubular materials

10.03.06-9

In RAI 10.03.06-2, the staff requested that the applicant provide a note to Table 10.3-11 to indicate the minimum chromium content requirement for components that the applicant has determined are susceptible to flow-accelerated corrosion (FAC). The applicant responded on October 16, 2008 and provided a proposed revision of Table 10.3-11. The applicant's revised Table 10.3-11 now includes a note that states that the

minimum chromium content of carbon steel piping, fittings and weld filler metals in the main steam supply system and main feedwater system shall be 0.10% for resistance to FAC, unless exempted by the system engineer. The staff finds this acceptable, but the staff notes that the applicant's revised table does not include the 0.10% chromium requirement for valves. The staff also notes that in accordance with EPRI guidelines in NSAC-202L-R3 (Section 4.4.1), components susceptible to FAC containing a minimum chromium content of 0.10% will require an examination at some point after the plant goes into operation to verify that no appreciable degradation has occurred as a result of FAC before it is determined that no further inspections are required. Given that valves can be susceptible to FAC, the staff requests that the applicant explain the exclusion of a minimum chromium requirement for valves that may be susceptible to FAC.

10.03.06-10

In RAI 10.03.06-4 the staff requested information related to the applicant's design of MSSS, feedwater and condensate system to mitigate the effects of FAC. Part of the staff's RAI requested that the applicant identify the computer program (e.g. CHECWORKS) or equivalent process used for system design. The applicant responded on October 16, 2008 and stated that CHECWORKS addresses FAC monitoring and analysis in existing operating plants and the applicant provided no additional information. The staff assumes that during the design phase, of main steam and feedwater systems that are potentially susceptible to service-induced degradation mechanisms, an analysis will be performed to provide reasonable assurance that the systems are resistant to FAC, erosion, corrosion and cavitation. The applicant is requested to address the extent to which the final design of systems will mitigate material degradation for the design life of the plant. To do so, the applicant should address flow rates, temperatures, pressure and other contributing factors that are taken into consideration in order to establish the design life of safety-related systems susceptible to FAC or other flow induced degradation mechanisms. The applicant's response should encompasses all ASME Code Class 2 and 3 systems as well as non-safety systems that could adversely impact safety-related systems susceptible to FAC and other flow-induced degradation mechanisms. In addition, the staff requests that the applicant identify its corrosion allowance for all Class 2 and 3 piping and components in the MSSS and feedewater system and a basis for its corrosion allowance for the 60-year design life of the plant. The staff requests that the above requested information be included in the FSAR.