

## ArevaEPRDCPEm Resource

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**From:** Pederson Ronda M (AREVA NP INC) [Ronda.Pederson@areva.com]  
**Sent:** Wednesday, January 14, 2009 2:15 PM  
**To:** Getachew Tesfaye  
**Cc:** DUNCAN Leslie E (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC)  
**Subject:** Response to U.S. EPR Design Certification Application RAI No. 85, Supplement 1  
**Attachments:** RAI 85 Supplement 1 Response USEPRDC.pdf

Getachew,

AREVA NP Inc. provided responses to 3 of the 4 questions of RAI No. 85 on November 3, 2008. The attached file, "RAI 85 Supplement 1 Response USEPRDC.pdf" provides a technically correct and complete response to the remaining question, as committed.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 85 Question 14.02-36.

The following table indicates the respective page in the response document, "RAI 85 Supplement 1 USEPRDC.pdf," that contains AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 85 — 14.02-36	2	2

This concludes the formal AREVA NP response to RAI 85, and there are no questions from this RAI for which AREVA NP has not provided responses.

Sincerely,

*Ronda Pederson*

[ronda.pederson@areva.com](mailto:ronda.pederson@areva.com)

Licensing Manager, U.S. EPR Design Certification

**AREVA NP Inc.**

An AREVA and Siemens company

3315 Old Forest Road

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Phone: 434-832-3694

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**From:** WELLS Russell D (AREVA NP INC)

**Sent:** Monday, November 03, 2008 6:24 PM

**To:** 'Getachew Tesfaye'

**Cc:** 'John Rycyna'; Pederson Ronda M (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC)

**Subject:** Response to U.S. EPR Design Certification Application RAI No. 85, FSAR Ch 14

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 85 Response US EPR DC.pdf" provides technically correct and complete responses to 3 of the 4 questions.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 85 Question 14.02-35.

The following table indicates the respective pages in the response document "RAI 85 Response US EPR DC.pdf" that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 85 — 14.02-35	2	2
RAI 85 — 14.02-36	3	3
RAI 85 — 14.02-37	4	4
RAI 85 — 14.02-38	5	5

A complete answer is not provided for 1 of the 4 questions. The schedule for a technically correct and complete response to this question is provided below.

Question #	Response Date
RAI 85 — 14.02-36	January 15, 2009

Sincerely,

(Russ Wells on behalf of)

*Ronda Pederson*

[ronda.pederson@areva.com](mailto:ronda.pederson@areva.com)

Licensing Manager, U.S. EPR Design Certification

New Plants Deployment

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**From:** Getachew Tesfaye [mailto:Getachew.Tesfaye@nrc.gov]

**Sent:** Thursday, October 02, 2008 9:46 PM

**To:** ZZ-DL-A-USEPR-DL

**Cc:** Dori Votolato; Juan Peralta; Michael Miernicki; Joseph Colaccino; John Rycyna

**Subject:** U.S. EPR Design Certification Application RAI No. 85 (1105), FSARCh 14

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on September 19, 2008, and on September 25, 2008, you informed us that the RAI is clear and no further clarification is needed. As a result, no change is made to the draft RAI except for editorial correction in RAI Question 14.02-36. 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/NARP  
(301) 415-3361

**Hearing Identifier:** AREVA\_EPR\_DC\_RAIs  
**Email Number:** 121

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**From:** Pederson Ronda M (AREVA NP INC)  
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RAI 85 Supplement 1 Response USEPRDC.pdf		59036

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**Recipients Received:**

**Response to**

**Request for Additional Information No. 85 Supplement 1 (1105), Revision 0**

**10/2/2008**

**U. S. EPR Standard Design Certification**

**AREVA NP Inc.**

**Docket No. 52-020**

**SRP Section: 14.02 - Initial Plant Test Program - Design Certification and New  
License Applicants**

**Application Section: SRP 14.2**

**CQVP Branch**

**Question 14.02-36:**

SRP 14.2.I.3 states that a COL application referencing a DC must address COL action items. The U.S. EPR lists the COL information items in Table 1.8-2, "U.S. EPR Combined License Information Items," of the FSAR. Table 1.8-2 lists seven COL information items, however, Chapter 14.2 assigns the COL applicant responsibility for three additional information items. Specifically, Section 14.2.4, "Conduct of Test Program," Section 14.2.9, "Trial Use of Plant Operating and Emergency Procedures," and Table 14.2-1, "List of Initial Tests for the U.S. EPR," Test #43, "Raw Water Supply System." Accordingly, the NRC staff requests that AREVA revise Table 1.8-2 to address all information items assigned to the COL in Section 14.2 or justify their omission.

**Response to Question 14.02-36:**

The sentence "It is the responsibility of the COL applicant to plan, and subsequently, to conduct the plant startup test program" in U.S. EPR FSAR, Tier 2, Section 14.2.4 will be revised to the standard COL information item wording: "A COL applicant that references the U.S. EPR design certification will plan, and subsequently conduct, the plant startup test program." This COL information item will also be added to U.S. EPR FSAR, Tier 2, Table 1.8-2.

The sentence "In addition, the COL applicant should identify the specific operator training to be conducted as part of the low-power testing program related to the resolution of TMI Action Plan Item I.G.1, as described in the following reports: NUREG-0660 - NRC Action Plans Developed as a Result of the TMI-2 Accident, Revision 1, August 1980, NUREG-0694 - TMI-Related Requirements for New Operating Licenses, June 1980, NUREG-0737 - Clarification of TMI Action Plan Requirements" in U.S. EPR FSAR, Tier 2, Section 14.2.9 will be revised to the standard COL information item wording: "A COL applicant that references the U.S. EPR design certification will identify the specific operator training to be conducted as part of the low-power testing program related to the resolution of TMI Action Plan Item I.G.1, as described in (1) NUREG-0660 - NRC Action Plans Developed as a Result of the TMI-2 Accident, Revision 1, August 1980, (2) NUREG-0694 - TMI-Related Requirements for New Operating Licenses, June 1980, and (3) NUREG-0737 - Clarification of TMI Action Plan Requirements." This COL information item will also be added to U.S. EPR FSAR, Tier 2, Table 1.8-2.

The COL information item "A COL applicant that references the U.S. EPR design certification will provide site-specific test abstract information for the raw water supply system." will be added to U.S. EPR FSAR, Tier 2, Section 14.2.12, Test #043 and Table 1.8-2.

**FSAR Impact:**

U.S. EPR FSAR, Tier 2, Section 14.2 and Table 1.8-2 will be revised as described in the response and indicated on the enclosed markup.

# U.S. EPR Final Safety Analysis Report Markups

**Table 1.8-2—U.S. EPR Combined License Information Items**  
**Sheet 37 of 42**

Item No.	Description	Section	Action Required by COL Applicant	Action Required by COL Holder
<del>14.2-6</del>	<del>The first COL applicant that references the U.S. EPR certified design will commit to review results from European predecessors concerning the new, unique, or novel EPR features (such as reactor internals (vibration measurement), natural circulation of the reactor coolant system, reactor coolant pump stand still seal, pressurizer surge line (thermal stratification)) and propose supplemental testing if necessary.</del> <u>Reserved.</u>	<del>14.2.8.1</del>		<del>Y</del>
14.2-7	A COL applicant that references the U.S. EPR design certification will provide site-specific test <u>abstract</u> information for the cooling tower.	14.2.12.21.6	Y	
<u>14.2-8</u>	<u>A COL applicant that references the U.S. EPR design certification will provide site-specific test abstract information for the raw water supply system.</u>	<u>14.2.12.5.1</u>	<u>Y</u>	
<u>14.2-9</u>	<u>A COL applicant that references the U.S. EPR design certification will provide site-specific test abstract information for personnel radiation monitors.</u>	<u>14.2.12</u>	<u>Y</u>	
<u>14.2-10</u>	<u>A COL applicant that references the U.S. EPR design certification will plan, and subsequently conduct, the plant startup test program.</u>	<u>14.2.4</u>		<u>Y</u>
<u>14.2-11</u>	<u>A COL applicant that references the U.S. EPR design certification will identify the specific operator training to be conducted as part of the low-power testing program related to the resolution of TMI Action Plan Item I.G.1, as described in (1) NUREG-0660 -NRC Action Plans Developed as a Result of the TMI-2 Accident, Revision 1, August 1980, (2) NUREG-0694 - TMI-Related Requirements for New Operating Licenses, June 1980, and (3) NUREG-0737 - Clarification of TMI Action Plan requirements.</u>	<u>14.2.9</u>		<u>Y</u>
<u>14.2-12</u>	<u>A COL applicant that references the U.S. EPR design certification will provide site-specific test abstract information for the raw water supply system.</u>	<u>14.2.12</u>	<u>Y</u>	

14.02-36



- The test abstract number.

Test procedures are reviewed as specified by the site-specific administrative control procedures. The originating organization incorporates any required changes into each test procedure at the completion of these reviews. Special test procedures may become necessary for investigative purposes during the Phase I through Phase IV test program. The preparation, review, and approval of these special procedures are governed by site-specific administrative control procedures. Special test procedures that deal with nuclear safety are processed under the same controls as normal startup test procedures. A COL applicant that references the U.S. EPR design certification will provide site-specific information for review and approval of test procedures.

Submittal of applicable procedures and guidelines to the NRC staff for review shall be conducted as described in Section 14.2.11.

14.02-36

14.2.4

#### Conduct of Test Program

It is the responsibility of the COL applicant to A COL applicant that references the U.S. EPR design certification will plan, and subsequently, ~~to~~ conduct, the plant startup test

program. The initial test program is conducted by the startup test group and is controlled by administrative procedures and requirements. The administrative procedures that govern the test program receive the same level of approval as other administrative procedures. The administrative procedures:

- Define format and content of startup test procedures.
- Define review and approval process for both initial issue and subsequent revisions of test procedures.
- Define review and approval process for test results as well as for the failure to meet acceptance criteria or other operational problems or design deficiencies.
- Describe the phases of the initial test program and establishes the requirements for progressing from one phase to the next, as well as identifies the requirements for moving beyond selected hold points or milestones within a given phase.
- Describe the controls used to verify that the as-tested status of each system is known and that modifications including retest requirements deemed necessary for systems undergoing or already having completed testing are tracked.
- List the qualifications and responsibilities of the positions within the startup test group.

The startup administrative procedures are intended to supplement normal plant administrative procedures by addressing issues that are specific to the startup test program.

~~The first COL applicant that references the U.S. EPR certified design will commit to review results from European predecessors concerning the new, unique, or novel EPR features such as those previously noted and propose supplemental testing if necessary.~~

### 14.2.9 Trial Use of Plant Operating and Emergency Procedures

The test program schedule is addressed in Section 14.2.11. The schedule for the development of the plant operating and emergency procedures shall allow sufficient time for trial use of these procedures during the initial test program as appropriate and to the extent possible. For example, the Plant Operations staff should take every available opportunity to use the plant procedures as follows:

- Normal operations procedures should be used to perform basic valve alignments for preoperational tests.
- Hot Functional testing should be performed with as many normal operations procedures as practical.
- Emergency operating procedures that require special plant conditions, such as the reactor head removed and the refueling cavity available to receive water, should be performed when those conditions have been created for preoperational testing.
- Technical specification surveillance tests should be performed and surveillance test problems corrected prior to fuel loading.

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~~In addition, the COL applicant should~~ A COL applicant that references the U.S. EPR design certification will identify the specific operator training to be conducted as part of the low-power testing program related to the resolution of TMI Action Plan Item I.G.1, as described in (1) NUREG-0660 - NRC Action Plans Developed as a Result of the TMI-2 Accident, Revision 1, August 1980, (2) NUREG-0694 - TMI-Related Requirements for New Operating Licenses, June 1980, and (3) NUREG-0737 - Clarification of TMI Action Plan Requirements. ~~the following reports:~~

~~NUREG-0660—NRC Action Plans Developed as a Result of the TMI-2 Accident, Revision 1, August 1980.~~

~~NUREG-0694—TMI-Related Requirements for New Operating Licenses, June 1980.~~

~~NUREG-0737—Clarification of TMI Action Plan Requirements.~~

To accomplish these requirements, the ~~emergency procedures~~ following actions will be performed ~~on the plant simulator for procedure validation and operator training~~ during Phase I-:

- Emergency operating procedures will be performed on the plant simulator for procedure validation and operator training. The emergency operating procedures

- 3.3 Check capability of crane to position over required turbine building equipment.
- 3.4 Perform 125 percent load capacity test.

4.0 DATA REQUIRED

- 4.1 Hoist and trolley speeds.
- 4.2 Verification of that operation of interlocks is within design limits.
- 4.3 Load capacity data.

5.0 ACCEPTANCE CRITERIA

- 5.1 The turbine building crane meets manufacturers design specification.
  - 5.1.1 Trolley, bridge, and hoist function as designed.
  - 5.1.2 Hoist and trolley speeds are within design limits.
  - 5.1.3 Crane is capable of being positioned over required building equipment.
  - 5.1.4 Crane protective and safety devices function as designed.
  - 5.1.5 Crane load tests are completed satisfactorily.

**14.2.12.5 Distributed Utilities**

**14.2.12.5.1 Raw Water Supply System (Test #043)**

A COL applicant that references the U.S. EPR design certification will provide site-specific test abstract information for the raw water supply system. The following is a typical COLA test; if a site-specific test will be used, the COL applicant will provide the test.

14.02-36

1.0 OBJECTIVE

- 1.1 To demonstrate the ability of raw water supply system (RWSS) to supply filtered water to downstream systems (e.g., potable water, demineralized water system).

2.0 PREREQUISITES

- 2.1 Construction activities on the RWSS have been completed.
- 2.2 RWSS instrumentation has been calibrated and is functional for performance of the following test.
- 2.3 Support system required for operation of the RWSS is complete and functional.
- 2.4 Test instrumentation available and calibrated.
- 2.5 The RWSS intake is being maintained at the water level specified in the design documents.