ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Wednesday, December 16, 2009 6:58 AM
To: 'usepr@areva.com'
Cc: Dehmel, Jean-Claude; Roach, Edward; Jennings, Jason; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: Draft - U.S. EPR Design Certification Application RAI No. 346 (4146), FSAR Ch. 11 OPEN ITEM
Attachments: Draft RAI_346_CHPB_4146.doc

Attached please find draft RAI No. 346 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
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:
"Dehmel, Jean-Claude" <Jean-Claude.Dehmel@nrc.gov>
Tracking Status: None
"Roach, Edward" <Edward.Roach@nrc.gov>
Tracking Status: None
"Jennings, Jason" <Jason.Jennings@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. 346(4146) Revision 1

12/16/2009

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 11.05 - Process and Effluent Radiological Monitoring Instrumentation and Sampling Systems
Application Section: 11.5.2

QUESTIONS for Health Physics Branch (CHPB)

11.05-20

OPEN ITEM

Follow-up to RAI 276, Question Q11.05-13

FSAR Tier 2, Sections 11.5.1.2 and 5.2.5.3.2 address instrumentation and methods used to quantify reactor coolant system leakage to the secondary side and leakage rates, as required by EPR Technical Specifications (TS) 16.3.4.12.d and TS B16.3.4.12. The TS requirement specifies a maximum leakage rate of 150 gallons per day through any one steam generator (SG) using realistic primary coolant radionuclide concentrations. The technical basis for leakage detection and instrumentation is provided in TS B16.3.4.12, RG 1.45 (Rev. 1), and RIS 2009-02 (Rev. 1)] in selecting appropriate monitoring methods and in establishing radiation monitoring sensitivity. A review of FSAR Tier 2, Sections 11.5.4.3, 5.2.5.3.2, and 10.4.8.6, and Table 11.5-1 indicates that information on the associated radiation monitoring instrumentation does not indicate whether the instrumentation can detect a primary system leakage rate to the secondary side of 150 gallons per day through any one steam generator (SG) and does not describe the methodology that would be used by COL applicants to comply with the requirements of EPR TS 16.3.4.12.d on allowable SG operational leakage rates. Accordingly, the applicant is requested to review and revise FSAR Sections 5.2.5 and 11.5 and address the below noted items in the FSAR, and include in its response descriptions of the model, methodology, assumptions, parametric values used in the calculations and their basis, and references to enable the staff to conduct an independent evaluation.

a. Revise FSAR Table 11.5-1 to identify the appropriate types and numbers of radiation monitors used to satisfy TS 16.3.4.12.d and TS B16.3.4.12, and specify the minimum required radiation monitor sensitivities to satisfy the SG maximum leakage rate technical basis.

b. In FSAR Section 11.5.2 and/or 5.2.5.3.2, describe the methodology to demonstrate that the SG blowdown radiation monitors will be capable of satisfying the technical basis of the primary to secondary leakage rate of 150 gallons per day using realistic RCS radioactive concentrations for COL applicants to comply with the requirements of EPR TS 16.3.4.12.d.

c. In FSAR Sections 5.2.5.3.2 and 5.2.5.5, revise the descriptions and discussions on which types of radiation monitor instrumentation will be used to comply with EPR TS 16.3.4.12.d, and update all internal citations in referencing FSAR Section 11.5 for specific details on the associated radiation instrumentation.