

ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Monday, January 04, 2010 6:56 PM
To: 'usepr@areva.com'
Cc: Forsaty, Fred; Lu, Shanlai; Donoghue, Joseph; Carneal, Jason; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 318 (3842), FSAR Ch. 4 OPEN ITEM
Attachments: RAI_318_SRSB_3842.doc

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on October 22, 2009, and discussed with your staff on December 3, 2009. Draft RAI Question 04.02-16 was revised as a result of that discussion. The question in this RAI is an OPEN ITEM in the safety evaluation report for Chapter 4 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
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Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 1072

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Request for Additional Information No. 318 (3842), Revision 1

12/04/2010

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 04.02 - Fuel System Design
Application Section: 04.02

QUESTIONS for Reactor System, Nuclear Performance and Code Review (SRSB)

04.02-16

OPEN ITEM:

Section 4.2.1.4 of the DCD references BAW-10133PA-01 as a representation of the seismic-LOCA analysis methodology and states that plastic deformation is not experienced for maximum loads. In addition, Section 5.3.4.1 of ANP-10285P provides the maximum impact loads and 95/95 lower bound impact loads that demonstrate the impact loads remain below those for plastic deformation. However, neither Section 4.2 nor the mechanical design topical report, ANP-10285P, documents the implementation of this methodology for the EPR fuel assembly. For example, the implementation of the seismic-LOCA methodology laid out in BAW-10133PA-01 involves the determination of various stiffness and damping constants specific to the EPR fuel assembly design based on pluck and shaker tests as well as dynamic crush and lateral impact tests to determine lower impact loads. The stiffness and damping values are the inputs to the calculations that determine the peak impact load.

Provide a summary of the methodology and the numbers at each step that would give enough confidence that the methodology has been followed correctly. The model inputs and a description of how they were determined needs to be provided. Provide the model outputs and show how they were combined into the peak impact force. If this information has already been submitted, identify where the seismic-LOCA evaluation of the EPR fuel assembly design is documented. If this has not already been formally documented, provide documentation to demonstrate that the methodology of BAW-10133PA-01 was followed for the EPR fuel assembly design.