

ArevaEPRDCPEm Resource

From: WELLS Russell (AREVA) [Russell.Wells@areva.com]
Sent: Monday, April 18, 2011 6:40 AM
To: Tesfaye, Getachew
Cc: PEDERSON Ronda (AREVA); SALAS Pedro (AREVA); LENTZ Tony (EXTERNAL AREVA); BENNETT Kathy (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 447, FSARCh. 14, Supplement 2
Attachments: RAI 447 Supplement 2 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete responses to the 4 questions in RAI No. 447 on January 24, 2011. A revised schedule was provided in Supplement 1 on February 24, 2011.

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, RAI 447 Supplement 2 Response US EPR DC.pdf provides technically correct and complete responses to 3 of the 3 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 447 Question 14.03.12-57.

The following table indicates the respective pages in the response document, "RAI 447 Supplement 2 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 447 — 14.03.12-55	2	3
RAI 447 — 14.03.12-56	4	5
RAI 447 — 14.03.12-57	6	7

This concludes the formal AREVA NP response to RAI 447, and there are no questions from this RAI for which AREVA NP has not provided responses.

Sincerely,

Russ Wells

U.S. EPR Design Certification Licensing Manager

AREVA NP, Inc.

3315 Old Forest Road, P.O. Box 10935

Mail Stop OF-57

Lynchburg, VA 24506-0935

Phone: 434-832-3884 (work)

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Russell.Wells@Areva.com

From: WELLS Russell (RS/NB)
Sent: Thursday, February 24, 2011 4:12 PM
To: 'Tesfaye, Getachew'
Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); SALAS Pedro (RS/NB); PEDERSON Ronda

(EP/PE); BRYAN Martin (External RS/NB)

Subject: Response to U.S. EPR Design Certification Application RAI No. 447, FSARCh. 14, Supplement 1

Getachew,

AREVA NP Inc. provided a schedule for technically correct and complete response to RAI No. 447 on January 24, 2011. To allow time for interaction between AREVA and the NRC staff, a revised schedule for submittal of the final response is provided in this e-mail.

The schedule for technically correct and complete responses to the questions has been revised and is provided below:

Question #	Response Date
RAI 447 — 14.03.12-55	April 29, 2011
RAI 447 — 14.03.12-56	April 29, 2011
RAI 447 — 14.03.12-57	April 29, 2011

Sincerely,

Russ Wells

U.S. EPR Design Certification Licensing Manager

AREVA NP, Inc.

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From: BRYAN Martin (External RS/NB)

Sent: Monday, January 24, 2011 11:44 AM

To: 'Tefsaye, Getachew'

Cc: DELANO Karen (RS/NB); ROMINE Judy (RS/NB); BENNETT Kathy (RS/NB); SALAS Pedro (RS/NB)

Subject: Response to U.S. EPR Design Certification Application RAI No. 447, FSARCh. 14

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 447 Response US EPR DC.pdf" provides a schedule since a technically correct and complete response to the 3 question (s) is not provided.

The following table indicates the respective pages in the response document, "RAI 447 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 447 — 14.03.12-55	2	2
RAI 447 — 14.03.12-56	3	3
RAI 447 — 14.03.12-57	4	4

A complete answer is not provided for the 3 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 447 — 14.03.12-55	February 24, 2011
RAI 447 — 14.03.12-56	February 24, 2011
RAI 447 — 14.03.12-57	February 24, 2011

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
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Martin.Bryan.ext@areva.com

From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Wednesday, December 08, 2010 9:07 AM
To: ZZ-DL-A-USEPR-DL
Cc: Lee, Pete; Felts, Russell; Miernicki, Michael; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 447 (5079), FSARCh. 14

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on September 16, 2010, and on December 6, 2010, 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. The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs, excluding the time period of **December 24, 2010 thru January 3, 2011, to account for the holiday season** as discussed with AREVA NP Inc. For any RAIs that cannot be answered **within 45 days**, it is expected that a date for receipt of this information will be provided to the staff within the 40-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: 2854

Mail Envelope Properties (1F1CC1BBDC66B842A46CAC03D6B1CD41043EDFB3)

Subject: Response to U.S. EPR Design Certification Application RAI No. 447, FSARCh.
14, Supplement 2
Sent Date: 4/18/2011 6:39:41 AM
Received Date: 4/18/2011 6:39:45 AM
From: WELLS Russell (AREVA)

Created By: Russell.Wells@areva.com

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RAI 447 Supplement 2 Response US EPR DC.pdf		61716

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Response to

Request for Additional Information No. 447(5079), Revision 1, Supplement 2

12/08/2010

U. S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

**SRP Section: 14.03.12 - Physical Security Hardware - Inspections, Tests,
Analyses, and Acceptance Criteria**

**Application Section: Tier 1, Chapter 3, Tier 2 Chapter 14, Technical Report
ANP-10295**

**QUESTIONS for Reactor Security Rulemaking and Licensing Branch
(NSIR/DSP/RSRLB)**

Question 14.03.12-55:

(U) Appendix G, Suggested Inspections and Tests Section G.7, Alarm Testing, Sub-Section 3.0, Test Method, and 5.0, Acceptance Criteria (Page G-15 of ANP-10295): Provide descriptions of inspections, tests, and/or analyses (ITA) for verification of intrusion detection, video assessment, equipment capabilities to display concurrently in at least two continuously staffed onsite alarm stations.

(U) Regulatory Basis: Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, requires that information submitted for a design certification (DC) must include performance requirements and design information sufficiently detailed to permit the preparation of acceptance and inspection requirements by the NRC, and procurement specifications and construction and installation specifications by an applicant. Title 10 CFR 52.48 requires the applications filed will be reviewed for compliance with the standards set out in 10 CFR Part 73. Title 10 CFR 52.80(a) and 52.80(a)(2) requires content of applications to propose ITA and acceptance criteria that are necessary and sufficient to provide reasonable assurance the facility has been constructed and will be operated in conformity with the combined license. The ITAAC contained in the DC must be described for certification and for approval. The requirements for appropriate inspections of construction and installation in accordance with design and specifications must be identified in "Test Methods" and "Acceptance Criteria." Acceptance criteria must be sufficiently detailed to allow for inspection. The applicant has described test abstracts in AREVA TR ANP-10295, Appendix G, Section G.7, supporting physical security ITAAC. However, the test abstract provided did not specifically address the verification of requirements of 10 CFR 73.55(i)(2), which requires that intrusion detection, video assessment, equipment shall display concurrently, in at least two continuously staff onsite alarm stations.

Response to Question 14.03.12-55:

AREVA will specifically verify compliance with 10 CFR 73.55(i)(2) requirements that intrusion detection alarms must annunciate with a concurrent display from video assessment equipment in at least two onsite alarm stations.

ANP-10295 "Security Design Features Technical Report," Appendix G.7, which supports physical security hardware ITAAC, will be revised to address will be revised to address the 10 CFR 73.55(i)(2) requirement that "Intrusion detection equipment must annunciate and video assessment equipment shall display concurrently, in at least two... onsite alarm stations..." The changes listed below verify that for a given initiating event, both annunciation and display of video assessment information occur in both the Central Alarm Station (CAS) and the Secondary Alarm Station (SAS). The presence of the CAS and SAS onsite is verified by the test abstract in ANP-10295, Appendix G.1 Acceptance Criteria 5.2 which verifies that the CAS and SAS are in vital areas in the Protected Area.

The "continuously staffed" requirement from 10 CFR 73.55(i)(2) for the alarm stations is beyond the scope of Design Certification and is described in the COL applicant's Physical Security Plan (refer to U.S. EPR FSAR Tier 2, Section 1.8-2, COL Information Item Number 13.6-2).

ANP-10295 "Security Design Features Technical Report," Appendix G, Section G.7 will be revised as follows:

- The first sentence in Item 1.1 will be revised to change “annunciation occurs both in the Central Alarm Station and the Secondary Alarm Station” to “annunciation occurs and video assessment information displays both in the Central Alarm Station and the Secondary Alarm Station.”
- The first sentence in Item 3.3 will be revised to change “verify that requisite information is received both in the Central Alarm Station and the Secondary Alarm Station” to “verify that requisite alarm information and video assessment information is received both in the Central Alarm Station and the Secondary Alarm Station.”
- The first sentence in Item 4.1 will be revised to change from “an alarm was generated in the Central Alarm Station and the Secondary Alarm Station” to “an alarm and video assessment information was generated in the Central Alarm Station and the Secondary Alarm Station.
- The first sentence in Item 5.1 will be revised to change from “alarm annunciation occurs in the Central Alarm Station and in at least one other continuously manned station not necessarily onsite” to “alarm annunciation and display of video assessment information occur in the Central Alarm Station and the Secondary Alarm Station.”
- The first sentence in Item 5.2 will be revised to change from “in the Central Alarm Station and in at least one other continuously manned station not necessarily onsite” to “in the Central Alarm Station and the Secondary Alarm Station.”
- The first sentence in Item 5.3 will be revised to change from “in the Central Alarm Station and in at least one other continuously manned station not necessarily onsite” to “in the Central Alarm Station and the Secondary Alarm Station.”

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Technical Report Impact:

ANP-10295 “Security Design Features Technical Report” will be revised as described in this response and submitted as part of the Response to RAI 425.

Question 14.03.12-56:

(U) Appendix G, Section G.10, Security Lighting (Page G-19 of ANP-10295): Describe ITA for verifying the illumination requirements for security within the facility to demonstrate that illumination necessary meets the requirements of 10 CFR 73.55(i)(6)(ii).

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, 10 CFR 73.55(b), and 10 CFR 52.80(a)). Title 10 CFR 73.55(e)(9)(v) and (vi) identified vital areas must be identified in descriptions of ITA for ITAAC verification. Title 10 CFR 73.55(i)(6)(ii) requires that all areas of the facility are provided with illumination necessary to satisfy the design requirements of 10 CFR 73.55(b) and to implement the protective strategy. The applicant has, in TR 10295, described design and performance requirements within the facility. The ITA described Appendix G.10 did not specifically address the verification of the security lighting within facility.

Response to Question 14.03.12-56:

AREVA will specifically verify that the security lighting within the facility should be verified to demonstrate that illumination levels are in compliance with 10 CFR 73.55(i)(6)(ii).

ANP-10295 "Security Design Features Technical Report," Appendix G, which supports physical security hardware ITAAC, will be revised to address these requirements.

In response to RAI 425, ANP-10295 "Security Design Features Technical Report," Appendix G, Section G.10 will be revised consistent with SRP 14.3.2, as follows:

- A new Section 1.2 will be added that reads, "To demonstrate that interior areas designated in Appendix I are provided adequate illumination to permit observation of abnormal presence or activity of persons."
- The first sentence in Section 3.2 will be revised to change from "in outdoor areas" to "in indoor and outdoor areas."
- A new Section 3.3 will be added that reads, "Place the security plant lighting in service and check illumination levels in internal areas designated in Appendix I."
- The first sentence in Section 5.2 will be revised to change from "in outdoor areas" to "in interior and exterior areas."
- A new Section 5.3 will be added that reads, "Illumination levels are at least 0.2 foot-candles in internal areas designated in Appendix I to be lit by security lighting."

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Technical Report Impact:

ANP-10295 "Security Design Features Technical Report" will be revised as described in the response and submitted as part of the Response to RAI 425.

Question 14.03.12-57:

(U) Tier 1, Chapter 3, Section 3.1, “Security,” and Table 3.1-1, “Security ITAAC (3 Sheet) and Appendix G, Section G.11, CAS/SAS Single Failure Analysis (Page G-20 of ANP-10295): Provide specific ITAAC descriptions in Tier 1, that specifically addressed that alarm stations are not visible from the PA, no single act can simultaneous remove the ability of both the CAS and SAS to perform their intended functions, and that CAS and SAS are equal and redundant, in accordance with 10 CFR 73.55(i)(4)(i) through (i)(4)(iii). Provide descriptions of TA in appendix G, Section G.11 or appropriate section for verifying that CAS and SAS are not visible from the PA and that both the CAS and SAS are equal and redundant.

(U) Regulatory Basis: Same as previously stated (i.e., Subpart B of Title 10 CFR (10 CFR) 52, § 52.47, 10 CFR 52.48, 10 CFR Part 73, 10 CFR 73.55(b), and 10 CFR 52.80(a)). The ITAAC contained in the DC must be described for approval and certification. The staff determined from the review of ITAAC within the scope of the U.S. EPR DC as described in Tier 1, Chapter 3 and the proposed revisions to the COL applicant specific ITAAC information described in response to NRC RAI 197 (3832), Question 14.03.12-5 that neither the U.S. EPR DCD or the COL application contained specific ITAAC with design commitments that captured SRP 14.3.12, PS-ITAAC No. 11(b), 11(c), and 11(d) to verify that alarm stations are not visible from the PA, no single act can simultaneous remove the ability of both the CAS and SAS to perform their intended functions, and that CAS and SAS are equal and redundant, respectively. The applicant is requested to provide specific ITAAC descriptions (design commitment, ITA, and acceptance criteria) in Tier 1, Chapter 3, Section 3.1, “Security,” and Table 3.1-1, “Security ITAAC (3 Sheet)” that specifically addressed 10 CFR 73.55(i)(4)(i) through (i)(4)(iii). The applicant may apply SRP 14.3.12, Physical Security – ITAAC descriptions for PS-ITAAC item nos. 11(b), 11(c) and 11(d) in Table 3.1-1. The test abstract description in Section G.11 does not specifically address the verification of the locations of CAS and SAS to be not visible from the PA and the verification that both the CAS and SAS are equal and redundant.

Response to Question 14.03.12-57:

AREVA has reviewed SRP 14.3.12 (May 2010), Items 11(b), 11(c), 11(d) and 11(e). AREVA will add the requested design commitments to U.S. EPR FSAR Tier 1, Table 3.1-1 and modify the test abstract description in ANP-10295 “Security Design Features Technical Report,” Appendix G, Section G.11 in response to this question.

In addition to adding these design commitments to U.S. EPR FSAR Tier 1, Table 3.1-1, AREVA has addressed each item by either directing the reviewer to the appropriate text from ANP-10295 “Security Design Features Technical Report,” Appendix G, Section G.11, or by revising the report, as follows:

- Item 11(b) concerning the requirement that “interiors of both alarm stations are not visible from the perimeter of the protected area.” AREVA will revise ANP-10295 “Security Design Features Technical Report,” Appendix G, Section G.11 to:
 - A new Section 1.3 will be added that reads, “To demonstrate that the CAS and SAS are designed such that the interiors are not visible from the perimeter of the Protected Area.”
 - A new Section 5.2 will be added that reads, “The interiors of the CAS and SAS are not visible from perimeter of the protected area.”

- Item 11(c) concerning the requirement that the design “not allow the status of a detection point... to be changed without the knowledge and concurrence of the alarm station operator in the other alarm station“ is addressed by ANP-10295 “Security Design Features Technical Report,” Appendix G, Section G.7, Items 1.6 and 5.7.
- Item 11(d) concerning the requirement that “no single act...can simultaneously remove the ability” is addressed by ANP-10295 “Security Design Features Technical Report,” Appendix G, Section G.11, Item 5.1.
- Item 11(e) concerning the requirement that “alarm stations are located, constructed, protected, and equipped to the standards of the central alarm station and are functionally redundant.” AREVA will revise ANP-10295 “Security Design Features Technical Report,” Appendix G, Section G.11 to:
 - A new Section 1.4 will be added that reads, “To demonstrate that the CAS and SAS are equal and redundant in functional capability.”
 - A new Section 5.3 will be added that reads, “The CAS and SAS are equal and redundant such that all functional capabilities specified in item 1.1 can be performed in both stations.”

FSAR Impact:

U.S. EPR FSAR Tier 1, Table 3.1-1 will be revised as described in the response and indicated on the enclosed markup.

Technical Report Impact:

ANP-10295 “Security Design Features Technical Report” will be revised and submitted as part of the Response to RAI 425.

U.S. EPR Final Safety Analysis Report Markups

Table 3.1-1— Security ITAAC (3-4 Sheets)

	Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.10	Emergency exits through the vital area boundaries are alarmed.	Test, inspection or a combination of tests and inspections will be performed to verify that emergency exits through the vital area boundaries are alarmed.	A report exists and concludes that emergency exits through the vital area boundary are alarmed.
1.11	Central and secondary alarm stations have conventional (land line) telephone service and other communication capabilities with local law enforcement authorities.	Test, inspection, or a combination of tests and inspections will be performed to verify that the alarm stations are equipped with conventional (land line) telephone service and other capability to communicate with local law enforcement authorities.	A report exists and concludes that the alarm stations are equipped with conventional (land line) telephone service and other capability to communicate with local law enforcement authorities.
1.12	Central and secondary alarm stations are capable of continuous communication with security personnel.	Test, inspection, or a combination of tests and inspections will be performed to verify that the alarm stations are equipped with the capability to continuously communicate with security officers, watchmen or armed response individuals, or other security personnel that have responsibilities during a contingency event.	A report exists and concludes that the alarm stations are equipped with the capability to continuously communicate with security officers, watchmen or armed response individuals, or other security personnel that have responsibilities during a contingency event.
<u>1.13</u>	<u>Central and secondary alarm stations are located inside the protected area and are designed so that the interiors of both alarm stations are not visible from the perimeter of the protected area.</u>	<u>The central and secondary alarm station locations will be inspected to verify that the interiors of both alarm stations are not visible from the perimeter of the protected area. .</u>	<u>A report exists and concludes that the as-built central and secondary alarm stations are located inside the protected area, and the interiors of both alarm stations are not visible from the perimeter of the protected area.</u>

↑
14.03.12-57

Table 3.1-1— Security ITAAC (3-4 Sheets)

	Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.14	<u>The alarm system does not allow the status of a detection point, locking mechanism or access control device to be changed without the knowledge and concurrence of the alarm station operator in the other alarm station.</u>	<u>Tests, inspections, or a combination of tests and inspections of intrusion detection equipment and access control equipment will be performed.</u>	<u>A report exists and concludes that the as-built alarm system will not allow the status of a detection point, locking mechanism or access control device to be changed without the knowledge and concurrence of the alarm station operator in the other alarm station.</u>
1.15	<u>Central and secondary alarm stations are designed, equipped and constructed such that no single act, in accordance with the design-basis threat of radiological sabotage, can simultaneously remove the ability of both the central and secondary alarm stations to (1) detect and assess alarms, (2) initiate and coordinate an adequate response to alarms, (3) summon offsite assistance, and (4) provide effective command and control.</u>	<u>Tests, inspections, or a combination of tests and inspections of the central and secondary alarm stations will be performed.</u>	<u>A report exists and concludes that for the as-built central and secondary alarm stations no single act, in accordance with the design-basis threat of radiological sabotage, can simultaneously remove the ability of both the central and secondary alarm stations to (1) detect and assess alarms, (2) initiate and coordinate an adequate response to alarms, (3) summon offsite assistance, and (4) provide effective command and control.</u>
1.16	<u>Both the central and secondary alarm stations are constructed, located, protected, and equipped to the standards for the central alarm station (alarm stations need not be identical in design but each shall be capable of performing all functions required of alarm stations).</u>	<u>Tests, inspections, or a combination of tests and inspections of the central and secondary alarm stations will be performed to verify that they are capable of performing all functions required of alarm stations.</u>	<u>A report exists and concludes that the central and secondary alarm stations are located, constructed, protected, and equipped to the standards of the central alarm station and are capable of performing all functions required of alarm stations. (Stations need not be identical in design.)</u>

14.03.12-57