ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Thursday, October 22, 2009 8:30 AM
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Subject: Draft - U.S. EPR Design Certification Application RAI No. 318 (3842), FSAR Ch. 4
Attachments: Draft RAI_318_SRSB_3842.doc

Attached please find draft RAI No. 318 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,
Getachew Tesfaye
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Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 904

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

10/22/2009

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

POTENTIAL 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 step-by-step 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.