ArevaEPRDCPEm Resource

From: WELLS Russell D (AREVA NP INC) [Russell.Wells@areva.com]
Sent: Thursday, October 29, 2009 1:39 PM
To: Tesfaye, Getachew
Cc: Pederson Ronda M (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 230, FSAR Ch 14, Supplement 2
Attachments: RAI 230 Supplement 2 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. (AREVA NP) provided responses to 4 of the 28 questions of RAI No. 230 on July 13, 2009. AREVA NP submitted Supplement 1 to the response on September 30, 2009 to address 11 of the remaining 24 questions. The attached file, "RAI 230 Supplement 2 Response US EPR DC," provides technically correct and complete responses to 12 of the remaining 24 questions, as committed.

The following table indicates the respective pages in the response document, "RAI 230 Supplement 2 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 230 — 14.03.02-13, Part a	2	2
RAI 230 — 14.03.02-22	3	5
RAI 230 — 14.03.02-23	6	6
RAI 230 — 14.03.02-24	7	7
RAI 230 — 14.03.02-27	8	8
RAI 230 — 14.03.02-30	9	9
RAI 230 — 14.03.02-34	10	10
RAI 230 — 14.03.02-35	11	11
RAI 230 — 14.03.02-36	12	12
RAI 230 — 14.03.02-39	13	13
RAI 230 — 14.03.02-40	14	14
RAI 230 — 14.03.02-41	15	15

The schedule for a technically correct and complete response to the remaining question is unchanged and provided below:

Question #	Response Date
RAI 230 — 14.03.02-21	November 20, 2009

Sincerely,

(Russ Wells on behalf of)
Ronda Pederson
ronda.pederson@areva.com
Licensing Manager, U.S. EPR Design Certification
New Plants Deployment
AREVA NP, Inc.
An AREVA and Siemens company
3315 Old Forest Road
Lynchburg, VA 24506-0935

Phone: 434-832-3694
Cell: 434-841-8788

From: Pederson Ronda M (AREVA NP INC)
Sent: Wednesday, September 30, 2009 3:58 PM
To: 'Tesfaye, Getachew'
Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); DUNCAN Leslie E (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 230, FSARCh. 14, Supplement 1

Getachew,

AREVA NP Inc. (AREVA NP) provided responses to 4 of the 28 questions of RAI No. 230 on July 13, 2009. The attached file, "RAI 230 Supplement 1 Response US EPR DC," provides technically correct and complete responses to 11 of the remaining 24 questions and a partial response to 1 of the remaining 24 questions, as committed.

Since the response contains security-related sensitive information that should be withheld from public disclosure in accordance with 10 CFR 2.390, the attached file is a public version with the security-related sensitive information redacted. This email does not contain any security-related information. The unredacted SUNSI version is provided under separate email.

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 230 Questions 14.03.02-14, 14.03.02-17, 14.03.02-26, 14.03.02-28, 14.03.02-29, 14.03.02-32, and 14.03.02-38.

The following table indicates the respective pages in the response document, "RAI 230 Supplement 1 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 230 — 14.03.02-13, Part b	2	2
RAI 230 — 14.03.02-14	3	3
RAI 230 — 14.03.02-15	4	4
RAI 230 — 14.03.02-17	5	5
RAI 230 — 14.03.02-19	6	6
RAI 230 — 14.03.02-20	7	7
RAI 230 — 14.03.02-26	8	8
RAI 230 — 14.03.02-28	9	9
RAI 230 — 14.03.02-29	10	10
RAI 230 — 14.03.02-32	11	11
RAI 230 — 14.03.02-33	12	12
RAI 230 — 14.03.02-38	13	13

AREVA NP is unable to provide a response to Question 14.03.02-21 at this time. Design and analyses of the new and spent fuel storage racks are not yet complete. Therefore, the schedule for a technically correct and complete response to Question 14.03.02-21 has been revised to November 20, 2009. The schedule for technically correct and complete responses to the other remaining questions remains unchanged.

The schedule for technically correct and complete responses to the remaining 13 questions has changed as provided below:

Question #	Response Date

RAI 230 — 14.03.02-13, Part a	October 30, 2009
RAI 230 — 14.03.02-21	November 20, 2009
RAI 230 — 14.03.02-22	October 30, 2009
RAI 230 — 14.03.02-23	October 30, 2009
RAI 230 — 14.03.02-24	October 30, 2009
RAI 230 — 14.03.02-27	October 30, 2009
RAI 230 — 14.03.02-30	October 30, 2009
RAI 230 — 14.03.02-34	October 30, 2009
RAI 230 — 14.03.02-35	October 30, 2009
RAI 230 — 14.03.02-36	October 30, 2009
RAI 230 — 14.03.02-39	October 30, 2009
RAI 230 — 14.03.02-40	October 30, 2009
RAI 230 — 14.03.02-41	October 30, 2009

Sincerely,

Ronda Pederson
ronda.pederson@areva.com
Licensing Manager, U.S. EPR Design Certification
AREVA NP Inc.
An AREVA and Siemens company
3315 Old Forest Road
Lynchburg, VA 24506-0935
Phone: 434-832-3694
Cell: 434-841-8788

From: Pederson Ronda M (AREVA NP INC)
Sent: Monday, July 13, 2009 3:47 PM
To: 'Tesfaye, Getachew'
Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); DUNCAN Leslie E (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 230, FSARCh. 14

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 230 Response US EPR DC.pdf," provides technically correct and complete responses to 4 of 28 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 230 Questions 14.03.02-16, 14.03.02-25, and 14.03.02-31.

The following table indicates the respective pages in the response document, "RAI 230 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 230 — 14.03.02-13	2	2
RAI 230 — 14.03.02-14	3	3

RAI 230 — 14.03.02-15	4	4
RAI 230 — 14.03.02-16	5	5
RAI 230 — 14.03.02-17	6	6
RAI 230 — 14.03.02-19	7	7
RAI 230 — 14.03.02-20	8	8
RAI 230 — 14.03.02-21	9	9
RAI 230 — 14.03.02-22	10	10
RAI 230 — 14.03.02-23	11	11
RAI 230 — 14.03.02-24	12	12
RAI 230 — 14.03.02-25	13	13
RAI 230 — 14.03.02-26	14	14
RAI 230 — 14.03.02-27	15	15
RAI 230 — 14.03.02-28	16	16
RAI 230 — 14.03.02-29	17	17
RAI 230 — 14.03.02-30	18	18
RAI 230 — 14.03.02-31	19	19
RAI 230 — 14.03.02-32	20	20
RAI 230 — 14.03.02-33	21	21
RAI 230 — 14.03.02-34	22	22
RAI 230 — 14.03.02-35	23	23
RAI 230 — 14.03.02-36	24	24
RAI 230 — 14.03.02-37	25	25
RAI 230 — 14.03.02-38	26	26
RAI 230 — 14.03.02-39	27	27
RAI 230 — 14.03.02-40	28	28
RAI 230 — 14.03.02-41	29	29

A complete answer is not provided for 24 of the 28 questions. The schedule for technically correct and complete responses to these questions is provided below.

Question #	**Response Date**
RAI 230 — 14.03.02-13, Part a	October 30, 2009
RAI 230 — 14.03.02-13, Part b	September 30, 2009
RAI 230 — 14.03.02-14	September 30, 2009
RAI 230 — 14.03.02-15	September 30, 2009
RAI 230 — 14.03.02-17	September 30, 2009
RAI 230 — 14.03.02-19	September 30, 2009
RAI 230 — 14.03.02-20	September 30, 2009
RAI 230 — 14.03.02-21	September 30, 2009
RAI 230 — 14.03.02-22	October 30, 2009
RAI 230 — 14.03.02-23	October 30, 2009
RAI 230 — 14.03.02-24	October 30, 2009
RAI 230 — 14.03.02-26	September 30, 2009
RAI 230 — 14.03.02-27	October 30, 2009
RAI 230 — 14.03.02-28	September 30, 2009
RAI 230 — 14.03.02-29	September 30, 2009
RAI 230 — 14.03.02-30	October 30, 2009

RAI 230 — 14.03.02-32	September 30, 2009
RAI 230 — 14.03.02-33	September 30, 2009
RAI 230 — 14.03.02-34	October 30, 2009
RAI 230 — 14.03.02-35	October 30, 2009
RAI 230 — 14.03.02-36	October 30, 2009
RAI 230 — 14.03.02-38	September 30, 2009
RAI 230 — 14.03.02-39	October 30, 2009
RAI 230 — 14.03.02-40	October 30, 2009
RAI 230 — 14.03.02-41	October 30, 2009

Sincerely,

Ronda Pederson
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AREVA NP Inc.
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From: Tesfaye, Getachew [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Friday, June 12, 2009 3:56 PM
To: ZZ-DL-A-USEPR-DL
Cc: Jeng, David; Xu, Jim; Patel, Jay; Jennings, Jason; Miernicki, Michael; Colaccino, Joseph; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 230 (2794), FSARCh. 14

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on May 19, 2009, and discussed with your staff on June 9, 2009. Draft RAI Questions 14.03.02-14, 14.03.02-22, and 14.03.02-31 were modified as a result of that discussion. The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs. For any RAIs that cannot be answered within 30 days, it is expected that a date for receipt of this information will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the published schedule.

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

Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 919

Mail Envelope Properties (1F1CC1BBDC66B842A46CAC03D6B1CD4102226E0D)

Subject: Response to U.S. EPR Design Certification Application RAI No. 230, FSAR Ch 14, Supplement 2
Sent Date: 10/29/2009 1:39:00 PM
Received Date: 10/29/2009 1:39:12 PM
From: WELLS Russell D (AREVA NP INC)

Created By: Russell.Wells@areva.com

Recipients:
"Pederson Ronda M (AREVA NP INC)" <Ronda.Pederson@areva.com>
Tracking Status: None
"BENNETT Kathy A (OFR) (AREVA NP INC)" <Kathy.Bennett@areva.com>
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Tracking Status: None
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Tracking Status: None

Post Office: AUSLYNCMX02.adom.ad.corp

Files	**Size**	**Date & Time**
MESSAGE	10006	10/29/2009 1:39:12 PM
RAI 230 Supplement 2 Response US EPR DC.pdf	87210	

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

Response to

Request for Additional Information No. 230, Supplement 2

6/12/2009

U.S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 14.03.02 - Structural and Systems Engineering - Inspections, Tests, Analyses, and Acceptance Criteria
Application Section: 14.3.2

QUESTIONS for Structural Engineering Branch 2 (ESBWR/ABWR Projects) (SEB2)

Question 14.03.02-13:

Follow-up to RAI Question 14.03.02-11- 1

The staff finds the revised Tier 1 design descriptions and ITAAC tables have been improved with the additional information and are consistent in the manner in which safety functions have been addressed. However the level of detail is not consistent with other design certifications. The applicant is requested to provide additional information to include the following:

a. Some key dimensions have been provided for each of the structures. The bases for the selections should also be provided. As currently presented in the markup, it is not clear if all key dimensions have been included or what the safety significance is for the dimensions that have been provided.

b. In its response the applicant stated that the U.S. EPR FSAR Tier 1, Section 2.1 will be revised to provide additional details regarding the basis for protection against pressurization effects associated with postulated rupture of pipes. This detail was not found in the referenced section. The applicant is requested to provide the information it identified in its response to item h of RAI 132, Question 14.03.02-11-1.

Response to Question 14.03.02-13:

a. Structural key dimensions identified in U.S. EPR FSAR Tier 1 apply to safety-related structures and include the overall building dimensions (i.e., length, width, and height) and those dimensions confirmed by the structural design of the critical sections in U.S. EPR FSAR Tier 2, Appendix 3E. The overall building dimensions are key dimensions because they confirm the building size for global stability evaluations. Critical sections are those portions of individual Seismic Category I structures (i.e., shear walls, floor slabs and roofs, structure-to-structure connections) that prevent or mitigate consequences of postulated design basis accidents, are expected to experience the largest structural demands during design basis conditions, or are needed to evaluate a complete design. The overall building dimensions and the key dimensions of the critical sections defined in U.S. EPR FSAR Tier 2, Appendix 3E define the structural key dimensions for the Seismic Category I structures.

b. A response to this question was provided in RAI 230, Supplement 1 on September 30, 2009.

FSAR Impact:

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

Question 14.03.02-22:

Follow-up to RAI Question 14.03.02-11- 2

The level of detail provided in the enclosed markup is not consistent with other design certifications and does not meet the acceptance criteria of SRP 14.3, Appendix C or SRP 14.3., SAC-02. The Building Structures Checklist found in Appendix C of SRP 14.3 states that design descriptions should provide enough dimensions for a COL applicant to develop dynamic models for seismic analysis. Information meeting the acceptance criteria has not been provided in either the Tier 1 design descriptions for structures or in the accompanying ITAAC tables. In addition, SRP 14.3, SAC-02 states that key dimensions of structures be provided. As the safety functions of seismic Category I structures includes providing barriers for protection against missile impact, pipe whip, jet impingement, flooding, etc. the key dimensions of these safety-related features should be included in the design descriptions and referenced in the ITAAC tables. The approach should be similar to what was done for radiation barriers listed in Table 2.1.1-3. The staff is requesting that this information be included in the revision to U.S. EPR FSAR Tier 1, Section 2.1 not only for the NI Common Basemat Structures, but also for the EPGB and ESWB.

Response to Question 14.03.02-22:

The level of detail provided in U.S. EPR FSAR Tier 1 for key dimensions is based on the U.S. EPR approach for defining the safety-significant building features in U.S. EPR FSAR Tier 1, Section 2.1. The key dimensions specified in U.S. EPR FSAR Tier 1 can be separated into two categories: structural key dimensions and other key dimensions.

The basis for structural key dimensions is defined in the Response to Question 14.03.02-13, Part a. The quantity of structural key dimensions in U.S. EPR FSAR Tier 1 will increase when critical sections are added to U.S. EPR FSAR Tier 2, Appendix 3E in the response to RAI 155, Question 03.08.04-6.

The dimensions needed to develop dynamic models for seismic analysis are provided in U.S. EPR FSAR Tier 2, Appendix 3B. There is no need to repeat this voluminous quantity of information in U.S. EPR FSAR Tier 1 because the COL applicant may readily obtain it from U.S. EPR FSAR Tier 2, Appendix 3B.

The bases for other key dimensions are those needed to protect against specific internal hazards of radiation, fire, flood, and high energy line break (HELB). Key dimensions for radiation protection are provided in U.S. EPR FSAR Tier 1, Table 2.1.1-3. Design ITAAC are provided for hazards that require the completion of the analysis and inspection of hazard protection features identified from construction drawings, such as fire, flood and HELB. Table 14.03.02-22-1 shows ITAAC item 3.4 from U.S. EPR FSAR Tier 1, Table 2.1.1-4 which requires the completion of a pipe break hazards analysis and an inspection of as-installed features identified in the analysis from construction drawings.

Table 14.03.02-22-1—ITAAC Example for Analysis and Associated Inspection

Commitment Wording		Inspections, Test, Analyses	Acceptance Criteria
3.4	A pipe break hazards analyses summary exists that concludes the plant can be shut down safely and maintained in cold safe shutdown following a pipe break with loss of offsite power.	a) A pipe break hazards analysis will be performed.	a) A pipe break hazards analyses summary exists that concludes the plant can be shut down safely and maintained in cold safe shutdown following a pipe break with loss of offsite power and confirms whether: • Piping stresses in the containment penetration area are within allowable stress limits. • Pipe whip restraints and jet shield designs can mitigate pipe break loads. • Loads on safety-related SSC are within design load limits. • SSC are protected or qualified to withstand the environmental effects of postulated failures.
		b) Inspection of the as-installed conditions of features identified in the part a) analysis versus final as-built construction drawings of those features will be performed.	b) The as-installed configuration of the pipe break analysis protection features agree with the associated final as-built construction drawings.

ITAAC items that require completion of analyses and inspection of hazard protection features are provided in Table 14.03.02-22-2.

Table 14.03.02-22-2—Internal Hazards Protection ITAAC

Hazard	ITAAC Items in U.S. EPR FSAR Tier 1
Fire Protection	Table 2.1.1-8 Item 2.7, Table 2.1.1-10 Item 2.2, Table 2.1.1-11 Item 2.2, Table 2.1.2-3 Item 3.3, Table 2.1.5-3 Item 3.4.
Flood Protection	Table 2.1.1-8 Item 2.10, Table 2.1.1-10 Item 2.2, Table 2.1.1-11 Item 2.2
HELB Protection	Table 2.1.1-4 Item 3.4

FSAR Impact:

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

Question 14.03.02-23:

Follow-up to RAI Question 14.03.02-11- 3

The level of detail provided in the enclosed markup is not consistent with other design certifications and does not meet the acceptance criteria of SRP 14.3, Appendix C or SRP 14.3.2, SAC-02. The Building Structures Checklist found in Appendix C of SRP 14.3.2 states that design descriptions should provide enough dimensions for a COL applicant to develop dynamic models for seismic analysis. Information meeting the acceptance criteria has not been provided in either the Tier 1 design descriptions for structures or in the accompanying ITAAC tables. In addition, SRP 14.3.2, SAC-02 states that key dimensions of structures be provided. As the safety functions of seismic Category I structures includes providing barriers for protection against missile impact, pipe whip, jet impingement, flooding, etc. the key dimensions of these safety-related features should be included in the design descriptions and referenced in the ITAAC tables. The approach should be similar to what was done for radiation barriers listed in Table 2.1.1-3. The staff is requesting that this information be included in the revision to U.S. EPR FSAR Tier 1, Section 2.1 not only for the NI Common Basemat Structures, but also for the EPGB and ESWB.

Response to Question 14.03.02-23:

See the response to Question 14.03.02-22.

Question 14.03.02-24:

Follow-up to RAI Question 14.03.02-11- 5

The level of detail provided in the enclosed markup is not consistent with other design certifications and does not meet the acceptance criteria of SRP 14.3, Appendix C or SRP 14.3.2, SAC-02. The Building Structures Checklist found in Appendix C of SRP 14.3.2 states that design descriptions should provide enough dimensions for a COL applicant to develop dynamic models for seismic analysis. Information meeting the acceptance criteria has not been provided in either the Tier 1 design descriptions for structures or in the accompanying ITAAC tables. In addition, SRP 14.3.2, SAC-02 states that key dimensions of structures be provided. As the safety functions of seismic Category I structures includes providing barriers for protection against missile impact, pipe whip, jet impingement, flooding, etc. the key dimensions of these safety-related features should be included in the design descriptions and referenced in the ITAAC tables. The approach should be similar to what was done for radiation barriers listed in Table 2.1.1-3. The staff is requesting that this information be included in the revision to U.S. EPR FSAR Tier 1, Section 2.1 not only for the NI Common Basemat Structures, but also for the EPGB and ESWB.

Response to Question 14.03.02-24:

See the response to Question 14.03.02-22.

Question 14.03.02-27:

Follow-up to RAI Question 14.03.02-11- 10

The level of detail provided in the enclosed markup is not consistent with other design certifications and does not meet the acceptance criteria of SRP 14.3, Appendix C or SRP 14.3.2, SAC-02. The Building Structures Checklist found in Appendix C of SRP 14.3.2 states that design descriptions should provide enough dimensions for a COL applicant to develop dynamic models for seismic analysis. Information meeting the acceptance criteria has not been provided in either the Tier 1 design descriptions for structures or in the accompanying ITAAC tables. In addition, SRP 14.3.2, SAC-02 states that key dimensions of structures be provided. As the safety functions of seismic Category I structures includes providing barriers for protection against missile impact, pipe whip, jet impingement, flooding, etc. the key dimensions of these safety-related features should be included in the design descriptions and referenced in the ITAAC tables. The approach should be similar to what was done for radiation barriers listed in Table 2.1.1-3. The staff is requesting that this information be included in the revision to U.S. EPR FSAR Tier 1, Section 2.1 not only for the NI Common Basemat Structures, but also for the EPGB and ESWB.

Response to Question 14.03.02-27:

See the response to Question 14.03.02-22.

Question 14.03.02-30:

Follow-up to RAI Question 14.03.02-11- 16

The staff believes the barrier thicknesses are a key dimension and should be provided.

The level of detail provided in the enclosed markup is not consistent with other design certifications and does not meet the acceptance criteria of SRP 14.3, Appendix C or SRP 14.3.2, SAC-02. The Building Structures Checklist found in Appendix C of SRP 14.3.2 states that design descriptions should provide enough dimensions for a COL applicant to develop dynamic models for seismic analysis. Information meeting the acceptance criteria has not been provided in either the Tier 1 design descriptions for structures or in the accompanying ITAAC tables. In addition, SRP 14.3.2, SAC-02 states that key dimensions of structures be provided. As the safety functions of seismic Category I structures includes providing barriers for protection against missile impact, pipe whip, jet impingement, flooding, etc. the key dimensions of these safety-related features should be included in the design descriptions and referenced in the ITAAC tables. The approach should be similar to what was done for radiation barriers listed in Table 2.1.1-3. The staff is requesting that this information be included in the revision to U.S. EPR FSAR Tier 1, Section 2.1 not only for the NI Common Basemat Structures, but also for the EPGB and ESWB.

Response to Question 14.03.02-30:

See the response to Question 14.03.02-22.

Question 14.03.02-34:

Follow-up to RAI Question 14.03.02-11- 20

The level of detail provided in the enclosed markup is not consistent with other design certifications and does not meet the acceptance criteria of SRP 14.3, Appendix C or SRP 14.3.2, SAC-02. The Building Structures Checklist found in Appendix C of SRP 14.3.2 states that design descriptions should provide enough dimensions for a COL applicant to develop dynamic models for seismic analysis. Information meeting the acceptance criteria has not been provided in either the Tier 1 design descriptions for structures or in the accompanying ITAAC tables. In addition, SRP 14.3.2, SAC-02 states that key dimensions of structures be provided. As the safety functions of seismic Category I structures includes providing barriers for protection against missile impact, pipe whip, jet impingement, flooding, etc. the key dimensions of these safety-related features should be included in the design descriptions and referenced in the ITAAC tables. The approach should be similar to what was done for radiation barriers listed in Table 2.1.1-3. The staff is requesting that this information be included in the revision to U.S. EPR FSAR Tier 1, Section 2.1 not only for the NI Common Basemat Structures, but also for the EPGB and ESWB.

The FSAR markups for the referenced buildings now contain the appropriate design basis loads and are included in the ITAAC table for each structure. However, under the “Inspection, Analysis or Test” column there is no requirement for a final inspection and reconciliation of the as-built condition to the design basis loads. This should be done to address the cumulative effect of construction changes and to address the final loads and locations of these loads imposed by supported equipment and suspended systems. The applicant is requested to add this requirement under the “Inspection, Analysis or Test” column for each seismic Category I structure ITAAC table for the “Commitment Wording” item that addresses design basis loads. The need for a structural analysis report as part of the “Acceptance Criteria” is addressed in the staff assessment and supplementary RAI 14.03.02-11 –2 S1.

Response to Question 14.03.02-34:

See the response to Question 14.03.02-22 and Question 14.03.02-28.

Question 14.03.02-35:

Follow-up to RAI Question 14.03.02-11- 21

The level of detail provided in the enclosed markup is not consistent with other design certifications and does not meet the acceptance criteria of SRP 14.3, Appendix C or SRP 14.3.2, SAC-02. The Building Structures Checklist found in Appendix C of SRP 14.3.2 states that design descriptions should provide enough dimensions for a COL applicant to develop dynamic models for seismic analysis. Information meeting the acceptance criteria has not been provided in either the Tier 1 design descriptions for structures or in the accompanying ITAAC tables. In addition, SRP 14.3.2, SAC-02 states that key dimensions of structures be provided. As the safety functions of seismic Category I structures includes providing barriers for protection against missile impact, pipe whip, jet impingement, flooding, etc. the key dimensions of these safety-related features should be included in the design descriptions and referenced in the ITAAC tables. The approach should be similar to what was done for radiation barriers listed in Table 2.1.1-3. The staff is requesting that this information be included in the revision to U.S. EPR FSAR Tier 1, Section 2.1 not only for the NI Common Basemat Structures, but also for the EPGB and ESWB.

Response to Question 14.03.02-35:

See the response to Question 14.03.02-22.

Question 14.03.02-36:

Follow-up to RAI Question 14.03.02-11- 22

The level of detail provided in the enclosed markup is not consistent with other design certifications and does not meet the acceptance criteria of SRP 14.3, Appendix C or SRP 14.3.2, SAC-02. The Building Structures Checklist found in Appendix C of SRP 14.3.2 states that design descriptions should provide enough dimensions for a COL applicant to develop dynamic models for seismic analysis. Information meeting the acceptance criteria has not been provided in either the Tier 1 design descriptions for structures or in the accompanying ITAAC tables. In addition, SRP 14.3.2, SAC-02 states that key dimensions of structures be provided. As the safety functions of seismic Category I structures includes providing barriers for protection against missile impact, pipe whip, jet impingement, flooding, etc. the key dimensions of these safety-related features should be included in the design descriptions and referenced in the ITAAC tables. The approach should be similar to what was done for radiation barriers listed in Table 2.1.1-3. The staff is requesting that this information be included in the revision to U.S. EPR FSAR Tier 1, Section 2.1 not only for the NI Common Basemat Structures, but also for the EPGB and ESWB.

Response to Question 14.03.02-36:

See the response to Question 14.03.02-22.

Question 14.03.02-39:

Follow-up to RAI Question 14.03.02-11- 26

The level of detail provided in the enclosed markup is not consistent with other design certifications and does not meet the acceptance criteria of SRP 14.3, Appendix C or SRP 14.3.2, SAC-02. The Building Structures Checklist found in Appendix C of SRP 14.3.2 states that design descriptions should provide enough dimensions for a COL applicant to develop dynamic models for seismic analysis. Information meeting the acceptance criteria has not been provided in either the Tier 1 design descriptions for structures or in the accompanying ITAAC tables. In addition, SRP 14.3.2, SAC-02 states that key dimensions of structures be provided. As the safety functions of seismic Category I structures includes providing barriers for protection against missile impact, pipe whip, jet impingement, flooding, etc. the key dimensions of these safety-related features should be included in the design descriptions and referenced in the ITAAC tables. The approach should be similar to what was done for radiation barriers listed in Table 2.1.1-3. The staff is requesting that this information be included in the revision to U.S. EPR FSAR Tier 1, Section 2.1 not only for the NI Common Basemat Structures, but also for the EPGB and ESWB.

Response to Question 14.03.02-39:

See the response to Question 14.03.02-22.

Question 14.03.02-40:

Follow-up to RAI Question 14.03.02-11- 27

The barrier thicknesses are a key dimension and should be provided.

The level of detail provided in the enclosed markup is not consistent with other design certifications and does not meet the acceptance criteria of SRP 14.3, Appendix C or SRP 14.3.2, SAC-02. The Building Structures Checklist found in Appendix C of SRP 14.3.2 states that design descriptions should provide enough dimensions for a COL applicant to develop dynamic models for seismic analysis. Information meeting the acceptance criteria has not been provided in either the Tier 1 design descriptions for structures or in the accompanying ITAAC tables. In addition, SRP 14.3.2, SAC-02 states that key dimensions of structures be provided. As the safety functions of seismic Category I structures includes providing barriers for protection against missile impact, pipe whip, jet impingement, flooding, etc. the key dimensions of these safety-related features should be included in the design descriptions and referenced in the ITAAC tables. The approach should be similar to what was done for radiation barriers listed in Table 2.1.1-3. The staff is requesting that this information be included in the revision to U.S. EPR FSAR Tier 1, Section 2.1 not only for the NI Common Basemat Structures, but also for the EPGB and ESWB.

Response to Question 14.03.02-40:

See the response to Question 14.03.02-22.

Question 14.03.02-41:

Follow-up to RAI Question 14.03.02-11- 28

The level of detail provided in the enclosed markup is not consistent with other design certifications and does not meet the acceptance criteria of SRP 14.3, Appendix C or SRP 14.3.2, SAC-02. The Building Structures Checklist found in Appendix C of SRP 14.3.2 states that design descriptions should provide enough dimensions for a COL applicant to develop dynamic models for seismic analysis. Information meeting the acceptance criteria has not been provided in either the Tier 1 design descriptions for structures or in the accompanying ITAAC tables. In addition, SRP 14.3.2, SAC-02 states that key dimensions of structures be provided. As the safety functions of seismic Category I structures includes providing barriers for protection against missile impact, pipe whip, jet impingement, flooding, etc. the key dimensions of these safety-related features should be included in the design descriptions and referenced in the ITAAC tables. The approach should be similar to what was done for radiation barriers listed in Table 2.1.1-3. The staff is requesting that this information be included in the revision to U.S. EPR FSAR Tier 1, Section 2.1 not only for the NI Common Basemat Structures, but also for the EPGB and ESWB.

Response to Question 14.03.02-41:

See the response to Question 14.03.02-22.