ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Friday, August 12, 2011 7:04 AM
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Cc: McNally, Richard; Dixon-Herrity, Jennifer; Miernicki, Michael; Clark, Phyllis; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: Draft - U.S. EPR Design Certification Application RAI No. 504 (5982), FSAR Ch. 3
Attachments: Draft RAI_504_EMB2_5982.doc

Attached please find draft RAI No. 504 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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Email Number: 3325

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Request for Additional Information No. 504 (5982), Revision 0

8/12/2011

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 03.02.02 - System Quality Group Classification
Application Section: 3.2.2

QUESTIONS for Engineering Mechanics Branch 2 (ESBWR/ABWR Projects) (EMB2)

03.02.02-14

OPEN ITEM

FSAR Table 3.2.2-1 Revision 2 adds the RPV Refueling Cavity Seal and classifies this component as non-safety-related Safety Class NS-AQ, Quality Group (QG) D and Seismic Category I. The response from AREVA to RAI 337, Question 09.01.04-14 changes the name of the seal to “ring” and revises the classification from QG D to N/A. The response also clarifies that the cavity ring is a mechanical component designed in accordance with ASME Section III, Subsection ND and quality group does not apply to the cavity ring since it is not a pressure-retaining component. The seismic classification as Seismic Category I with QA to 10 CFR 50 Appendix B is consistent with a safety-related SSC and RG 1.29 and RG 1.13. However, the QG classification for a non-safety-related mechanical component appears to be inconsistent with RG 1.26, the seismic Category I classification and the ASME Code Class such that additional information is needed regarding the basis for the QG classification.

I. Explain why the refueling cavity seal/ring is not considered a structural or pressure-retaining component and describe the extent that codes and standards are applied.

II. Explain the specific function of the cavity seal/ring, such as precluding leakage of radioactive fluids and the differential design pressure it can withstand.

III. If the ring serves the same purpose as the pool liner structure and is not considered pressure-retaining, explain why this item is not considered a structural component.

IV. Specifically describe the extent of certification and stamping and explain why this component is classified as QG N/A rather than QG C. A component designed to ASME Section III Subsection ND is normally designated as QG C.

V. Mechanical components that contain radioactive materials are normally QG C or QG D. The basis for the classification as QG N/A and NS-AQ has not been justified. In particular the following information is needed to evaluate.

   a. Establish if the cavity seal/ring is defined as safety-related or important to safety using the definitions in 10 CFR 50 and Appendix A and clarify if the seal is on the QA list required by 10 CFR 50.34 and 10 CFR 50 Appendix B.

b. Describe the specific safety function and the basis for the designation as safety-related, important to safety or non-safety-related.

c. Clarify if the ring/seal contains radioactive fluids and if this QG classification as N/A is an exception to RG 1.26 and, if so, include the technical justification in the DCD.

d. Since the seal/ring is classified as Seismic Category I with an Appendix B QA Program that is normally used for safety-related SSCs, explain why the seal/ring classified as QG N/A is not also considered safety-related.

e. If the seal/ring is considered safety-related, the basis for the classification as QG N/A should be described.

f. If the seal/ring is defined as non-safety-related, but is important to safety concerning the risk to health and safety of the public, describe the evaluation of risk-significance.

g. If the seal/ring is considered non-safety-related, explain why this is a nonessential component and clarify if this is an exception to SRP 9.1.2 or 9.1.3.