

## ArevaEPRDCPEm Resource

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**From:** WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]  
**Sent:** Friday, October 12, 2012 2:29 PM  
**To:** Snyder, Amy  
**Cc:** BENNETT Kathy (AREVA); DELANO Karen (AREVA); LEIGHLITER John (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); LENTZ Tony (EXTERNAL AREVA); Ford, Tanya  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 557 (6690), FSAR Ch. 14, New Phase 4 RAI  
**Attachments:** RAI 557 Response US EPR DC.pdf

Amy,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 557 Response US EPR DC.pdf," provides a schedule since a technically correct and complete responses to the single question cannot be provided at this time.

The following table indicates the respective pages in the response document, "RAI 557 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 557 — 14.03.07-39	2	3

The schedule for a technically correct and complete response to this question is provided below.

Question #	Response Date
RAI 557 — 14.03.07-39	June 28, 2013

Sincerely,

***Dennis Williford, P.E.***  
***U.S. EPR Design Certification Licensing Manager***  
***AREVA NP Inc.***

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**From:** Tesfaye, Getachew [<mailto:Getachew.Tesfaye@nrc.gov>]  
**Sent:** Friday, September 14, 2012 1:58 PM  
**To:** ZZ-DL-A-USEPR-DL  
**Cc:** Dehmelt, Jean-Claude; McCoppin, Michael; Jaffe, David; Segala, John; ArevaEPRDCPEm Resource  
**Subject:** U.S. EPR Design Certification Application RAI No. 557 (6690), FSAR Ch. 14, New Phase 4 RAI

Attached please find the subject request for additional information (RAI). A draft of the RAI was provided to you on August 23, 2012, and on September 6, 2012, you informed us that the RAI is clear and no further clarification is needed. The RAI has been reorganized and revised for clarity. The schedule we have established for review of your application assumes technically correct and complete responses within 30 days

of receipt of RAIs. For any RAIs that cannot be answered within 30 days, it is expected that a date for receipt of this information will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the published schedule.

Thanks,  
Getachew Tesfaye  
Sr. Project Manager  
NRO/DNRL/LB1  
(301) 415-3361

**Hearing Identifier:** AREVA\_EPR\_DC\_RAIs  
**Email Number:** 4072

**Mail Envelope Properties** (2FBE1051AEB2E748A0F98DF9EEE5A5D4E7124A)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 557 (6690),  
FSAR Ch. 14, New Phase 4 RAI  
**Sent Date:** 10/12/2012 2:29:00 PM  
**Received Date:** 10/12/2012 2:29:06 PM  
**From:** WILLIFORD Dennis (AREVA)

**Created By:** Dennis.Williford@areva.com

**Recipients:**

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Tracking Status: None

**Post Office:** auscharm02.adom.ad.corp

Files	Size	Date & Time
MESSAGE	2150	10/12/2012 2:29:06 PM
RAI 557 Response US EPR DC.pdf		67234

**Options**

**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**

**Response to**

**Request for Additional Information 557 (6690), Revision 0**

**Issue Date: 9/14/2012**

**Application Title: U. S. EPR Standard Design Certification - Docket Number 52-020  
AREVA NP Inc.**

**Review Section: 14.03.07 - Plant Systems - Inspections, Tests, Analyses, and  
Acceptance Criteria**

**Application Section: 14.3**

**Question 14.03.07-39:****OPEN ITEM****New Phase 4 RAI**

In FSAR Tier 2, Rev. 3, Table 1.9-2, the applicant has endorsed the use of Regulatory Guide (RG) 1.143, "Design Guidance for Radioactive Waste Management Systems, Structures, and Components Installed in Light-Water-Cooled Nuclear Power Plants," Rev. 2, with no exceptions (heretofore simply referred as RG 1.143). FSAR Table 1.9-2 states that the guidance of RG 1.143 applies to structures, systems, and components (SSCs) described in FSAR Tier 2, Rev. 3, Sections 3.2.1, 3.7.2, 3.10, 10.4.8, 11.2, 11.3, and 11.4.

RG 1.143 lists applicable codes and standards that are acceptable to the NRC. The codes and standards address specifications on design and construction, materials, welding, and inspection and testing. The regulatory guide identifies natural and man-induced hazards, design loads, and design criteria and associated safety classifications. The safety classifications are RW-IIa (high hazard), RW-IIb (hazardous), and RW-IIc (non-safety), with radiological criteria assigned to each one. The evaluation process of SSCs is described in Regulatory Position C.5, which focuses on acceptable radiological criteria, while Regulatory Position C.6 addresses natural phenomena and man-induced events and combination of design loads and their applicability to the safety classification system.

As part of the review of the FSAR Tier 2, Rev. 3, Sections 3.2.1, 3.7.2, 3.10, 10.4.8, 11.2, 11.3, and 11.4, the staff (Health physics and Structural) has identified a number of inconsistencies that warrant clarification to ensure that RG 1.143 guidance is properly applied in FSAR Tier 1 and 2 and provide the necessary technical basis to support the related FSAR Tier 1 ITAAC commitments. The staff has issued a separate RAI on FSAR Tier 2 on the related SSCs.

The applicant is requested to review the following items a through g, below, and confirm and revise all appropriate Tier 1, sections, tables, and figures, accordingly. The applicant is requested to review and confirm the adequacy of ITAAC for Structure, Systems, and Component (SSCs) in FSAR Tier 2, Rev. 3, Sections 3.2.1, 3.7.2, 3.10, 10.4.8, 11.2, 11.3, and 11.4 given the commitment to apply the guidance of RG 1.143 (see Tables 2, 3, and 4) for natural phenomena and man-induced hazards, which include an earthquake, wind, tornado, tornado generated missiles, flood, precipitation, accidental explosions from a fixed facility and a transportation vehicle, vehicular assault, and crash of a small aircraft. While this RAI is issued on FSAR Tier 1, Rev. 3, Section 2, it should be noted that its applicability extends to other SSCs (as noted below in Part g). The staff deems it more effective to issue a single RAI in avoiding unnecessary duplication and facilitate an integrated review and resolution of the staff's concerns across all relevant FSAR sections since RG 1.143 applies to the LWMS, GWMS, SWMS, and SG Blowdown systems with associated system descriptions given in FSAR Tier 2, Sections 10.4.8 and 11.2 to 11.4.

The applicant is requested to review and confirm the adequacy of ITAAC for the SSCs in FSAR Tier 2, Rev. 3, Sections 3.2.1, 3.7.2, 3.10, 10.4.8, 11.2, 11.3, and 11.4 SSCs given the commitment to apply the guidance of RG 1.143 for natural phenomena and man-induced hazards, as noted above:

- a. FSAR Tier 1, Rev. 3, Section 2.1.4 ITAAC assigns RG 1.143, RW-IIa classification to the key design features of the RWB. The design commits to  $\frac{1}{2}$  SSE, with deviations evaluated if found during construction. Explain why there are no ITAAC commitments identified for the other natural phenomena and man-induced hazards and design loads stipulated in RG 1.143, Tables 2, 3, and 4.
- b. A review of FSAR Tier 1, Rev. 3, Section 2.8.8 indicates that there are no ITAAC assigned to the SG blowdown treatment systems. FSAR Tier 1, Rev. 3, Section 2.8.7 describes specific commitments for the SG blowdown system, but no references are made to RG 1.143. Confirm that system components have been designed and built in compliance with these FSAR Tier 2 commitments as RW-IIc under RG 1.143 for natural phenomena and design loads stipulated in RG 1.143, Tables 2, 3, and 4.
- c. A review of FSAR Tier 1, Rev. 3, Section 2.1.3 describes specific commitments for the NAB, but no references are made to RG 1.143 given that NAB is assigned dual classification, Category II and Radwaste Seismic (RS). Confirm that the NAB is designed and built in compliance with these FSAR Tier 2 commitments under RG 1.143 for natural phenomena and man-induced hazards and design loads stipulated in RG 1.143, Tables 2, 3, and 4.
- d. A review of FSAR Tier 1, Rev. 3, Section 2.9.1 describes specific commitments for the LWMS, but no references are made to RG 1.143, given a RW-IIa classification. Confirm that the LWMS is designed and built in compliance with these FSAR Tier 2 commitments under RG 1.143 for natural phenomena and man-induced hazards and design loads stipulated in RG 1.143, Tables 2, 3, and 4.
- e. A review of FSAR Tier 1, Rev. 3, Section 2.9.2 describes specific commitments for the SWMS, but no references are made to RG 1.143, given a RW-IIa classification. Confirm that the SWMS is designed and built in compliance with these FSAR Tier 2 commitments under RG 1.143 for natural phenomena and man-induced hazards and design loads stipulated in RG 1.143, Tables 2, 3, and 4.
- f. A review of FSAR Tier 1, Rev. 3, Section 2.9.3 describes specific commitments for the GWMS, but no references are made to RG 1.143, given a RW-IIa and RW-IIc classification for portions of the CVCS tanks piping to the GWMS. Confirm that the GWMS (and interface to another system) are designed and built in compliance with these FSAR Tier 2 commitments under RG 1.143 for natural phenomena and man-induced hazards and design loads stipulated in RG 1.143, Tables 2, 3, and 4.
- g. Provide the results of a review of all ITAAC for SSC for which the design references a commitment to RG 1.143 to assure a consistent approach to demonstrate compliance with 10 CFR Part 20 and 10 CFR Part 50, Appendix A, General Design Criteria 60 and 61.

**Response to Question 14.03.07-39:**

A response to this question will be provided by June 28, 2013.