ArevaEPRDCPEm Resource

From: WILLIFORD Dennis (AREVA) [Dennis.Williford@areva.com]
Sent: Monday, July 29, 2013 4:27 PM
To: Snyder, Amy
Cc: Miernicki, Michael; ANDERSON Katherine (EXTERNAL AREVA); DELANO Karen (AREVA); LEIGHLITER John (AREVA); ROMINE Judy (AREVA); RYAN Tom (AREVA); LENTZ Tony (EXTERNAL AREVA); KANE Steve (EXTERNAL AREVA)
Subject: Response to U.S. EPR Design Certification Application FINAL RAI 588,Section 03.08.03 , Supplement 1
Attachments: RAI 588 Supplement 1 Response US EPR DC.pdf

Amy,

AREVA NP Inc. provided a schedule for the response to the one question in RAI 588 on July 3, 2013.

Attached please find AREVA NP Inc.'s final response to the subject request for additional information (RAI). The attached file, "RAI 588 Supplement 1 Response US EPR DC.pdf," provides a technically correct and complete final response to the one question in RAI No. 588. 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 588, Question 03.08.03-26.

The following table indicates the respective pages in the response document, "RAI 588 Supplement 1 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 588 — 03.08.03-26	2	2

This concludes the formal AREVA NP response to RAI 588, and there are no questions from this RAI for which AREVA NP has not provided responses.

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: Wednesday, July 03, 2013 10:48 AM
To: 'Snyder, Amy'
Cc: Michael.Miernicki@nrc.gov; ANDERSON Katherine (External AREVA NP INC.); DELANO Karen (RS/NB); LEIGHLITER John (RS/NB); ROMINE Judy (RS/NB); RYAN Tom (RS/NB); KANE Steve M (EXT)
Subject: Response to U.S. EPR Design Certification Application FINAL RAI 588,Section 03.08.03 - Concrete and Steel Internal Structures of Steel or Concrete Containments

Amy,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 588 Response US EPR DC.pdf," provides a schedule since a technically correct and complete response to the single question cannot be provided at this time.

The following table indicates the respective pages in the response document, "RAI 588 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 588 — 03.08.03-26	2	2

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

Question #	Response Date
RAI 588 — 03.08.03-26	**July 30, 2013**

Sincerely,

Dennis Williford, P.E.
U.S. EPR Design Certification Licensing Manager
AREVA NP Inc.
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From: Snyder, Amy [mailto:Amy.Snyder@nrc.gov]
Sent: Tuesday, June 18, 2013 2:36 PM
To: ZZ-DL-A-USEPR-DL
Cc: Miernicki, Michael; Xu, Jim; Segala, John
Subject: U.S. EPR Design Certification Application FINAL RAI 588,Section 03.08.03 - Concrete and Steel Internal Structures of Steel or Concrete Containments

Attached please find the subject request for additional information (RAI). A draft RAI was provided to you on June 18, 2013. On June 18,2013, you informed us that the draft RAI does not contain proprietary information and that the draft RAI is clear and no further clarification is needed. As result, the RAI was not changed.

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 or July 18, 2013**, 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.

Thank You,

Amy

Amy Snyder, U.S. EPR Design Certification Lead Project Manager

Licensing Branch 1 (LB1)
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Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 4629

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Sent Date: 7/29/2013 4:26:50 PM
Received Date: 7/29/2013 4:26:58 PM
From: WILLIFORD Dennis (AREVA)

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Files	**Size**	**Date & Time**
MESSAGE	4225	7/29/2013 4:26:58 PM
RAI 588 Supplement 1 Response US EPR DC.pdf	173943	

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Return Notification: No
Reply Requested: No
Sensitivity: Normal
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Response to

Request for Additional Information No.588, Supplement 1

6/18/2013
U.S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 03.08.03 - Concrete and Steel Internal Structures of Steel or Concrete Containments
Application Section: 3.8.3
Structural Engineering Branch 2 (ESBWR/ABWR Projects) (SEB2)

Question 03.08.03-26:

Follow-up Question to RAI 570 Supplement 3

AREVA's response to RAI 570 Supplement 3 provided FSAR markups including changes to FSAR Tier 2 Section 3.8.3.1.13. The staff has reviewed these changes and determined that the information presented should not be provided in Section 3.8.3.1.13 for the following reasons:

The markups proposed for inclusion in FSAR Tier 2 Section 3.8.3.1.13, as well as the proposed COL Item 3.8-21, address functional issues related to "pressure relief doors in the RBIS and do not contain structural-related information. This non-structural information should not be placed in Section 3.8.3 which contains information pertinent to safety-related containment internal structures; rather, it should be provided in the appropriate FSAR section that addresses the function, operation, and radiation protection/administrative controls of the pressure relief doors in the RBIS.

The staff requests that the applicant remove proposed markups from FSAR 3.8.3.1.13 and include them in other appropriate FSAR sections.

Response to Question 03.08.03-26:

The information incorporated into U.S. EPR FSAR Tier 2, Section 3.8.3.1.13 as part of the response to RAI 570 will be moved to U.S. EPR FSAR Tier 2, Section 12.3.1.

U.S. EPR FSAR Tier 2, Table 1.8-2, COL Item 3.8-21 will be deleted and replaced with COL Item 12.3-5.

FSAR Impact:

U.S. EPR FSAR Tier 2, Table 1.8-2 and Section 3.8.3 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 13 of 40

Item No.	Description	Section
3.8-17	A COL applicant that references the U.S. EPR design certification will address examination of buried safety-related piping in accordance with ASME Section XI, IWA-5244, "Buried Components."	3.8.4.7
3.8-18	A COL applicant that references the U.S. EPR design certification will compare the NI common basemat site-specific predicted angular distortion to the angular distortion in the relative differential settlement contours in Figure 3.8-124 through Figure 3.8-134, using methods described in U.S. Army Engineering Manual 1110-1-1904. The comparison is made throughout the basemat in both the east-west and north-south directions. If the predicted angular distortion of the NI common basemat structure is less than the angular distortion shown for each of the construction steps, the site is considered acceptable. Otherwise, further analysis will be required to demonstrate that the structural design is adequate.	3.8.5.5.1
3.8-19	A COL applicant that references the U.S. EPR design certification will compare the EPGB site-specific predicted angular distortion to the angular distortion in the total differential settlement contours in Figure 3.8-135, using methods described in U.S. Army Engineering Manual 1110-1-1904. The comparison is made throughout the basemat in both the east-west and north-south directions. If the predicted angular distortion of the basemat of EPGB structures is less than the angular distortion shown, the site is considered acceptable. Otherwise, further analysis will be required to demonstrate that the structural design is adequate.	3.8.5.5.2
3.8-20	A COL applicant that references the U.S. EPR design certification will compare the ESWB site-specific predicted angular distortion to the angular distortion in the total differential settlement contours in Figure 3.8-136, using methods described in U.S. Army Engineering Manual 1110-1-1904, The comparison is made throughout the basemat in both the east-west and north-south directions. If the predicted angular distortion of the basemat of ESWB structures is less than the angular distortion shown, the site is considered acceptable. Otherwise, further analysis will be required to demonstrate that the structural design is adequate.	3.8.5.5.3
3.8-21	Deleted.~~A combined license (COL) applicant that references the U.S. EPR design certification will include in its normal radiation protection program administrative controls to ensure the requirements of 10 CFR 20.1601(d) and 10 CFR 20.1602 are met through periodic testing of reactor containment building doors (i.e., every 24 months).~~	Deleted~~3.8.3.1~~

Table 1.8-2—U.S. EPR Combined License Information Items
Sheet 32 of 40

Item No.	Description	Section
12.3-3	A COL applicant that references the U.S. EPR design certification will describe the use of portable instruments, and the associated training and procedures, to accurately determine the airborne iodine concentration within the facility where plant personnel may be present during an accident, in accordance with requirements of 10 CFR 50.34(f)(2)(xxvii) and the criteria in Item III.D.3.3 of NUREG-0737. The procedures for locating suspected high-activity areas will be described.	12.3.4.5
12.3-4	Deleted.	Deleted.
12.3-5	A combined license (COL) applicant that references the U.S. EPR design certification will include in its normal radiation protection program administrative controls to verify the requirements of 10 CFR 20.1601(d) and 10 CFR 20.1602 are met through periodic testing of reactor containment building doors (i.e., every 24 months).	12.3.1.8.1
12.5-1	A COL applicant that references the U.S. EPR design certification will fully describe, at the functional level, elements of the Radiation Protection Program. The purpose of the Radiation Protection Program is to maintain occupational and public doses ALARA. The program description will identify how the program is developed, documented, and implemented through plant procedures that address quality requirements commensurate with the scope and extent of licensed activities. This program will comply with the provisions of 10 CFR Parts 19, 20, 50, 52, and 71 and be consistent with the guidance in RGs 1.206, 1.8, 8.2, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.13, 8.15, 8.27, 8.28, 8.29, 8.34, 8.35, 8.36, 8.38, and the consolidated guidance in NUREG-1736.	12.5
13.1-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information for management, technical support, and operating organizations.	13.1
13.2-1	A COL applicant that references the U.S. EPR design certification will provide site-specific information for training programs for plant personnel.	13.2
13.2-2	A COL applicant that references the U.S. EPR design certification will assess their training program to demonstrate that the spent fuel pool instrumentation will be maintained available and reliable in an extended loss of AC power. Personnel shall be trained in the use and the provision of alternate power to the safety-related level instrument channels.	13.2
13.3-1	A COL applicant that references the U.S. EPR design certification will provide a site-specific emergency plan in accordance with 10 CFR 50.47 and 10 CFR 50 Appendix E.	13.3

RCB doors fall into four general types of design:

- Radiation protection doors, with a pressure relief function.
- Radiation protection doors, without a pressure relief function.
- Interior building room doors, with a pressure relief function.
- Interior building room doors, without a pressure relief function.

RCB radiation protection doors are large and are typically integrated in the shield walls surrounding the equipment spaces or inaccessible areas of the RCB during normal operation of the plant. The RCB has 48~~47~~ radiation protection doors. Forty-five of the radiation protection doors also provide a pressure relief function. These 45 radiation doors are designed so that the whole door "swings" open during a pressure differential related accident to meet its pressure relief function. This swinging or bursting open response to the differential pressure generated across the doors during a HELB accident verifies that an acceptable differential pressure across structural walls of adjacent rooms or compartments is maintained. These 45 radiation protection doors have a swing/burst pressure of 2.9 psid and only open in one direction. The doors open into the room where the hinges are mounted. In the case of the radiation protection doors that have an active and an inactive leaf, both the active and the inactive leaf are assumed to swing open. The locking mechanisms of these radiation protection doors incorporate a "shear" pin which shears under the designated burst pressure. These doors require special attention because their momentum and significant weight in a "burst" opening can impact civil structures. Door stops and other features are used to limit adverse impact, while still maintaining the opening efficiency of the doors. A portion of these doors are credited in the analyses to prevent compartment overpressurization during a HELB and are classified as safety-related and Seismic Category I as shown in Table 3.2.2-1 and Table 3.8-18. Refer to Section 6.2.1.2 for the dynamic effects of postulated HELB in individual compartments and allowable venting capability to prevent differential pressures from reaching the structural limits of the compartment walls. The only doors credited to open are safety-related doors identified in Table 6.2.1-13 and Table 3.8-18. The remaining radiation doors are classified as non-safety augmented quality (NS-AQ) and Seismic Category II as shown in Table 3.2.2-1 and Table 3.8-18.

~~The radiation protection doors in the Reactor Building that include a pressure relief function are designed so that the whole door "swings" open during a pressure differential related accident (High Energy Line Break) to meet its pressure relief function. The locking mechanisms of those radiation protection doors incorporate a "shear" pin which shears under the designated burst pressure in Table 3.8-18 to provide for the opening of these doors in the event of a High Energy Line Break. This burst pressure value for the radiation swing doors specified in Table 3.8-18, when applied across the surface area of the door, results in a significantly large force required~~

~~to break or shear the pin such that a person pulling or pushing on these doors with a reasonable pulling or pushing force (without using extraordinary force, tools, equipment, etc.) could not inadvertently open this door when the pin is engaged as part of the locking mechanism.~~

~~During normal operation, the shear pin also functions to engage as part of the locking mechanism on the radiation swing door to maintain access control and prevent unauthorized entry, and disengages to allow for emergency egress. The design of the locking mechanism for the radiation protection swing doors is such that the shear pin will engage after door closure and disengage prior to opening to preclude damage to the shear pin while performing the entry and egress functions. For emergency egress, a "panic" lock system is employed which allows for manual opening of the swing doors from the inside to provide an exit out of the room during an emergency even if the door is locked from the outside.~~

~~Thus, the radiation protection doors dual function design allows it to meet 10 CFR 20.1601 and 10 CFR 20.1602 requirements for access control to high radiation areas and very high radiation areas, respectively, while also meeting its pressure relief function for accident mitigation.~~

One radiation swing door at the +17 ft elevation is not required to provide a pressure relief function. This door is noted in Table 3.8-18 as +17 ft Door *1A as a Radiation Door with a descriptive Note # 5 clarifying that it is a "Radiation Swing Door, No Pressure Relief Function." All other swing doors are noted in Table 3.8-18 as a "Pressure Relief Radiation Swing Door." Two additional doors at the +5 elevation are also not required to provide a pressure relief function. These doors are noted in Table 3.8-18 as +5 ft Door 9 with a descriptive Note # 1 clarifying that it is a "Radiation Motorized Rolling Door, No pressure Relief Function." There is no shear pin incorporated into the locking mechanism design of these doors.

~~Two radiation protection doors exist at Elevation +5 feet that do not provide a pressure relief function. These doors are motor-operated, rolling doors without hinges.~~

~~There is no shear pin incorporated into the locking mechanism design of these doors. The locking mechanism for the motor-operated rolling doors is designed so that these doors cannot be inadvertently opened during operation while also allowing for emergency egress. To address inadvertent operation/opening of the door, the locking mechanism is designed such that locking the door will de-energize the motor such that the door cannot be opened. For emergency egress, a "panic" lock system is employed which allows for manual opening of the motor-operated rolling doors from the inside using a handle which decouples the electric drive to allow door opening even with the motor de-energized. This provides an exit out of the room during an emergency even if the door is locked from the outside.~~

~~Periodic door testing at an ongoing torque of 100 ft. lbs. for emergency egress will be performed during plant operation, using the applicable prerequisites, test methods, data required, and acceptance criteria of Section 14.2.12.5.2, Reactor Containment Building Doors, test #044, to confirm that the radiation doors are capable of meeting the applicable requirements of Technical Specification 5.7.1, Technical Specification 5.7.2, 10 CFR 20.1601(d) and 10 CFR 20.1602. Periodic testing provides reasonable assurance that the doors will maintain their ability to adequately allow emergency egress. Doors that are not capable of meeting design requirements per this test will be administratively controlled until repairs have been completed. A combined license (COL) applicant that references the U.S. EPR design certification will include in its normal radiation protection program administrative controls to ensure the requirements of 10 CFR 20.1601(d) and 10 CFR 20.1602 are met through periodic testing of reactor containment building doors (i.e., every 24 months).~~

Other interior building room doors are primarily used to divide hallways and rooms. In addition to providing personnel access, these interior door types may also provide functions such as leak tightness. The RCB has 45 interior building doors. Forty-three of these doors provide a pressure relief function. These doors are designed with an integral pressure relief aperture or "blowout panel." The pressure relief aperture is designed to open or burst in only one direction to meet its pressure relief function during a pressure differential accident. Generally, these 43 interior building room doors have a burst pressure of 1.45 psid. A portion of these doors are credited in the analyses to prevent compartment over pressurization during a HELB and are classified as safety-related and Seismic Category I as shown in Table 3.2.2-1 and Table 3.8-18. Refer to Section 6.2.1.2 for the dynamic effects of postulated HELB in individual compartments and allowable venting capability to prevent differential pressures from reaching the structural limits of the compartment walls. The only doors with burst panels credited to open are safety-related doors identified in Table 6.2.1-13 and Table 3.8-18. The remaining interior building doors are classified as NS-AQ and Seismic Category II as shown in Table 3.2.2-1 and Table 3.8-18.

The pressure relief door -8 feet, door 8 is the venting area room door for the spreading compartment and has a higher burst pressure up to 2.9 psid.

The doors with blowout panels are provided with panel or missile restraints to prevent their momentum from adversely impacting civil, mechanical, electrical, or I&C components in the immediate area.

There are two interior building room doors at Elevation +17 feet that do not provide a pressure relief function. These two doors provide access and entrance to the RV cavity pool area and the transfer canal pool area, are part of the pool liner, and are required to be water tight, with no pressure relief function or bust pressure capability required in support of a HELB.

Radiation sources in the Reactor Building include the reactor vessel, RCS, CVCS, safety injection system, pressurizer relief tank, in-containment refueling water storage tank, refueling system, aeroball system, and the reactor drain system.

Radiation protection doors that separate the Reactor Building equipment and service compartments consist of two types, as noted in Section 3.8.3.1.13. These two types are as follows:

- Radiation protection doors, with a pressure relief function.
- Radiation protection doors, without a pressure relief function.

~~The design features of these radiation protection doors which meet 10 CFR 20.1601 and 10 CFR 20.1602 are described in Section 3.8.3.1.13, including the provision for emergency egress from all accessible areas that fall within the requirements of 10 CFR 20.1601 and 10 CFR 20.1602.~~

The overall design features of these radiation protection doors are described in Section 3.8.3.1.13. The specific design features of these radiation protection doors, which meet 10 CFR 20.1601 and 10 CFR 20.1602, including the provision for emergency egress from the accessible areas that fall within the requirements of 10 CFR 20.1601 and 10 CFR 20.1602, are discussed in this section.

RCB radiation doors are large and are typically integrated in the shield wall surrounding the equipment spaces or inaccessible area of the RCB during normal operating of the plant. The RCB has 48 radiation protection doors. Forty-five of the radiation protection doors also provide a pressure relief function. These 45 radiation protection doors in the Reactor Building that include a pressure relief function are designed so that the whole door "swings" open during a pressure differential related accident (high energy line break) to meet its pressure relief function. The locking mechanisms of these radiation protection doors incorporate a "shear" pin, which shears under the designated burst pressure shown in Table 3.8-18 so that the doors will open in the event of a high energy line break. This burst pressure value for the radiation swing doors as shown in Table 3.8-18, when applied across the surface area of the door, results in a significantly large force required to break or shear the pin so that a person pulling or pushing on these doors with a reasonable pulling or pushing force (without using extraordinary force, tools, equipment, etc.) could not inadvertently open this door when the pin is engaged as part of the locking mechanism.

During normal operation, the shear pin also functions to engage as part of the locking mechanism on the radiation swing door to maintain access control and prevent unauthorized entry and disengages to allow for emergency egress. The design of the locking mechanism for the radiation protection swing doors will be such that the shear pin will engage after door closure and disengage prior to opening to preclude damage

to the shear pin while performing the above entry and egress functions. For emergency egress, a "panic" lock system is employed, which allows for manual opening of the swing doors from the inside to allow exit out of the room, even if the door is locked from the outside during an emergency or if there is a need to egress quickly.

The dual function of the radiation protection doors design allow it to meet 10 CFR 20.1601 and 10 CFR 20.1602 requirements for access control to high radiation areas and very high radiation areas, respectively, while also meeting its pressure relief function for accident mitigation.

One radiation swing door at Elevation +17 ft. is not required to provide a pressure relief function. This door is shown in Table 3.8-18 as +17 ft Door *1A as a Radiation Door with a descriptive Note #5 clarifying that it is a "Radiation Swing Door, No Pressure Relief Function." The other swing doors are shown in Table 3.8-18 as a "Pressure Relief Radiation Swing door." Two additional doors at Elevation +5 also are not required to provide a pressure relief function. These doors are shown in Table 3.8-18 as +5 ft Door 8 and +5 ft Door 9, with a descriptive Note # 1 clarifying that it is a "Radiation Motorized Rolling Door, No Pressure Relief Function." There is no shear pin incorporated into the locking mechanism design of these three doors.

The locking mechanism for the non-pressure relief swing door will be designed so that these doors cannot be inadvertently opened during operation while also meeting the function of allowing for emergency egress. For emergency egress, a "panic" lock system is employed, which allows for manual opening of the swing doors from the inside to allow exit out of the room even if the door is locked from the outside during an emergency or if there is a need to egress quickly.

The locking mechanism for the two motor operated rolling radiation protection doors located at Elevation +5 ft will be designed so that these doors cannot be inadvertently opened during operation while also meeting the function of allowing for emergency egress. To address inadvertent operation/opening of the door, the locking mechanism will be designed so that locking the door will deenergize the motor, and the door cannot be opened. For emergency egress, a "panic" lock system is employed, which allows for manual opening of the motor operated rolling doors from the inside using a handle that decouples the electric drive to allow door opening, even with the motor deenergized. This allows exit out of the room, even if the door is locked from the outside during an emergency or if there is a need to egress quickly.

Periodic door testing at an ingoing torque of 100 ft/lbs for emergency egress will be performed during plant operation using the applicable prerequisites, test methods, data required, and acceptance criteria of Section 14.2.12.5.2, Reactor Containment Building Doors, Test #044 to confirm that the radiation doors are capable of meeting the applicable requirements of Technical Specification 5.7.1, Technical Specification 5.7.2,

10 CFR 20.1601 and 10 CFR 20.1602. Periodic testing provides reasonable assurance that the doors will maintain their ability to adequately allow emergency egress. Doors that are not capable of meeting design requirements per this test will be administratively controlled until repairs have been completed. A combined license (COL) applicant that references the U. S. EPR design certification will include in its normal radiation protection program administrative controls to verify the requirements of 10 CFR 20.1601 and 10 CFR 20.1602 are met through periodic testing of reactor containment building doors (i.e., every 24 months).

The following figures illustrate the Reactor Building and are based on the general arrangement drawings provided in Section 1.2:

- Figure 12.3-1—Spreading Area at the -20 Ft Elevation of the Reactor Building.
- Figure 12.3-2—Reactor Cavity at the +17 Ft Elevation of the Reactor Building.
- Figure 12.3-3—Core Internals Storage Area and Instrument Lance Storage Areas at the +17 Ft Elevation in the Reactor Building.
- Figure 12.3-4—Transfer Pit at the +17 Ft Elevation in the Reactor Building.
- Figure 12.3-7—Reactor Cavity Section.
- Figure 12.3-8—Containment Building Section Looking Plant-West at the Reactor Cavity, Core Internals Storage, Instrument Lance Storage, and Spreading Area.
- Figure 12.3-9—Containment Building Section Looking Plant-East at the Reactor Cavity, Core Internals Storage, Transfer Pit, and Spreading Area.

12.3.1.8.2 Fuel Building

The very high radiation areas in the Fuel Building during normal and refueling operations are:

- The transfer pit (UFA16 023), which is a very high radiation area only during that portion of the refueling evolution in which fuel is being moved between the Reactor Building and the Fuel Building. This area is flooded with refueling water during this period and is inaccessible. The transfer pit access room (UFA15 096) is sealed from the transfer pit by a water tight access door in compliance with 10 CFR 20.1602.
- The spent fuel pool, which is flooded with water and is inaccessible.
- The cask loading pit, which is flooded with water and is inaccessible.

The water in the spent fuel pool and shielding in the walls maintain occupational doses ALARA. Accessible areas adjacent to the fuel transfer tube are shielded so that dose rates are less than 100 rads per hour during fuel movement operations, in accordance

ANP-10292 — U.S. EPR Conformance with Standard Review Plan (NUREG-0800) Technical Report Markups

CHAPTER 12 Radiation Protection			
SRP Criterion	**Description** **(AC – Acceptance Criteria Requirement,** **SAC – Specific SRP Acceptance Criteria)**	**U.S. EPR Assessment**	**FSAR Section(s)**
	they relate to persons involved in licensed activities making every reasonable effort to maintain radiation exposures ALARA		
12.3-12.4-AC-02	**10 CFR 20.1201**, as it relates to occupational dose limits for adults.	Y	12.1.2
		N/A-COL	12.1.3 12.5
12.3-12.4-AC-03	**10 CFR 20.1201**, **10 CFR 20.1202**, **10 CFR 20.1203**, **10 CFR 20.1204**, **10 CFR 20.1701**, and **10 CFR 20.1702**, as they relate to design features, ventilation, monitoring, and dose assessment for controlling the intake of radioactive materials	Y	12.3.3 12.3.4
		N/A-COL	12.5
12.3-12.4-AC-04	**10 CFR 20.1301** and **10 CFR 20.1302**, as they relate to the facility design features that impact the radiation exposure to a member of the public from noneffluent sources associated with normal operations and anticipated operational occurrences	Y	12.3.5.3
		N/A-COL	12.5
12.3-12.4-AC-05	**10 CFR 20.1406**, as it relates to the design features that will facilitate eventual decommissioning and minimize, to the extent practicable, the contamination of the facility and the generation of radioactive waste	Y	12.3.6
12.3-12.4-AC-06	**10 CFR 20.1601**, **10 CFR 20.1602**, **10 CFR 20.1901**, **10 CFR 20.1902**, **10 CFR 20.1903**, and **10 CFR 20.1904**, as they relate to the identification of potential sources of radiation exposure and the controls of access to and work within areas of the facility with a high potential for radiation exposure	Y	12.3.1.8
		N/A-COL	12.3.1.8 12.5 ~~3.8.3.1.13~~
12.3-12.4-AC-07	**10 CFR 20.1801**, as it relates to securing licensed materials against unauthorized removal from the place of storage	N/A-COL	12.5
12.3-12.4-AC-08	**General Design Criterion (GDC)19** found in Appendix A to 10 CFR Part	Y	12.3.5.2