ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Tuesday, December 15, 2009 7:35 AM
To: 'usepr@areva.com'
Cc: Honcharik, John; Terao, David; Roy, Tarun; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 341 (4042), FSAR Ch. 5 OPEN ITEM
Attachments: RAI_341_CIB1_4042.doc

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on December 6, 2009, and on December 14, 2009, you informed us that the RAI is clear and no further clarification is needed. As a result, no change is made to the draft RAI. The questions in this RAI are OPEN ITEMS in the safety evaluation report for Chapter 5 for Phases 2 and 3 reviews. As such, the schedule we have established for your application assumes technically correct and complete responses prior to the start of Phase 4 review. For any RAI that cannot be answered prior to the start of Phase 4 review, it is expected that a date for receipt of this information will be provided so that the staff can assess how this information will impact the published schedule.

Thanks,

Thanks,
Getachew Tesfaye
Sr. Project Manager
NRO/DNRL/NARP
(301) 415-3361

Hearing Identifier: AREVA_EPR_DC_RAIs
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Created By: Getachew.Tesfaye@nrc.gov

Recipients:
"Honcharik, John" <John.Honcharik@nrc.gov>
Tracking Status: None
"Terao, David" <David.Terao@nrc.gov>
Tracking Status: None
"Roy, Tarun" <Tarun.Roy@nrc.gov>
Tracking Status: None
"Colaccino, Joseph" <Joseph.Colaccino@nrc.gov>
Tracking Status: None
"ArevaEPRDCPEm Resource" <ArevaEPRDCPEm.Resource@nrc.gov>
Tracking Status: None
"'usepr@areva.com'" <usepr@areva.com>
Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

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Request for Additional Information No. 341(4042), Revision 1

12/15/2009

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 05.04.01.01 - Pump Flywheel Integrity (PWR)
Application Section: 5.4.1.6

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

05.04.01.01-2

OPEN ITEM

RG 1.14, Paragraph C.4.a, states that following the spin test, each finished flywheel receives a check of critical dimensions and a non-destructive examination. The non-destructive examination specified in RG 1.14 include surface examination of areas of high stress concentrations using procedures in accordance with NB-2540 and acceptance criteria in NB-2545 or NB-2546 of Section III to the ASME Code, and a 100 percent volumetric examination using procedures and acceptance criteria specified in accordance with NB-2530 or NB-2540 of Section III to the ASME Code. Therefore, the NRC staff requests that FSAR Tier 2, Section 5.4.1.6.5, "Preservice Inspection," specify that the surface and volumetric examinations, with the acceptance criteria, will be performed after the spin test so that any flaws that have initiated or grown during the spin test can be detected. Also, the FSAR should specify that the flywheel will be inspected for critical dimensions after the spin test so that any dimensional changes can be detected.

05.04.01.01-3

OPEN ITEM

The staff notes that the AREVA Report No. ANP-10294P, Revision 1 uses material properties of the thrust runner in the excessive deformation analysis. However, the material specification for the thrust runner was not provided in the report or the U.S. EPR FSAR Tier 2, Section 5.4.1.6. The thrust runner material specification should be included in the FSAR Tier 2, Section 5.4.1.6 to ensure that the analysis in the AREVA Report No. ANP-10294P, Revision 1, bounds the material that will be used for the thrust runner.

05.04.01.01-4

OPEN ITEM

To ensure the flywheel will maintain its structural integrity during an overspeed event in accordance with the guidelines in Paragraph C.3 of RG 1.14, an ITAAC should be

included in Table 2.2.1-5 of Chapter 2 to the U.S. EPR FSAR, Tier 1. This test ensures that the flywheel assembly can withstand a design overspeed (125 percent of normal operating speed) condition and preclude the generation of missiles, as required by GDC 1 and 4 of 10 CFR Part 50, Appendix A. The ITAAC should also provide the necessary information for the flywheel spin test to be performed, including the acceptance criteria.