ArevaEPRDCPEm Resource

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Sent: Friday, June 12, 2009 3:56 PM
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Subject: U.S. EPR Design Certification Application RAI No. 230 (2794), FSAR Ch. 14
Attachments: RAI_230_SEB2_2794.doc

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,
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Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 566

Mail Envelope Properties (C56E360E9D804F4B95BC673F886381E71FBAC4A2FB)

Subject: U.S. EPR Design Certification Application RAI No. 230 (2794), FSAR Ch. 14
Sent Date: 6/12/2009 3:56:20 PM
Received Date: 6/12/2009 3:56:18 PM
From: Tesfaye, Getachew

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Tracking Status: None

Post Office: HQCLSTR02.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	794	6/12/2009 3:56:18 PM
RAI_230_SEB2_2794.doc	76282	

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

Request for Additional Information No. 230 (2794), Revision 0

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)

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.

14.03.02-14

Tier 1, Section 2.1 does not identify floor elevations. It is difficult to determine where a particular plan view belongs in each structure. The staff requests that floor elevations be added to the elevation views. Also in Figure 2.1.1-1 the designation for dimension D1 is missing in the figure and should be corrected.

14.03.02-15

In SRP 14.3.2, SAC-08, for internal flood, it states that ITAAC should require inspections to verify that penetrations in division walls are at least 2.5 M above the floor and safety-related electrical, instrumentation, and control equipment are located at least 20 cm above the floor surface. The staff requests inspections for these features be added to the ITAAC tables or provide justification for not doing so.

14.03.02-16

In ITAAC table 2.1.1-8, Item 2.7, under “Commitment Wording” it states the RBA is separated from the SBs and the FB by barriers, doors, dampers, and penetrations that have a minimum 3-hour fire rating, as indicated on Figure 2.1.1-20. However, there is no indication of fire barriers in this Figure. The staff is requesting that the Figure be corrected or the correct reference be provided.

14.03.02-17

In ITAAC table 2.1.1.8, item 2.6 under Commitment Wording states that the RCB is a post-tensioned, pre-stressed concrete structure. Under Inspection Analysis or Test it states that inspection of the RCB will be performed, but does not state how this inspection is related to the commitment wording or what the purpose of the inspection is. The staff is requesting that the wording under Inspection Analysis or Test be revised to state what will be inspected and for what purpose it will be inspected and the Acceptance Criteria be revised accordingly. The staff further requests that the inspection involve more than confirming that the RCB is a post-tensioned structure.

14.03.02-18

This question has been intentionally deleted.

14.03.02-19

In Tier 1, Section 2.1 no information has been provided for the Turbine Building. However the Turbine Building (TB) is adjacent to the Safeguards Buildings 2 and 3. The failure of the TB could impact the safety function of the two Safeguard Buildings. If the TB is designed so that it will not fail under earthquake load or tornado load and thus not collapse on adjacent safety related structures, then a Tier 1 description of this building needs to be provided along with appropriate ITAAC to verify it will not collapse. If it can collapse, then its collapse needs to be addressed as a design load on the adjacent safety-related structures in Tier 1, Section 2.1.1 and an ITAAC item added to Table 2.1-7. Provide the appropriate information in a revision to FSAR Section 2.1.

14.03.02-20

EPR FSAR Table 2.1.1-7—Nuclear Island Inspections, Tests, Analyses, and Acceptance Criteria states in item 4.3 under the Commitment Wording column the following:

The RCB as described in Section 2.1.1, and its penetrations as described in Section 3.5, Containment Isolation, retain pressure boundary integrity associated with the RCB design pressure.

This ITAAC item 4.3 should include specific approach for implementing the pressure testing requirements of RCB and its associated components per ASME Section III, Division 2, Section CC-6000. However, the specific wording used under the "Acceptance Criteria" column is very vague in terms of RCB pressure test requirements, and may be interpreted as only pertains to components identified in Table 3.5.1-1 which does not include RCB.

Provide a RCB specific ITAAC table committing that the RCB pressure boundary retains its structural integrity when subject to design pressure, and under Inspection, Analysis and Tests column state that a Structural Integrity Test (SIT) of the RCB is performed in accordance with Article CC-6000 of ASME Code Section III, Division 2 and Regulatory Guide 1.136, after completion of the RCB construction, and the first prototype RCB will be instrumented to measure strains per ASME Code Section III, Division 2, CC-6000

Lastly, under the Acceptance Criteria column of the table, state that test report documents that the RCB pressure boundary retains its structural integrity when tested and evaluated in accordance with ASME Code Section III, Division 2 at a test pressure of at least 115% of the design pressure.

14.03.02-21

In Tier 1, FSAR Section 4.5, it states that the COL applicant will provide the design of the new and spent fuel storage racks. It also states that the COL applicant will demonstrate that the design satisfies the criticality analysis requirements and describe the results of the analyses for abnormal load conditions. The COL applicant will also describe the confirmatory structural dynamic analyses, stress analyses, and thermal-hydraulic cooling analyses. In Tier 1, FSAR Section 4.0 it states an applicant for a COL that references the Certified Design must provide design features or characteristics that comply with the interface requirements for the plant design and inspections, tests, analyses, and acceptance criteria (ITAAC) for the site-specific portion of the facility design, in accordance with 10 CFR 52.79(c) and that the intent is that the interface requirements in the Final Safety Analysis Report (FSAR) define key, safety-significant design attributes and performance characteristics of the site specific, out-of-scope portion of the plant which must be provided in order for the certified portions of the U.S. EPR standard design to comply with the design commitments in the FSAR. Although it is clear that the COL applicant is responsible for the design and analysis of the new and spent fuel racks it does not appear that the interface requirements defining the key, safety-significant design features and attributes the new and spent fuel pool racks must provide in order for the certified portions of the U.S. EPR standard design to comply with the design commitments in the FSAR have been stated. The staff is requesting that the interface requirements that the new and spent fuel racks must meet be provided in the FSAR.

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.

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.

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.

14.03.02-25

Follow-up to RAI Question 14.03.02-11- 6

Item 2.2 in Table 2.1.1-8 for the Reactor Building is intended for addressing prevention of water ingress into the core melt spreading area. Under “Acceptance Criteria” it references a water tight door shown in Figure 2.1.1-4. However, the door is not shown in the referenced figure. The staff is requesting that the figure be corrected.

14.03.02-26

Follow-up to RAI Question 14.03.02-11- 7

The staff has reviewed the revised markup and has determined that additional information is required. In reviewing U.S. EPR FSAR Table 3.3.1, item 1.0 there is no mention of pressure test requirements. In the revised markup the commitment wording for a pressure integrity test is found in Table 2.1.1.8 (Reactor Building ITAAC) under item 2.5. The Commitment Wording for this item should be revised to include the penetration assemblies. Under Inspection, Analysis or Test, item 2.5.a should be reworded to state that an analysis of the RCB including its liner and penetration assemblies will be performed against the applied design pressure per ASME Code Section III design requirements. This analysis will be reconciled against the final as-built installation. Item 2.5.b should be reworded to state that Inspections will be performed against the construction drawings to determine the final as-built installation. Item 2.5.c should be reworded to state that a test report documents that a Structural Integrity Test (SIT) of the containment structure is performed in accordance with Article CC-6000 of ASME Code Section III, Division 2 and Regulatory Guide 1.136. The first prototype containment structure will be instrumented to measure strains per ASME Code Section III, Division 2, CC-6221. Under Acceptance Criteria, item 2.5.a should be reworded to state that the analysis of the RCB including its liner and penetration assemblies has been reconciled with the as-built condition and ASME Code Section III stress reports exist and conclude the ASME III design code requirements have been met. Under item 2.5.b it should state that the RCB including its liner and penetrations has been inspected to the as-installed condition against the final construction drawings. Under item 2.5.c, it should state that a test report exists that documents the containment system pressure boundary retains its structural integrity when tested and evaluated in accordance with ASME Code Section III, Division 2 at a test pressure of at least 1.15 times the design pressure.

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.

14.03.02-28

Follow-up to RAI Question 14.03.02-11- 11

SRP 14.3, Appendix C, Building Structures Checklist states that the acceptance criteria for an ITAAC item verifying the structural capability of a building to withstand design basis loads should be the existence of a structural analysis report which concludes the as-built building is able to withstand design basis loads. The applicant is requested to add this language to the "Acceptance Criteria" for Items. This should be included in the applicant's markup under "Acceptance Criteria" for Item 2.4 in Table 2.1.1-8, Item 2.1 in Table 2.1.1-10, Item 2.1 in Table 2.1.1-11, Item 3.4 of Table 2.1.2-3, and Item 3.5 of Table 2.1.5-3.

14.03.02-29

Follow-up to RAI Question 14.03.02-11- 13

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.

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.

14.03.02-31

Follow-up to RAI Question 14.03.02-11- 17

The response and revised markups are acceptable except that for the following. Under "Inspection, Analysis or Test" for the RB in Table 2.1.1-8, Item 2.7 Part b it states that inspection of as-installed conditions of barriers, doors, dampers and penetrations as determined in the part (a) analysis [for fire protection] will be performed. However, in Item 2.2 in Table 2.1.1-10 for the SB, Item 2.2 in Table 2.1.1-11 for the FB, Item 3.3 in Table 2.1.2-3 for the EPGB and Item 3.4 in Table 2.1.5.3 for the ESWB, it states that inspection of the as-installed conditions of barriers, doors, dampers and penetrations will be performed. The Inspection Test or Analysis for these latter structures is not specific to fire protection of fire barriers, nor does it require, as it does for the RB that inspection specific to the part (a) analysis be performed. The staff is requesting that this be corrected in the tables for the SB, FB, EPGB and ESWB such that the item for fire protection is consistent with that of the RB.

14.03.02-32

Follow-up to RAI Question 14.03.02-11- 18

In the markup to U.S. EPR FSAR Tier 1, Section 2.1 for protection from the dynamic effects of pipe breaks, in Table 2.2.1-4 under "Inspection, Analysis, or Test" there is a disconnect between Item 3.5.a and 3.5.b in that the analysis performed in item 3.5.a does not state what the analysis is based on, while in Item 3.5.b the inspection of the as-installed protective features is done to the construction drawings. The staff is requesting that Item 3.5.a be revised to state that the analysis is performed to the final as-built construction drawings and Item 3.5.b be revised to state that instead of construction drawings, final as-built construction drawings should be used. The staff is also requesting that for Item 3.5.b under "Acceptance Criteria" instead of construction drawings, final as-built construction drawings be used.

14.03.02-33

Follow-up to RAI Question 14.03.02-11- 19

The response is not acceptable. In response to RAI 118, Question 03.04.01-7, which is provided as a reference for Question 14.03.02-19, changes were made to the FSAR which do not agree with the FSAR markup provided with the response to RAI 132, Supplement 1. For example in RAI 118, Question 03.04.01-7, reference is made to ITAAC Table 2.1.1-7 for changes to internal flooding responses for the FB and SB, while in the FSAR markup provided in response to RAI 132, Table 2.1.1-7 is a table of RBA

penetrations that contain high energy pipes. In addition, the wording in the ITAAC tables for internal flooding for FB and SB are not consistent between the markups provided in RAI 118 and RAI 132. The applicant needs to provide a specific response to Question 14.03.02-11-19 without reference to RAI 118, Question 03.04.01-7.

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.

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.

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.

14.03.02-37

Follow-up to RAI Question 14.03.02-11- 23

In Tier 1 Tables 2.1.2-3 and 2.1.5-3 it states that the EPGB and ESWB grade level is located between 12 and 18 inches below finish floor elevation at ground surfaces (see items 3.2 and 3.3 respectively) It is not clear from either the design description or from the tables what the safety significance is of these dimensions. The applicant is requested to identify the safety significance of these dimensions and if for external flood protection, provide the height of the assumed probable maximum flood in the design descriptions and ITAAC tables.

14.03.02-38

Follow-up to RAI Question 14.03.02-11- 24

In the revised ITAAC table under Commitment Wording for Item 3.1 it states that the NAB is designed to prevent failure on the adjacent FB or SB, Division 4. This is not adequate because it does not address the design basis loads for which the building must designed. For the same item number, under “Inspection, Analysis or Test, for the second sentence which states that “During construction, deviations from the approved design will be analyzed, it should state that the “During construction, deviations from the approved design will be reconciled with the building analysis. The staff requests that these changes be made to ITAAC Table 2.1.3-1.

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.

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.

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.