ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Tuesday, November 08, 2011 4:44 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (AREVA); DELANO Karen (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); WELLS Russell (AREVA)
Subject: Response to U.S. EPR Design Certification Application RAI No. 425, FSARCh. 13, OPEN ITEM, Supplement 5
Attachments: RAI 425 Supplement 5 Response US EPR DC.pdf; nrc11097.pdf

Getachew,

AREVA NP provided a schedule on August 26, 2010 for a technically correct and complete response to the 3 questions in RAI 425. Supplement 1 sent on October 28, 2010, Supplement 2 sent on February 2, 2011, Supplement 3 sent on June 23, 2011, and Supplement 4 sent on September 30, 2011, respectively, provided a revised schedule. The attached file, "RAI 425 Supplement 5 Response US EPR DC.pdf" provides a technically correct and complete final response to the remaining 3 questions, 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 425 Questions 13.06.02-1 and 13.06.02-2.

The following table indicates the respective pages in the response document, "RAI 425 Supplement 5 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 425 — 13.06.02-1	2	4
RAI 425 — 13.06.02-2	5	6
RAI 425 — 13.06.02-4	7	7

This concludes the formal AREVA NP response to RAI 425, and there are no questions from this RAI for which AREVA NP has not provided responses.

Revision 2 to ANP-10295P, "U.S. EPR Security Design Features Technical Report," that is referenced in this RAI response was submitted to NRC via AREVA NP letter NRC:11:097 dated November 8, 2011.

Sincerely,

Dennis Williford, P.E.
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
7207 IBM Drive, Mail Code CLT 2B
Charlotte, NC 28262
Phone: 704-805-2223
Email: Dennis.Williford@areva.com

From: WILLIFORD Dennis (RS/NB)
Sent: Friday, September 30, 2011 5:44 PM
To: Getachew.Tesfaye@nrc.gov
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); WELLS Russell (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 425, FSARCh. 13, OPEN ITEM, Supplement 4

Getachew,

AREVA NP provided a schedule on August 26, 2010 for a technically correct and complete response to the 3 questions in RAI 425. Supplement 1 sent on October 28, 2010, Supplement 2 sent on February 2, 2011, and Supplement 3 sent on June 23, 2011, respectively, provided a revised schedule.

The schedule for a technically correct and complete response to these questions has been changed as provided below.

Question #	Response Date
RAI 425 — 13.06.02-1	**November 8, 2011**
RAI 425 — 13.06.02-2	**November 8, 2011**
RAI 425 — 13.06.02-4	**November 8, 2011**

Sincerely,

Dennis Williford, P.E.
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
7207 IBM Drive, Mail Code CLT 2B
Charlotte, NC 28262
Phone: 704-805-2223
Email: Dennis.Williford@areva.com

From: WILLIFORD Dennis (RS/NB)
Sent: Thursday, June 23, 2011 5:04 PM
To: Tesfaye, Getachew
Cc: BENNETT Kathy (RS/NB); DELANO Karen (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); SALAS Pedro (RS/NB)
Subject: Response to U.S. EPR Design Certification Application RAI No. 425, FSARCh. 13, OPEN ITEM, Supplement 3

Getachew,

AREVA NP provided a schedule on August 26, 2010 for a technically correct and complete response to RAI 425. On October 28, 2010, AREVA NP provided a revised schedule in Supplement 1. On February 2, 2011, AREVA NP provided a revised schedule in Supplement 2.

The schedule for a technically correct and complete response to these questions is changed as provided below.

Question #	Response Date
RAI 425 — 13.06.02-1	October 3, 2011
RAI 425 — 13.06.02-2	October 3, 2011
RAI 425 — 13.06.02-4	October 3, 2011

Sincerely,

Dennis Williford, P.E.
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
7207 IBM Drive, Mail Code CLT 2B
Charlotte, NC 28262
Phone: 704-805-2223
Email: Dennis.Williford@areva.com

From: BRYAN Martin (External RS/NB)
Sent: Wednesday, February 02, 2011 6:13 PM
To: Tesfaye, 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. 425, FSARCh. 13, OPEN ITEM, Supplement 2

Getachew,

AREVA NP provided a schedule on August 26, 2010 for a technically correct and complete response to RAI 425. On October 28, 2010, AREVA NP provided a revised schedule in supplement 1. To allow additional time to complete the response and interact with the NRC staff, a revised schedule is provided.

The schedule for a technically correct and complete response to these questions is changed and is provided below.

Question #	Response Date
RAI 425 — 13.06.02-1	June 24, 2011
RAI 425 — 13.06.02-2	June 24, 2011
RAI 425 — 13.06.02-4	June 24, 2011

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: BRYAN Martin (External RS/NB)
Sent: Thursday, October 28, 2010 5:08 PM
To: 'Tesfaye, 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. 425, FSARCh. 13, OPEN ITEM, Supplement 1

Getachew,

AREVA NP provided a schedule on August 26, 2010 for a technically correct and complete response to RAI 425. To allow additional time to complete the response and interact with the NRC staff, a revised schedule is provided.

The schedule for a technically correct and complete response to these questions is changed and is provided below.

Question #	Response Date
RAI 425 — 13.06.02-1	February 15, 2011
RAI 425 — 13.06.02-2	February 15, 2011
RAI 425 — 13.06.02-4	February 15, 2011

Sincerely,

Martin (Marty) C. Bryan
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
Tel: (434) 832-3016
702 561-3528 cell
Martin.Bryan.ext@areva.com

From: BRYAN Martin (External RS/NB)
Sent: Thursday, August 26, 2010 11:59 AM
To: 'Tesfaye, 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. 425 (4799), FSARCh. 13, OPEN ITEM

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 425 Response US EPR DC.pdf" provides the schedule for technically correct and complete responses to these questions.

The following table indicates the respective pages in the response document, "RAI 425 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 425 — 13.06.02-1	2	4
RAI 425 — 13.06.02-2	5	5
RAI 425 — 13.06.02-4	6	6

The schedule for technically correct and complete responses to these questions is provided below.

Question #	Response Date
RAI 425 — 13.06.02-1	October 28, 2010
RAI 425 — 13.06.02-2	October 28, 2010
RAI 425 — 13.06.02-4	October 28, 2010

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: Tuesday, July 27, 2010 1:09 PM
To: ZZ-DL-A-USEPR-DL
Cc: Lee, Pete; Huyck, Doug; Miernicki, Michael; Patel, Jay; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 425 (4799), FSARCh. 13, OPEN ITEM

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on June 22, 2010, and discussed with your staff on July 20, 2010. Draft RAI Question 13.06.02-3 was

deleted as a result of that discussion. The questions in this RAI are OPEN ITEMS in the safety evaluation report for Chapter 13 for Phases 2 and 3 reviews. As such, the schedule we have established for your application assumes technically correct and complete responses prior to the start of Phase 4 review. For any RAI that cannot be answered prior to the start of Phase 4 review, it is expected that a date for receipt of this information will be provided 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: 3522

Mail Envelope Properties (2FBE1051AEB2E748A0F98DF9EEE5A5D4979A2D)

Subject: Response to U.S. EPR Design Certification Application RAI No. 425, FSARCh. 13, OPEN ITEM, Supplement 5
Sent Date: 11/8/2011 4:44:04 PM
Received Date: 11/8/2011 4:44:42 PM
From: WILLIFORD Dennis (AREVA)

Created By: Dennis.Williford@areva.com

Recipients:
"BENNETT Kathy (AREVA)" <Kathy.Bennett@areva.com>
Tracking Status: None
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Tracking Status: None
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Tracking Status: None
"RYAN Tom (AREVA)" <Tom.Ryan@areva.com>
Tracking Status: None
"WELLS Russell (AREVA)" <Russell.Wells@areva.com>
Tracking Status: None
"Tesfaye, Getachew" <Getachew.Tesfaye@nrc.gov>
Tracking Status: None

Post Office: auscharmx02.adom.ad.corp

Files	**Size**	**Date & Time**
MESSAGE	9129	11/8/2011 4:44:42 PM
RAI 425 Supplement 5 Response US EPR DC.pdf	159523	
nrc11097.pdf	199620	

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

Response to

Request for Additional Information No. 425(4799), Revision 1
Supplement 5
7/27/2010

U.S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 13.06.02 - Physical Security - Design Certification
Application Section: Tier 2 FSAR Chapter 13.6 Referenced AREVA TR ANP-10295 (Rev. 1)

QUESTIONS for Reactor Security and Programs Branch (NSIR/DRP/RSPLB)

Question 13.06.02-1:

OPEN ITEM

(U) AREVA TR ANP-10295 (Revision 1), Section 1.0, Vital Equipment and Vital Area (Pages 1-2 and 1-3) and Appendix A, Vital Equipment List (Pages A-2 through A-37): Revise vital equipment identification process (i.e., assumptions) to provide adequate assurance for identifying complete and accurate list of vital equipment as defined by 10 CFR 73.2 and provide a complete and accurate list of vital equipment that include the following:

a. **(U)** The identification of vital equipment based on the nuclear power reactor plant design and the structures, systems, and components that have been designated as safety-related.

b. **(U)** Vital equipment includes all reactor designed SSCs providing safety functions that prevent or protect against the release of radioactive material that could endanger the public health and safety by exposure to radiation, as stated in 10 CFR 73.2.

c. **(U)** Vital equipment includes all reactor SSCs designed to function to prevent release of radioactive material that would exceed the radiological exposure stated in 10 CFR 52.47(a)(2), are identified as vital equipment. In addition, all safety-related SSCs that function to protect against radiological exposure exceeding the threshold of 10 CFR 52.47(a)(2), after the loss of SSCs that prevent the release of radioactive material, are also identified as vital equipment, in accordance with the 10 CFR 73.2.

d. **(U)** Vital equipment includes, in accordance with the 10 CFR 73.2, “any equipment, system, device, or material,” for all modes of nuclear operations (i.e., power operations, hot stand-by, cold shutdown, refueling) is identified.

e. **(U)** Vital equipment includes all designed reactor SSCs in all redundant safety divisions that provide safety functions to prevent radiological release are identified as vital equipment.

f. **(U)** Vital equipment includes all equipment, systems, devices, or materials (i.e., supporting systems) that are relied on for control or motor forces (e.g., control systems, digital signals, electrical power, mechanical, compressed air, water, etc.) and function to prevent radiological release and protect against radiological exposure are identified as vital equipment (i.e., in accordance with the 10 CFR 73.2 definition that any equipment, system, device or material, the failure, destruction, or release of which could indirectly endanger public health and safety is vital equipment).

(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 73.55(e)(9)(i) requires that “vital equipment must be located only within vital areas, which must be located within a protected area so that access to vital equipment requires passage through at least two physical barriers, except as otherwise approved by the Commission and identified in the security plans” and 10 CFR 73.2 defines vital equipment.

(U) The applicant has not provided an adequate process, based on assumptions stated in the TR ANP-10295, to identify a complete and accurate list of vital equipment as defined in 73.2. The NRC requested addition information related to vital equipment in RAI No. 246, RAI No. 247, and RAI No. 92. The staff has identified the inadequacies of applying the assumptions identified in NRC NUREG-1178, "Vital Equipment/Area Guideline Study: Vital Area Committee Report," (1988) as acceptable regulatory guidance in RAI 246. The study documented in NUREG-1178 was an attempt, in the pre-9/11 environment, by the NRC staff to establish an approach for determining what safety functions and associated SSCs should be protected against the DBT for radiological sabotage in the 1980s. For example, Assumptions Nos. 3, 5, and 9 in NUREG-1178 are contrary to regulation of 10 CFR 73.2 that defines vital equipment. The remaining assumptions are related to systems and plant configurations such as core damage, protection of control room, unavailability of off-site power, conditions leading to 10 CFR Part 100 release, use of explosives by saboteurs in the pre-9/11 environment, equipment not located in vital areas, protection of spent fuel pool, backup power, and operator or adversarial actions, not specifically applicable to identifying vital equipment of a standard design. The NRC RAI 246 includes a number of questions on the process and assumptions for identifying a complete and accurate list of vital equipment (e.g., RAI 246, Questions 13.06-83 through 13.06-86, and Questions 13.06-105, through 13.06-119). The NRC RAI 246 follows up on previously issued RAI 92, (e.g., RAI 92, Questions 13.06-09 through 13.06-19 and Questions 13.06-21 through 13.06-25), which initially raised the staff concerns regarding the process applying NUREG-1178 assumptions. As a result of inadequacies of a process, a complete and accurate list of vital equipment has not been identified. In addition, the NRC staff cannot confirm that the applicant has met the requirement that all vital equipment for the US- EPR standard design are located within the vital areas in accordance with requirements of 10 CFR 73.55(e)(9)(i).

(U) The staff, based on current information available on the docket, has concluded that the applicant has not established an adequate process to identify and demonstrated that all vital equipment, in accordance with the definition of 10 CFR 73.2, are identified. Therefore, the staff has determined that the TR ANP-10295, Appendix A, Section A.6, "Vital Equipment List," listing of vital equipment based on stated assumptions is not complete or accurate. Therefore, the staff has identified the subject as an open item requiring resolution and requested that the applicant provide a process with assumptions that provide assurance and result in a complete and accurate list of vital equipment that is in accordance with the definition of vital equipment as stated in 10 CFR 73.2 (and their associated locations) for the US- EPR standard design that.

(U) ***Note*: *The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for information (RAI) as appropriate to identify SGI (or security-related information) that reveals the specific details of security features incorporated in the US-EPR design. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

Response to Question 13.06.02-1:

ANP-10295P, "U.S. EPR Security Design Features Technical Report," Revision 2, Appendix A, reflects the revised vital equipment identification process. The revised vital equipment list was generated by a multi-discipline expert panel, based upon the definition of vital equipment in 10 CFR 73.2. The revised vital equipment process presented in ANP-10295P, Appendix A, provides a complete and accurate vital equipment list (including location) addressing the issues itemized in this question. The location of vital equipment meets 10 CFR 73.55(e)(9)(i).

U.S. EPR FSAR Tier 2, Table 1.6-1, Section 13.6, and Section 13.8, will be revised to update the reference to ANP-10295P from Revision 1 to Revision 2.

FSAR Impact:

U.S. EPR FSAR Tier 2, Table 1.6-1, Section 13.6, and Section 13.8, will be revised as described in the response and indicated on the enclosed markup.

Technical Report Impact:

ANP-10295P, "U.S. EPR Security Design Features Technical Report," Revision 2, incorporates the changes as described in the response.

Question 13.06.02-2:

OPEN ITEM

(U) TR ANP-10295 (Revision 1), Section 1.0, Vital Equipment and Vital Area (Pages 1-1 and 1-6, Figures 1-1 and 1-2) and Appendix A, Vital Equipment List (Pages A-2 through A-37): Provide locations for all vital equipment as defined by 10 CFR 73.2, and confirm that the designated vital areas on Page 1-1 and Figure 1-1, "Vital Area Perimeters," contain all vital equipment for the US-EPR standard design.

(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 73.55(e)(9)(i) requires vital equipment must be located only within vital areas, such that the designated vital areas include all the vital equipment as defined by 10 CFR 73.2..

(U) The staff RAI has requested the applicant to provide a complete and accurate list of vital equipment for the US-EPR standard design. Additional information has not been provide to the staff for determining:: (a) whether designated vital areas currently identified contain all vital equipment for the U.S. EPR standard design; (b) whether vital equipment not currently identified is located within or outside of the areas currently designated as vital areas; and (c) whether the applicant has appropriately identified for Commission consideration any vital equipment that will be located outside of designated vital areas. Since the list of vital equipment is not sufficient complete and accurate, the staff cannot determine whether the requirements of 10 CFR 73.55(e)(9)(i), which states, "vital equipment must be located only within vital areas, which must be located within a protected area so that access to vital equipment requires passage through at least two physical barriers, except as otherwise approved by the Commission and identified in the security plans."

(U) ***Note*: *The information addressing specific details related to security features or providing security functions will be safeguards information (SGI) and should be marked and protected in accordance with 10 CFR 73.21. The applicant should portion mark text in the response to request for information (RAI) as appropriate to identify SGI (or security-related information) that reveals the specific details of security features incorporated in the US-EPR design. The RAI responses supplementing the DC Tier 1 document must be publicly available.***

Response to Question 13.06.02-2:

As noted in the Response to Question 13.06.02-1, ANP-10295P, "U.S. EPR Security Design Features Technical Report," Revision 2, Appendix A, reflects the revised vital equipment identification process. ANP-10295P, Appendix A, has been revised to include the location of vital equipment (e.g., building and elevation).

The location of vital equipment meets the requirements of 10 CFR 73.55(e)(9)(i). AREVA has confirmed that the designated vital areas in Section 1.0 and Figure 1-1, "Vital Area Perimeters," contain the vital equipment for the U.S. EPR.

The U.S. EPR FSAR will be revised as described in the Response to Question 13.06.02-1.

FSAR Impact:

U.S. EPR FSAR Tier 2, Table 1.6-1, Section 13.6, and Section 13.8, will be revised as described in the Response to Question 13.06.02-1.

Technical Report Impact:

ANP-10295P, "U.S. EPR Security Design Features Technical Report," Revision 2, incorporates the changes as described in the response.

Question 13.06.02-4:

OPEN ITEM

(U) TR ANP-10295, Section 2.1.3, "Reliability," (Page 2-1): Provide the appropriate reference to US-EPR FSAR Tier 2 sections for backup power to security systems.

(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 52.6 requires information provided to the Commission shall be complete and accurate. An editorial change is need to correct and provide the appropriate reference to Tier 2 FSAR chapter and sections related to secondary power in the TR ANP-10295, Section 2.1.3. The text currently in Section 2.1.3 has erroneously referenced Section 2.5.1, "Basic Geologic and Seismic Information," or 2.5.3, "Surface Faulting," for describing the backup power systems for security.

Response to Question 13.06.02-4:

ANP-10295P, Section 2.1.3, has been revised to reflect the editorial change needed to provide the appropriate reference to the U.S. EPR FSAR Tier 1 sections for backup power to security systems.

FSAR Impact:

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

Technical Report Impact:

ANP-10295P, "U.S. EPR Security Design Features Technical Report," Revision 2, incorporates the changes as described in the response.

U.S. EPR Final Safety Analysis Report Markups

U.S. EPR Final Safety Analysis Report Markups

Table 1.6-1—Reports Referenced
Sheet 2 of 5

Report No. (See Notes 1, 2, and 3)	Title	Date Submitted to NRC	FSAR Section Number(s)
ANP-10287P ANP-10287NP	Incore Trip Setpoint and Transient Methodology for U.S. EPR Topical Report	11/27/07	4.3, 4.4, 7.1, 7.2, 15.0, 15.1, 15.2,15.3,15.4,15.6, 16
ANP-10288P ANP-10288NP Revision 1	U.S. EPR Post-LOCA Boron Precipitation and Boron Dilution Technical Report	01/10	15
ANP-10290 Revision 1	AREVA NP Environmental Report Standard Design Certification	9/11/09	19.2
ANP-10291P ANP-10291NP	Small Break LOCA and Non-LOCA Sensitivity Studies and Methodology Technical Report	5/09	15
ANP-10292 Revision 1	U.S. EPR Conformance with Standard Review Plan (NUREG-0800) Technical Report	5/09	1.9
ANP-10293, Revision 3	U.S. EPR Design Features to Address GSI-191 Technical Report	3/11	6.3 and 15.6.5.4.3
ANP-10294 Revision 1	U.S. EPR Reactor Coolant Pump Motor Flywheel Structural Analysis Technical Report	3/09	5.4.1.6.6
ANP-10295P ANP-10295NP Revision 2 ~~ANP-10295~~ ~~Revision 1~~	U.S. EPR Security Design Features Technical Report	~~10/09~~11/11	13.6
ANP-10296	U.S. EPR Design Features that Enhance Security	12/08	13.6
ANP-10299P Revision 2	Applicability of AREVA NP Containment Response Evaluation Methodology to the U.S. EPR for Large Break LOCA Analysis, including Supplement 1, August 2011.	12/09	6.2.1 and 6.2.~~2~~5
ANP-10304 Revision 4	U.S. EPR Diversity and Defense in Depth Assessment Technical Report	6/11	1.9, 7.1, 7.2, 7.3, 7.8, 18.7, 19.1
ANP-10306P	Comprehensive Vibration Assessment Program for U.S. EPR Reactor Internals Technical Report	12/09	3.9.2.1.1, 3.9.2.3, 3.9.2.4, and 3.9.2.7

RAI 425, 13.06.02-1, 13.06.02-2, 13.06.02-4

13.6 Security

The physical security program provides physical features to detect, delay, assist response to, and defend against the design basis threat (DBT) for radiological sabotage. Technical Report ANP-10295P, "U.S. EPR Security Design Features Technical Report," (Reference 14) provides safeguards and security related information that describe security design bases and requirements for system and components incorporated into the U.S. EPR standard design. The standard design features of the U.S. EPR that enhance security can be found in Technical Report ANP-10296, "U.S. EPR Design Features that Enhance Security." (Reference 15)

A COL applicant that references the U.S. EPR design certification will provide a site-specific security assessment that adequately demonstrates how the performance requirements of 10 CFR 73.55(a) are met for the initial implementation of the security program. The Security Assessment is Safeguards Information (SGI) and therefore is restricted from public release under 10 CFR 73.21. The site specific Security Assessment addresses identification of vital equipment, development of target sets, vulnerability assessments, defensive analyses, design features to enhance security, and the other security features of the U.S. EPR that establish the security system design.

A COL applicant that references the U.S. EPR design certification will provide a security plan to the NRC to fulfill the requirements of 10 CFR 52.79(a)(35). The security plan consists of the Physical Security Plan (PSP), the guard force training and qualification (T&Q) plan, and the safeguards contingency plan. The security plan is SGI and therefore is restricted from public release under 10 CFR 73.21.

RAI 425, 13.06.02-1, 13.06.02-2, 13.06.02-4

A COL applicant that references the U.S. EPR design certification will provide a cyber security plan consistent with 10 CFR 73.54.

A COL applicant that references the US EPR design certification will provide a security program, through the PSP and supporting documents such as the Vital Equipment List and the Vital Areas list, that incorporates the following security features:

13.6.1 Protected Area and Vital Areas

1. Vital equipment is located only within a Vital Area. Vital Areas boundaries are physical barriers with access controls provided for each of the points of entry.

2. Locations of vital equipment have been identified in the Vital Equipment List as found in Appendix A of Technical Report ANP-10295P, ~~"U.S. EPR Security Features."~~ This document is Safeguards Information (SGI) and therefore is restricted from public release under 10 CFR 73.21.

3. Access to vital equipment requires passage through at least two physical barriers as defined in 10 CFR 73.2(a). The first substantial barrier between an adversary and a

Vital Area is the Protected Area boundary which is described by the COL applicant in the site-specific PSP. The second substantial boundary is the Vital Area boundary. The description of the Vital Area boundary, and minimum separation between Vital Area and Protected Area boundary, can be found in Section 1.0 of Technical Report ANP-10295P., ~~"U.S. EPR Security Features."~~ The COL applicant will describe the Protected Area boundary in the site-specific PSP.

4. Physical barriers for Protected Area perimeter are not also part of Vital Area boundary. The COL applicant will demonstrate that the Protected Area boundary is separate from the Vital Area boundaries in the site-specific PSP.

5. Isolation zones are maintained in outdoor areas adjacent to the Protected Area boundary which permits observation of 20 feet on either side of the boundary. Where permanent buildings do not allow a 20 foot observation distance on the inside of the Protected Area, the building walls are immediately adjacent to, or an integral part of, the Protected Area barrier. The COL applicant will describe the Isolation Zones in the site-specific PSP.

6. The external walls, doors, windows, ceiling, and floors in the main control room, central alarm station, secondary alarm station, and the last access control function for access to the Protected Area are bullet resistant to at least a UL Level 4 round. Descriptions of the applicable sections of walls, floors and ceilings of the main control room, central alarm station, and secondary alarm station as well as the minimum concrete thickness for bullet resistance to a UL Level 4 round are found in Section 3.0 of Technical Report ANP-10295P., ~~"U.S. EPR Security Features."~~ Doors into the main control room, central alarm station, and secondary alarm station are UL rated as resistant to at a least a Level 4 round. The interior of the central alarm station and secondary alarm station cannot be observed from the Protected Area perimeter.

RAI 425, 13.06.02-1, 13.06.02-2, 13.06.02-4

7. The walls, ceiling, and floor of the last access control function for access to the Protected Area are commensurate with the minimum concrete thickness listed in Section 3.0 of Technical Report ANP-10295P., ~~"U.S. EPR Security Features."~~ Doors and windows into the last access control function for access to the Protected Area are UL rated as resistant to at a least a Level 4 round.

8. The secondary alarm station will be functionally equivalent to the central alarm station. The central alarm station and the secondary alarm station will be protected, designed, and equipped to equivalent standards.

13.6.2 Security Power System

1. The secondary security power supply system for alarm annunciator equipment and non-portable communications equipment is located within a Vital Area. The description of the Security Power System can be found in Section 2.0 of Technical Report ANP-10295P., ~~"U.S. EPR Security Features."~~

13.6.3 Security Detection, Surveillance and Lighting

1. The intrusion detection system detects penetration or attempted penetration of the Protected Area barrier. Detection is defined as the generation of an alarm in the security alarm station. Performance testing of installed equipment is conducted to assure detection in not less than 96% of the attempts (48 of 50 attempts).

RAI 425, 13.06.02-1, 13.06.02-2, 13.06.02-4

2. Exterior areas within the Protected Area are illuminated to 0.2 foot-candles where necessary to permit observation and detection. The exterior lighting is provided by offsite power and backed by a highly reliable onsite generator which starts upon loss of offsite power. The description of the Security Power System can be found in Section 2.0 of Technical Report ANP-10295P., ~~"U.S. EPR Security Features."~~

13.6.4 Security Alarm System

1. The Security Computer System is a subsystem of the Security System which interfaces with other security equipment and subsystems. The Plant Security Computer System provides complete alarm and event assessment software functionality for all security applications, access control, badging, personnel, security doors, Intrusion Detection System, complete biometric integration, historical, and reporting requirements.

2. The Security Computer System shall annunciate all alarms in both a continuously manned central alarm station (CAS) and in the continuously manned secondary alarm station (SAS), so that a single act cannot remove the capability of calling for assistance or otherwise responding to an alarm.

3. The Security Computer System shall employ tamper indicating and self-checking provisions to identify errant operation. Redundant CPUs shall be provided to ensure reliable system operation in the event of a single failure and during maintenance efforts on one of the processor systems. Each CPU monitors the status of the other and reports any errors detected. The automatic switchover logic is designed to avoid contention for master processor status.

4. The Plant Security Computer shall be located within a Vital Area; physical access to equipment shall be restricted to authorized personnel.

5. The Security Computer System has the capability to interface with individual video components and the distribution system.

6. Unoccupied Vital Areas are equipped with locks that can be locked and are alarmed with intrusion detection systems that annunciate in the central and secondary alarm stations upon intrusion into a Vital Area.

7. The security alarm system will record each onsite alarm annunciation including the location of each alarm, false alarm, alarm check, and tamper indication to include the type of alarm, location, alarm circuit, date, and time.

8. Emergency exits from the Protected Area and from Vital Areas are alarmed and annunciate in the central and secondary alarm stations.

13.6.5 Security Communications System

1. Alarm stations have conventional telephone service as well as alternate means for communication with law enforcement authorities.

2. Alarm stations have capability for continuous communication capability with security personnel that are expected to respond to security events.

13.6.6 Security Access Control System

1. The site will authorize Protected Area access using an security access control system. The system is capable of identifying and authorizing Protected Area access only to those personnel with unescorted access authorization. The PSP requires the use of a numbered picture badge.

RAI 425, 13.06.02-1, 13.06.02-2, 13.06.02-4

2. Vehicle control measures are in place through the PSP which includes vehicle barrier systems (VBS) to protect against malevolent use of a land vehicle. The VBS will be located at a minimum distance from each vital structure as listed in Section 4.0 of Technical Report ANP-10295P, ~~"U.S. EPR Security Features."~~

3. The Access Control system will promptly report and record all alarm points including intrusions, tampers and trouble conditions.

4. Access points are used to control personnel and vehicle access into Protected Area including detection of firearms, explosives, and incendiary devices. The personnel and vehicle access points will ensure the PA boundary remains intact during personnel and vehicle ingress or egress.

Next File

14. ANP-10295P, Revision 21, "U.S. EPR Security Design Features Technical Report," AREVA NP Inc., October 2009November 2011.

15. ANP-10296, Revision 0, "U.S. EPR Design Features that Enhance Security," AREVA NP Inc., December 2008.

RAI 425, 13.06.02-1, 13.06.02-2, 13.06.02-4

SAFEGUARDS INFORMATION

November 8, 2011
NRC:11:097

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Submittal of ANP-10295P, "AREVA NP U.S. EPR Security Features Technical Report," Revision 2

AREVA NP Inc. (AREVA NP) is submitting the enclosed revision to ANP-10295P, "AREVA NP U.S. EPR Security Features Technical Report," previously transmitted by References 1 and 2, in support of the response to RAIs 425 (Reference 3).

AREVA NP considers some of the material contained in the enclosures to be proprietary. As required by 10 CFR 2.390(b), an affidavit is enclosed to support the withholding of the information from public disclosure. Proprietary and non-proprietary versions of the document are provided on the enclosed CD.

If you have any questions related to this submittal, please contact me. I may be reached by telephone at 434-832-2369 or by e-mail at sandra.sloan@areva.com.

Sincerely,

Sandra M. Sloan

Sandra M. Sloan, Manager
New Plants Regulatory Affairs
AREVA NP Inc.

Enclosures

Cc: G. Tesfaye
Docket No. 52-020

The attachment to this letter contains safeguards information. Upon separation from the attachment, this letter is decontrolled.

SAFEGUARDS INFORMATION

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References

Ref. 1: Letter, Sandra M. Sloan (AREVA NP Inc.) to Document Control Desk (NRC), "Submittal of ANP-10295, 'AREVA NP U.S. EPR Security Features Technical Report'," NRC:08:095, December 5, 2008.

Ref. 2: Letter, Sandra M. Sloan (AREVA NP Inc.) to Document Control Desk (NRC), "Submittal of ANP-10295, 'AREVA NP U.S. EPR Security Features Technical Report,' Revision 1," NRC:09:112, October 28, 2009.

Ref. 3: E-mail, Dennis C. Williford (AREVA NP Inc.) to Getachew Tesfaye (NRC), et al., "Response to U.S. EPR Design Certification Application RAI No. 425, FSAR Ch. 13, Supplement 5," November 8, 2011.

AFFIDAVIT

COMMONWEALTH OF VIRGINIA)
) ss.
COUNTY OF CAMPBELL)

1. My name is Sandra M. Sloan. I am Manager, New Plants Regulatory Affairs for AREVA NP Inc. and as such I am authorized to execute this Affidavit.

2. I am familiar with the criteria applied by AREVA NP to determine whether certain AREVA NP information is proprietary. I am familiar with the policies established by AREVA NP to ensure the proper application of these criteria.

3. I am familiar with the AREVA NP information contained in Submittal of ANP-10295P, 'AREVA NP U.S. EPR Security Features Technical Report,' Revision 2," and referred to herein as "Document." Information contained in this Document has been classified by AREVA NP as proprietary in accordance with the policies established by AREVA NP for the control and protection of proprietary and confidential information.

4. This Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by AREVA NP and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in this Document as proprietary and confidential.

5. This Document has been made available to the U.S. Nuclear Regulatory Commission in confidence with the request that the information contained in this Document be withheld from public disclosure. The request for withholding of proprietary information is made in accordance with 10 CFR 2.390. The information for which withholding from disclosure is

requested qualifies under 10 CFR 2.390(a)(4) "Trade secrets and commercial or financial information".

6. The following criteria are customarily applied by AREVA NP to determine whether information should be classified as proprietary:

(a) The information reveals details of AREVA NP's research and development plans and programs or their results.

(b) Use of the information by a competitor would permit the competitor to significantly reduce its expenditures, in time or resources, to design, produce, or market a similar product or service.

(c) The information includes test data or analytical techniques concerning a process, methodology, or component, the application of which results in a competitive advantage for AREVA NP.

(d) The information reveals certain distinguishing aspects of a process, methodology, or component, the exclusive use of which provides a competitive advantage for AREVA NP in product optimization or marketability.

(e) The information is vital to a competitive advantage held by AREVA NP, would be helpful to competitors to AREVA NP, and would likely cause substantial harm to the competitive position of AREVA NP.

The information in the Document is considered proprietary for the reasons set forth in paragraph 6(c) above.

7. In accordance with AREVA NP's policies governing the protection and control of information, proprietary information contained in this Document has been made available, on a limited basis, to others outside AREVA NP only as required and under suitable agreement providing for nondisclosure and limited use of the information.

8. AREVA NP policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

9. The foregoing statements are true and correct to the best of my knowledge, information, and belief.

Sandra M. Sloan

SUBSCRIBED before me this 4th

day of November, 2011.

Kathleen A. Bennett

Kathleen A. Bennett
NOTARY PUBLIC, COMMONWEALTH OF VIRGINIA
MY COMMISSION EXPIRES: 8/31/2015
Registration No. 110864

KATHLEEN ANN BENNETT
Notary Public
Commonwealth of Virginia
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My Commission Expires Aug 31, 2015