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July 31, 2009

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

Attention: Mr. Jeffrey A. Ciocco

Docket No. 52-021
MHI Ref: UAP-HF-09409

Subject: MHI's Response to US-APWR DCD RAI No. 404-3063

References: 1) "Request for Additional Information No. 404-3063 Revision 0, SRP Section: 14.03.03 – Piping Systems and Components– Inspections, Tests, Analyses, and Acceptance Criteria Application Section: Tier 1 Chapter 2," dated June 18, 2009.

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") a document entitled "Response to Request for Additional Information No. 404-3063 Revision 0".

Enclosure 1 provides the response to the 6 questions that are contained within Reference 1.

Please contact Dr. C. Keith Paulson, Senior Technical Manager, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of the submittals. His contact information is below.

Sincerely,

Y. Ogata

Yoshiki Ogata,
General Manager- APWR Promoting Department
Mitsubishi Heavy Industries, LTD.
Enclosures:

1. Response to Request for Additional Information No. 404-3063 Revision 0

CC: J. A. Ciocco
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Enclosure 1

UAP-HF-09409
Docket No. 52-021

Response to Request for Additional Information No. 404-3063
Revision 0

July 2009

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/31/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 404-3063 REVISION 0**
SRP SECTION:	**14.03.03 – Piping Systems and Components – Inspections, Tests, Analyses, and Acceptance Criteria**
APPLICATION SECTION:	**TIER 1 CHAPTER 2**
DATE OF RAI ISSUE:	**6/18/2009**

QUESTION NO.: 14.03.03-17

This is the supplemental RAI to RAI 242-2153, Question 14.03.03-01

In its letter dated April 27, 2009, MHI indicated in the response of RAI 14.03.03-01 that the requirements of RG 1.207 Rev. 1 concerning environmental impact on fatigue of ASME Code Section III Class 1 piping will be followed. However, the applicant decided not to include the reference to RG 1.207 in the Tier 1, Table 2.3-2, ITAAC item 1. The staff believes referencing RG 1.207, in addition to ASME Code Section III requirements, is essential to provide the complete scope of Class 1 piping ITAAC. Thus, the staff requests the applicant to modify the ITAAC such that requirements of the ASME Code Section III and RG 1.207 will be met.

ANSWER:

DCD Subsection 2.3.1, Piping Systems and Components, Design Description and the acceptance criteria of ITAAC Item 1 in Tier 1 Table 2.3-2 will be revised to address the effects of reactor coolant environment on fatigue life of ASME Code Section III Class 1 piping.

Specific reference to RG 1.207 has not been included in the revised ITAAC Item 1 in Table 2.3-2. Detailed design-related information regarding the fatigue evaluation of ASME Code Section III, Class 1 piping is provided in DCD Tier 2 Subsection 3.12.5.7. As stated in DCD Tier 2, the assessments of environmental impact on fatigue of ASME Code, Section III, Class 1 piping follow the requirements delineated in RG 1.207, Rev.1.

NUREG-0800 Standard Review Plan (SRP) Section 14.3, Appendix A Section IV.4.A states that "the use of codes and standards in Tier 1 should be minimized, with exceptions granted on a case-by-case basis. Instead, the applicable requirements from the regulations, codes, or standards should be stated in Tier 1, rather than reference them. This ensures that the requirement is clear, and allows flexibility if the reference changes."

MHI will appropriately incorporate the Tier 2 information, pertaining to the fatigue design requirements of RG 1.207, into the design documentation that will be developed to address the revised acceptance criteria in Tier 1 Table 2.3-2, Item 1. The specific reference to RG 1.207 will

not be included in the Tier 1 Table 2.3-2 ITAAC Item 1 to be consistent with the content guidance provided in the SRP. MHI is concerned that potential future improvements in addressing environmental effects of fatigue may be unduly burdensome to implement if RG 1.207 is directly referenced in DCD Tier 1. If an acceptable alternative to RG 1.207 is developed, MHI considers that its use should not require an exemption from the certification information, but should be subject to the change process delineated in Section VIII.B of a design certification rule, which addresses changes to Tier 2 and Tier 2* information. MHI believes this approach to be consistent with the concept that Tier 2 information, including RG positions, are evaluated as the bases underlying the Tier 1 certification information and considered in the determination of whether ITAAC have been successfully completed. The proposed DCD change establishes ITAAC acceptance criteria to specifically evaluate fatigue usage factors both in air and reactor coolant environments as addressed in RG 1.207.

Impact on DCD

DCD Tier 1 Subsection 2.3.1 will be revised as follows:

(1) the eighth bullet under "Piping stress analysis criteria" will be revised as follows:

> ASME Code Section III, Class 1 piping is evaluated for the effects of fatigue caused by various thermal and pressure transients and other cyclic events, including earthquakes and thermal stratifications. **The fatigue evaluations consider both air and reactor coolant environments.**

The changes to ITAAC Item 1 in Tier 1 Table 2.3-2 previously submitted to the NRC in response to RAI 242-2153, Question 14.03.03-03 will be revised as follows:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.a The ASME Code Section III, Class 1 piping systems and components **(PSC)** are designed to retain their pressure integrity and functional capability under internal design and operating pressures and design basis loads.	1.a An ~~analysis~~ **inspection** of **the design document(s) required by ASME Code Section III, Subarticle NCA-3550 for** the ASME Code, Section III, Class 1 **PSC** ~~piping systems and components~~ will be performed.	1.a The ~~results of the analysis~~ **Report(s) certified in accordance with ASME Code Section III, Subarticle NCA-3550 exist and** conclude that the design **of the ASME Code Section III Class 1 PSC comply with the** requirements of the ASME Code Section III ~~are met~~.
1.b The usage factors for ASME Code Section III Class 1 piping systems are evaluated for both air and reactor coolant environments.	**1.b An analysis of the ASME Code, Section III, Class 1 piping systems will be performed.**	**1.b Report(s) exist and conclude that the usage factors for ASME Code Section III Class 1 piping systems are evaluated for air and reactor coolant environments.**

These changes to ITAAC Item 1 in Tier 1 Table 2.3-2 are compiled with the response to RAI Questions 14.03.03-17, -18 and -19.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/31/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 404-3063 REVISION 0**
SRP SECTION:	**14.03.03 – Piping Systems and Components – Inspections, Tests, Analyses, and Acceptance Criteria**
APPLICATION SECTION:	**TIER 1 CHAPTER 2**
DATE OF RAI ISSUE:	**6/18/2009**

QUESTION NO.: 14.03.03-18

This is the supplemental RAI to RAI 242-2153, Question 14.03.03-02

In the response to RAI 14.03.03-02, MHI discussed a graded approach to the engineering schedule for the design of Class 2 or 3 piping systems and components (PSC) contained in MHI's letter UAP-HF-08123 (dated July 14, 2008). The staff found that this graded approach is acceptable to resolve a portion of the design of Class 2 or 3 PSC. However, it should be noted that the ITAAC Item 3 in Tier 1, Table 2.3.2, is not established for this graded approach. Rather, the scope of the ITAAC should encompass all Class 2 or 3 PSC design as indicated in SRP 14.3.3. The design completion of representative Class 2 or 3 PSC as outlined in UAP-HF-08123 will satisfy a portion of ITAAC item 3 of Table 2.3.2. When all the Class 2 or 3 PSC design reports are available for NRC staff audit, the remaining portion of the ITAAC Item 3 can be satisfied. The staff does not consider the design of representative of Class 2 or 3 PSC to constitute the complete design of all Class 2 or 3 PSC. The staff requests the applicant to modify the ITAAC Item 3 of Tier 1 Table 2.3-2 to reflect that all Class 2 or 3 piping systems and components design will meet the requirements of the ASME Code Section III.

ANSWER:

ITAAC Item 3 in DCD Tier 1 Table 2.3-2 supports MHI's PSC design completion plan objective of providing reasonable assurance that safety requirements are met for a design that is essentially complete prior to the start of construction. Details of the design completion plan for US-APWR PSC were presented at the June 25, 2008 public meeting (ADAMS Accession No. ML081850634) and further described in MHI's letter UAP-HF-08123 dated July 14, 2008. The scope of ITAAC Item 3 in Table 2.3-2 will be further increased to include design specifications for all ASME III, Class 2 and 3 PSC and design reports for all risk-significant Class 2 and 3 PSC.

The design specifications that will be available for all Class 2 and 3 PSC as a pre-requisite for closure of ITAAC Item 3 in Table 2.3-2 include the following (as applicable):

- Codes and standards
- Requirements, such as materials, manufacturing, test and examination

- Design input, such as structural requirements and physical characteristics
- Design transients, such as temperature and pressure
- Load conditions, such as seismic load, accident load, thermal load
- Other conditions, such as design life

MHI believes the scope of the revised ITAAC Item 3 in Table 2.3-2 is appropriate for a DAC approach because completion of design reports for risk-significant PSC will be a prerequisite for closure of the DAC; also, the design specifications that will be developed for all Class 2 and 3 PSC prior to DAC closure provide reasonable assurance that the safety requirements will be met for the low risk PSC.

The graded approach to PSC design is proposed as a means of closing PSC design acceptance criteria (DAC) issues during the US-APWR design certification phase. MHI also recognizes that regulatory guidance and industry practice support DAC closure following the design certification phase consistent with the basic premise that DAC is reserved for technical areas for which detailed design information is made available in the latter stages of a project. Specifically, section 8.3.1 of NEI 08-01 Revision 3, "Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52," provides three options for DAC closure:

1. Closure through amendment of design certification rule
2. Closure through the COLA review process
3. Closure after COL issuance

MHI considers closure of design issues during the certification phase to be most favorable, followed by NEI 08-01 option 1, from the standpoint of addressing safety issues with the NRC before construction, reducing burden on COL applicants and increasing the level of design standardization. Options 2 and 3 are means of DAC closure that may be appropriate based on the availability of final design information for specific PSC.

Class 1, 2 and 3 PSC are subject to ITAAC that verify the as-built design conforms to the requirements of the ASME III design reports. These ITAAC, i.e., in DCD Tier 1 Sections 2.4, 2.6, 2.7 and 2.11, ultimately ensure that the conformance of the as-built plant to ASME III requirements is assured prior to the final determination of ITAAC closure.

Impact on DCD

The changes to ITAAC items 1 and 3 in Tier 1 Table 2.3-2, previously submitted to the NRC in response to RAI 242-2153, Question 14.03.03-03 will be revised as shown in Attachment 1, which provides a compilation of the changes in response to RAI Questions 14.03.03-17, -18 and -19.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/31/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 404-3063 REVISION 0**
SRP SECTION:	**14.03.03 – Piping Systems and Components – Inspections, Tests, Analyses, and Acceptance Criteria**
APPLICATION SECTION:	**TIER 1 CHAPTER 2**
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QUESTION NO.: 14.03.03-19

This is the supplemental RAI to RAI 242-2153, Question 14.03.03-03

In its letter dated April 27, 2009, MHI responded to RAI 14.03.03-03 by revising the ITAAC. In Items 1 and 3 in Tier 1 Table 2.3-2, MHI modified the Acceptance Criteria (AC) to include ASME Code III design reports.

a) The staff has two concerns with the modified AC. First, SRP 14.3.3 indicates that an acceptable version of an ASME Code certified stress report is the design document required by ASME Code Section III, Subarticle NCA-3550. Second, for clarification, the subject (ASME Code Section III Class 1) of the sentence was omitted in the AC. The staff requests the applicant to modify the AC to state that the "ASME Code certified Design Report(s) (NCA-3550) (certified, when required by ASME Code) exist and conclude that ASME Code Section III Class 1 piping systems and components comply with the requirements of ASME Code Section III".

b) In the Inspections, Tests, and Analyses (ITA), the staff found that an analysis of the piping systems and components is not appropriate. Rather, the ITA should involve the inspection of ASME Code certified Design Reports (NCA-3550) and required documents. The staff requested the applicant to make appropriate change to the ITA to reflect that an inspection will be conducted.

This question is also applicable to Item 3 in Table 2.3-2 of Tier 1.

ANSWER:

ASME Code Section III, Subarticle NCA-3550 prescribes the design output documentation requirements, including certification requirements for Design Reports. Therefore, "certified" is not included in the ITA, but the ITA refers to the design document(s) required by NCA-3550. ITAAC Item 1 in Table 2.3-2 applies to Class 1 piping systems, for which NCA-3550 requires Design Report certification. For Class 2 and 3 piping systems, Design Report and certification

requirements are conditional, as delineated in NCA-3550. ITAAC items 1 and 3 in Table 2.3-2 will be revised to reflect these requirements.

Impact on DCD

The changes to ITAAC items 1 and 3 in Tier 1 Table 2.3-2, previously submitted to the NRC in response to RAI 242-2153, Question 14.03.03-03 will be revised as shown in Attachment 1, which provides a compilation of the changes in response to RAI Questions 14.03.03-17, -18 and -19.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/31/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 404-3063 REVISION 0**
SRP SECTION:	**14.03.03 – Piping Systems and Components – Inspections, Tests, Analyses, and Acceptance Criteria**
APPLICATION SECTION:	**TIER 1 CHAPTER 2**
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QUESTION NO.: 14.03.03-20

Components ITAAC

This is the supplemental RAI to RAI 242-2153, Question 14.03.03-05

In its letter dated April 27, 2009, MHI responded to RAI 14.03.03-05 by revising the ITAAC in Tier 1, Table 2.4.1-2 item 5a and 5b to account for two activities, fabrication & installation, and as-built reconciliation respectively. The staff found that there is only one "Design Commitment" when there are two sub-entries (5a and 5b) for "Inspections, Tests, Analyses" (ITA) and "Acceptance Criteria" (AC). To enhance the inspectibility of ITAAC, the staff requests the applicant to separate the "Design Commitment" into 5a and 5b such that there are two distinct commitments demonstrating that the components i) are fabricated, installed, and inspected in accordance with ASME Code Section III requirements and ii) shall be reconciled with design requirements.

(a) Fabrication and Installation: In Item 5a in Tier 1 Table 2.4.1-2, MHI modified the AC to include ASME Code Section III data reports. To avoid ambiguity, the staff requests the applicant to modify the AC to "ASME Code Data Report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude....."

(b) As-built reconciliation: In Item 5b in Tier 1 Table 2.4.1-2, MHI revised the AC to include ASME Code Section III design reports. Three minor modifications should be made to clarify the statements in ITA and AC: (i) revise the ITA statement to "A reconciliation analysis of the components using as-designed and as-built information and ASME Code certified Design Report (NCA-3550) will be performed; (ii) modify the AC to "ASME Code Section III Design Report(s) (certified, when required by ASME Code) exist and conclude....." and (iii) append the statement "The report documents the results of the reconciliation analysis" to the end of the AC.

These two questions are also applicable to Tier 1, Sections 2.4.2, 2.4.4, 2.4.5, 2.4.6, 2.7.1.2, 2.7.1.9, 2.7.1.10, 2.7.1.11, 2.7.3.1, 2.7.3.3, 2.7.3.5, 2.7.6.3, 2.7.6.7, 2.7.6.8, 2.11.2, and 2.11.3

ANSWER:

The referenced ITAAC for this question is Tier 1 Table 2.4.1-2, Item 5, Reactor System. ITAAC Item 5 in Tier 1 Table 2.4.1-2 will be revised to separate the "Design Commitment" into 5a and 5b such that there are two distinct commitments demonstrating that the components i) are fabricated, installed, and inspected in accordance with ASME Code Section III requirements and ii) shall be reconciled with design requirements. The ITA and AC for items 5a and 5b will also be revised per parts a and b of the NRC request in order to clarify ITAAC regarding the design and construction of ASME Code Section III components.

The other ITAAC affected by this question, (i.e., Subsections 2.4.2, 2.4.4, 2.4.5, 2.4.6, 2.6.4, 2.7.1.2, 2.7.1.9, 2.7.1.10, 2.7.1.11, 2.7.3.1, 2.7.3.3, 2.7.3.5, 2.7.6.3, 2.7.6.7, 2.7.6.8, 2.11.2, and 2.11.3) associated with the design commitments to design and construct ASME Code Section III components in accordance with the ASME Code Section III requirements will be also revised consistent with NRC recommendations.

The example ITAAC Item 2 in DCD Tier 2 Table 14.3-2 will also be revised accordingly.

Impact on DCD

The changes to Reactor System ITAAC Item 5 in Tier 1 Table 2.4.1-2 previously submitted to the NRC in response to RAI 242-2153, Question 14.03.03-05 will be revised as follows:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5.a The ASME Code **Section III** components of the reactor system identified in Table 2.4.1-1 are ~~designed and~~ fabricated**, installed and inspected** in accordance with ~~the requirements of Section III of the~~ ASME Code **Section III requirements**.	5.a An inspection of the as-built ASME Code **Section III** components of the reactor system will be performed.	5.a **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~– ASME Code Section III data design reports~~ exist and conclude that the as-built ASME Code **Section III** components of the reactor system identified in Table 2.4.1-1 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
5.b The ASME Code Section III components of the reactor system identified in Table 2.4.1-1 are reconciled with the design requirements.	**5.b A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	**5.b The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the reactor system identified in Table 2.4.1-1 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

In addition, changes to ITAAC previously submitted to the NRC in response to RAI 242-2153, Question 14.03.03-05, (i.e., Subsections 2.4.2, 2.4.4, 2.4.5, 2.4.6, 2.6.4 (expanded ITAAC for emergency power source support systems), 2.7.1.2, 2.7.1.9, 2.7.1.10, 2.7.1.11, 2.7.3.1, 2.7.3.3, 2.7.3.5, 2.7.6.3, 2.7.6.7, 2.11.2, and 2.11.3) and Question 14.03.03-16 (Subsection 2.7.6.8) will be revised consistent with the above changes. The proposed changes are provided in Attachment 2.

Example ITAAC Item 2 in DCD Tier 2 Table 14.3-2 will be revised accordingly as shown below.

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a. The ASME Code **Section III** components of the _____ system identified in Table _____ are ~~designed~~ **and fabricated, installed, and inspected** in accordance with ~~the requirements of Section III of the~~ ASME Code **Section III requirements**.	2.**a**.~~i~~ ~~Analyses will be performed.~~ **An inspection of the as-built ASME Code Section III components of the _____ system will be performed.**	2.**a**.~~i~~ ~~The results of analyses conclude that the ASME Code components of the _____ system are comply with the requirements of Section III of the ASME Code.~~ **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude that the as-built ASME Code Section III components of the _____ system identified in Table _____ are fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
~~2.b The ASME Code Section III components, identified in Table _____, are designed and constructed in accordance with ASME Code Section III requirements.~~ **2.b The ASME Code Section III components of the _____ system identified in Table _____ are reconciled with the design requirements.**	**2.ba.ii** ~~Inspections will be conducted of the as-built components as documented in the ASME design reports.~~ ~~**An analysis will be conducted to reconcile the as-designed and as-built component information with the ASME design reports.**~~ **A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.**	**2.ba.ii** The ASME Code Section III design report(s) **(certified, when required by ASME Code)** exist ~~for~~ **and conclude that** the as-built **ASME Code Section III** components **of the _____ system** identified in Table _____ are reconciled with the design ~~documents~~ **requirements. The report documents the results of the reconciliation analysis.**

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/31/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 404-3063 REVISION 0**
SRP SECTION:	**14.03.03 – Piping Systems and Components – Inspections, Tests, Analyses, and Acceptance Criteria**
APPLICATION SECTION:	**TIER 1 CHAPTER 2**
DATE OF RAI ISSUE:	**6/18/2009**

QUESTION NO.: 14.03.03-21

Piping ITAAC

This is the supplemental RAI to RAI 242-2153, Question 14.03.03-06

In its letter dated April 27, 2009, MHI responded to RAI 14.03.03-06 by revising the ITAAC in Tier 1, Table 2.4.2-5 item 4.b.i and 4.b.ii to account for two activities, fabrication & installation, and as-built reconciliation. The staff found that there is only one "Design Commitment" when there are two sub-entries (4.b.i and 4.b.ii) for "Inspections, Tests, Analyses" (ITA) and "Acceptance Criteria" (AC) respectively. To enhance the inspectibility of ITAAC, the staff request the applicant to separate the "Design Commitment" into 4.b.i and 4.b.ii such that there are distinct commitments demonstrating that the piping of the RCS, including supports i) are fabricated, installed, and inspected in accordance with ASME Code Section III requirements and ii) shall be reconciled with design requirements.

In the "Design Commitment" column, the term "piping of the RCS, including supports" are used. The same terminology should be used consistently in the ITA and AC also. Thus, the staff requests the applicant to modify ITA and AC to use the term "piping of the RCS, including supports".

(a) Fabrication and Installation: In Item 4.b.i in Tier 1 Table 2.4.2-5, MHI modified the AC to include ASME Code Section III data reports. To avoid ambiguity, the staff requests the applicant to modify the AC to "ASME Code Data Report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude....."

(b) As-built reconciliation: In Item 4.b.ii in Tier 1 Table 2.4.2-5, MHI revised the AC to include ASME Code Section III design reports. Three minor modifications should be made to clarify the statements in ITA and AC: (i) revise the ITA statement to "A reconciliation analysis of the piping system of the RCS, including supports, using as designed and as-built information and ASME Code certified Design Report (NCA-3550) will be performed; (ii) modify the AC to "ASME Code Section III Design Report(s) (certified, when required by ASME Code) exist and conclude....." and (iii) append the statement "The report documents the results of the reconciliation analysis" to the end of the AC.

These two questions are also applicable to Tier 1, Sections 2.4.4, 2.4.5, 2.4.6, 2.7.1.2, 2.7.1.9, 2.7.1.10, 2.7.1.11, 2.7.3.1, 2.7.3.3, 2.7.3.5, 2.7.6.3, 2.7.6.7, 2.11.2, and 2.11.3

ANSWER:

The referenced ITAAC for this question is Tier 1 Table 2.4.2-5, Item 4.b, Reactor Coolant System. ITAAC Item 4.b in Tier 1 Table 2.4.2-5 will be revised to separate the "Design Commitment" into 4.b.1 and 4.b.ii such that there are two distinct commitments demonstrating that the piping of the RCS including supports i) are fabricated, installed, and inspected in accordance with ASME Code Section III requirements and ii) shall be reconciled with design requirements. The ITA and AC for items 4.b.i and 4.b.ii will also be revised consistent with parts a and b of the NRC request in order to clarify ITAAC regarding the design and construction of ASME Code Section III piping and supports.

The other ITAAC affected by this question, (i.e., Subsections 2.4.4, 2.4.5, 2.4.6, 2.6.4, 2.7.1.2, 2.7.1.9, 2.7.1.10, 2.7.1.11, 2.7.3.1, 2.7.3.3, 2.7.3.5, 2.7.6.3, 2.7.6.7, 2.11.2, and 2.11.3) associated with the design commitments to design and construct ASME Code Section III piping, including supports in accordance with the ASME Code Section III requirements will be also revised consistent with NRC recommendations.

Impact on DCD

Reactor Coolant System ITAAC Item 4.b in Tier 1 Table 2.4.2-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.b.**i** The ASME Code Section III piping **of the RCS, including supports,** identified in Table 2.4.2-3, is ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	4.b.**i** ~~Inspections will be conducted~~ **An inspection** of the as-built **ASME Code Section III** piping ~~**system,** as documented in the ASME design reports~~ **of the RCS, including supports, will be performed**.	4.b.**i** **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built ASME Code **Section III** piping ~~**system**~~ of the RCS, **including supports,** identified in Table 2.4.2-3 ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.b.ii The ASME Code Section III piping of the RCS, including supports, identified in Table 2.4.2-3 are reconciled with the design requirements.	4.b.ii ~~An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.~~ A reconciliation analysis of the piping of the RCS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.	4.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping ~~system~~ of the RCS, including supports, identified in Table 2.4.2-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.

In addition, changes to ITAAC previously submitted to the NRC in response to RAI 242-2153, Question 14.03.03-06, (i.e., Subsections 2.4.4, 2.4.5, 2.4.6, 2.7.1.2, 2.7.1.9, 2.7.1.10, 2.7.1.11, 2.7.3.1, 2.7.3.3, 2.7.3.5, 2.7.6.3, 2.7.6.7, 2.11.2, and 2.11.3) will be revised consistent with the above changes. The proposed changes are provided in Attachment 2.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/31/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 404-3063 REVISION 0**
SRP SECTION:	**14.03.03 – Piping Systems and Components – Inspections, Tests, Analyses, and Acceptance Criteria**
APPLICATION SECTION:	**TIER 1 CHAPTER 2**
DATE OF RAI ISSUE:	**6/18/2009**

QUESTION NO.: 14.03.03-22

This is the supplemental RAI to RAI 242-2153, Question 14.03.03-11

In its letter dated April 27, 2009 responding to NRC RAI 14.03.03-11, MHI indicated that the Main Control Room (MCR) air handling unit cooling coils of the MCR HVAC System are the only ASME Code Section III piping. The cooling coils are cooled by the Essential Chilled Water Systems (ECWS) and details of the design, construction, and testing requirements of the cooling coils are contained Section 2.7.3.5 of ECWS. The applicant proposed two changes to address the staff concerns. First, the design description of the MCR HVAC System (2.7.5.1) will be revised to indicate that the cooling coils are the only system and components designed and constructed to ASME Code Section III requirements. Second, the ITAAC of Sections 2.7.5.1 will cross-reference the ITAAC in Section 2.7.3.5 of ECWS. These two changes will also be used for other cooling coils that are designated as ASME Code Section III in RAI 14.03.03-11. It should be noted that in the response, the applicant referred the cooling coils as piping in Section 2.7.3.5 while those same cooling coils were referred as components in the design description in 2.7.5.1.

The provided resolution is acceptable to the staff except that the corresponding changes in Section 2.7.3.5 are lacking. The aforementioned MCR air handling unit cooling coils are not listed as ASME Code Section III in Table 2.7.3.5-2 or Table 2.7.3.5-3. The staff requests i) the applicant to clarify whether the cooling coils should be treated as components or piping; and ii) the applicant to include in Table 2.7.3.5-2 or Table 2.7.3.5- 3 the MCR air handling unit cooling coils and other cooling coils mentioned in RAI 14.03.03-11.

ANSWER:

In response to RAI 14.03.03-11, MHI revised Tier 1 Subsection 2.7.5.1, Main Control Room HVAC System, to provide reference to Tier 1 Table 2.7.3.5-3, Essential Chilled Water System (ECWS), for ITAAC for the Main Control Room HVAC System air handling unit (AHU) cooling coils classified as ASME Code Section III. The proposed changes were also applicable to the Engineered Safety Features Ventilation System (Tier 1 Subsection 2.7.5.2) and Containment Ventilation System (Tier 1 Subsection 2.7.5.3). Specifically, ITAAC are delineated in Tier 1 Table 2.7.3.5-5, Item 2.b for design and construction, 3.b for welds, 4.b for pressure boundary integrity and 5.b for seismic design. These ITAAC are each related to the ECWS piping.

Although the ECWS provides the cooling medium to the AHU cooling coils, the cooling coils are integral to and considered a component of the AHU's for the HVAC systems that they support. Therefore, for clarification and consistency, applicable Tier 1 Subsections and Tables will be revised to include ITAAC for the ASME Code Section III cooling coils for the following HVAC systems:

- 2.7.5.1 Main Control Room HVAC System
- 2.7.5.2 Engineered Safety Features Ventilation System (ESFVS)
- 2.7.5.3 Containment Ventilation System (CWS)

Also, this response corrects reference to Tier 1 Table 2.7.3.5-5, Essential Chilled Water System (ECWS), for ITAAC for the containment fan cooler unit and CRDM cooling unit cooling coils. These cooling coils are supplied cooling water from the Non-Essential Chilled Water System (Non ECWS). The piping is considered part of the Containment Isolation System and ITAAC for the Non-ECWS piping is addressed in Table 2.11.2-2. Tier 1 Subsection 2.7.5.3.2 will be revised to correct this reference.

Impact on DCD

The following changes will be incorporated into the listed ventilation systems:

2.7.5.1 Main Control Room HVAC System

2.7.5.1.2 Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.7.5.1-3 ~~specified~~ **specifies** the inspections, tests analyses, and associated acceptance criteria for the MCR HVAC system. **Table 2.7.3.5-5 specifies the ITAAC for the ECWS piping that supplies cooling water to the main control room air handling unit cooling coils.**

Table 2.7.5.1-1 Main Control Room HVAC System Equipment Characteristics (Sheet 1 of 2)

Equipment Name	Tag No.	ASME Section III Class	Seismic Category I	Remotely Operated Valve	Class 1E/ Qual. For Harsh Envir.	PSMS Control	Active Safety Function	Loss of Motive Power Position
Main Control Room Air Handling Unit cooling coils	VRS-RCC-101 A, B, C, D	3	Yes	–	–/No	–	None	–

Table 2.7.5.1-3 Main Control Room HVAC System Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.a. The ASME Code Section III components of the MCR HVAC system identified in Table 2.7.5.1-1 are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.	9.a An inspection of the as-built ASME Code Section III components of the MCR HVAC system will be performed.	9.a The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude that the as-built ASME Code Section III components of the MCR HVAC system identified in Table 2.7.5.1-1 are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.
9.b The ASME Code Section III components of the MCR HVAC system identified in Table 2.7.5.1-1 are reconciled with the design requirements.	9.b A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.	9.b The ASME Code Section III Design Report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the MCR HVAC system identified in Table 2.7.5.1-1 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.
10. Pressure boundary welds in ASME Code Section III components, identified in Table 2.7.5.1-1, meet ASME Code Section III requirements for non-destructive examination of welds.	10. Inspections of the as-built pressure boundary welds will be performed in accordance with the ASME Code Section III.	10. The ASME Code Section III code reports exist and conclude that the ASME Code Section III requirements are met for non-destructive examination of the as-built pressure boundary welds.
11. The ASME Code Section III components, identified in Table 2.7.5.1-1, retain their pressure boundary integrity at their design pressure.	11. Hydrostatic tests will be performed on the as-built components required by the ASME Code Section III to be hydrostatically tested.	11. The results of the hydrostatic tests of the as-built components identified in Table 2.7.5.1-1 conform with the requirements of the ASME Code Section III.

2.7.5.2 Engineered Safety Features Ventilation System

2.7.5.2.2 Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.7.5.2-3 ~~specified~~ **specifies** the inspections, tests analyses, and associated acceptance criteria for the ESFVS. **Table 2.7.3.5-5 specifies the ITAAC for the ECWS piping that supplies cooling water to the ESFVS air handling unit cooling coils.**

Table 2.7.5.2-1 Engineered Safety Features Ventilation System Equipment Characteristics

Equipment Name	Tag No.	ASME Section III Class	Seismic Category I	Remotely Operated Valve	Class 1E/ Qual. For Harsh Envir.	PSMS Control	Active Safety Function	Loss of Motive Power Position
Class 1E Electrical Room Air Handling Unit Cooling Coils	VRS-RCC-201 A, B, C, D	3	Yes	—	—/No	—	None	—
Safeguard Component Area Air Handling Unit Cooling Coils	VRS-RCC-301 A, B, C, D	3	Yes	—	—/No	—	None	—
Emergency Feedwater Pump Area Air Handling Unit Cooling Coils	VRS-RCC-401 A, B, C, D	3	Yes	—	—/No	—	None	—
Component Cooling Water Pump Area Air Handling Unit Cooling Coils	VRS-RCC-501 A, B, C, D	3	Yes	—	—/No	—	None	—
Essential Chiller Unit Area Air Handling Unit Cooling Coils	VRS-PCC-511 A, B, C, D	3	Yes	—	—/No	—	None	—

Equipment Name	Tag No.	ASME Section III Class	Seismic Category I	Remotely Operated Valve	Class 1E/ Qual. For Harsh Envir.	PSMS Control	Active Safety Function	Loss of Motive Power Position
Charging Pump Area Air Handling Unit Cooling Coils	VRS-RCC-531 A, B	3	Yes	—	—/No	—	None	—
Annulus Emergency Exhaust Filtration Unit Area Air Handling Unit Cooling Coils	VRS-RCC-541 A, B, C, D	3	Yes	—	—/No	—	None	—
Penetration Area Air Handling Unit Cooling Coils	VRS-RCC-551 A, B, C, D	3	Yes	—	—/No	—	None	—

Table 2.7.5.2-3 Engineered Safety Features Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
9.a. The ASME Code Section III components of the ESFVS identified in Table 2.7.5.2-1 are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.	9.a An inspection of the as-built ASME Code Section III components of the ESFVS system will be performed.	9.a The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude that the as-built ASME Code Section III components of the ESFVS identified in Table 2.7.5.2-1 are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.
9.b The ASME Code Section III components of the ESFVS system identified in Table 2.7.5.2-1 are reconciled with the design requirements.	9.b A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.	9.b The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the ESFVS identified in Table 2.7.5.2-1 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.
10. Pressure boundary welds in ASME Code Section III components, identified in Table 2.7.5.2-1, meet ASME Code Section III requirements for non-destructive examination of welds.	10. Inspections of the as-built pressure boundary welds will be performed in accordance with the ASME Code Section III.	10. The ASME Code Section III code reports exist and conclude that the ASME Code Section III requirements are met for non-destructive examination of the as-built pressure boundary welds.
11. The ASME Code Section III components, identified in Table 2.7.5.2-1, retain their pressure boundary integrity at their design pressure.	11. Hydrostatic tests will be performed on the as-built components required by the ASME Code Section III to be hydrostatically tested.	11. The results of the hydrostatic tests of the as-built components identified in Table 2.7.5.2-1 conform with the requirements of the ASME Code Section III.

2.7.5.3 Containment Ventilation System (CVVS)

2.7.5.3.2 Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.7.5.3-1 ~~specified~~ **specifies** the inspections, tests analyses, and associated acceptance criteria for the CVVS system. **Table 2.11.2-~~22.7.3.5-5~~ specifies the ITAAC for the Non-ECWS piping system and components that are part of the CIS that supplies cooling water to the containment fan cooler unit and CRDM cooling unit cooling coils.**

Table 2.7.5.3-1 Containment Ventilation System Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a. The ASME Code Section III components of the CVVS are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.	2.a An inspection of the as-built ASME Code Section III components of the CVVS will be performed.	2.a The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude that the as-built ASME Code Section III components of the CVVS are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.
2.b The ASME Code Section III components of the CVVS are reconciled with the design requirements.	2.b A reconciliation analysis of the components of the CVVS using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.	2.b The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the CVVS are reconciled with the design requirements. The report documents the results of the reconciliation analysis.
3. Pressure boundary welds in ASME Code Section III components of the CVVS meet ASME Code Section III requirements for non-destructive examination of welds.	3. Inspections of the as-built pressure boundary welds will be performed in accordance with the ASME Code Section III.	3. The ASME Code Section III code reports exist and conclude that the ASME Code Section III requirements are met for non-destructive examination of the as-built pressure boundary welds.
4. The ASME Code Section III components of the CVVS retain their pressure boundary integrity at their design pressure.	4. Hydrostatic tests will be performed on the as-built components of the CVVS required by the ASME Code Section III to be hydrostatically tested.	4. The results of the hydrostatic tests of the as-built components of the CVVS conform with the requirements of the ASME Code Section III.
5. The seismic Category I equipment of the CVVS is designed to withstand seismic design basis loads without loss of safety function.	5.a Inspections will be performed to verify that the as-built seismic Category I equipment of the CVVS is located in the PCCV.	5.a The as-built seismic Category I equipment of the CVVS is located in the PCCV.

	5.b Type tests and/or analyses of the seismic Category I equipment will be performed.	5.b The results of the type tests and/or analyses conclude that the seismic Category I equipment can withstand seismic design basis loads without loss of safety function.
	5.c Inspection will be performed on the as-built equipment including anchorage.	5.c The as-built equipment including anchorage is seismically bounded by the tested or analyzed conditions.

Impact on COLA

There is no impact to the COLA.

Impact on PRA

There is no impact on the PRA.

Attachment 1

ITAAC Table 2.3-2 Mark-ups for RAI's 14.03.03-17, -18 and -19

A compilation of the changes to Piping Systems and Components ITAAC Items 1 and 3 in Tier 1 Table 2.3-2 provided in response to RAI Questions 14.03.03-17, -18 and -19, using a mark-up of the changes submitted in response to RAI 242, is as follows:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.a The ASME Code Section III, Class 1 piping systems and components **(PSC)** are designed to retain their pressure integrity and functional capability under internal design and operating pressures and design basis loads.	1.a An ~~analysis~~ **inspection** of **the design document(s) required by ASME Code Section III, Subarticle NCA-3550 for** the ASME Code, Section III, Class 1 **PSC** ~~piping systems and components~~ will be performed.	1. a The ~~results of the analysis~~ **Report(s) certified in accordance with ASME Code Section III, Subarticle NCA-3550 exist and** conclude that the design **of the ASME Code Section III Class 1 PSC comply with the** requirements of the ASME Code Section III ~~are met~~.
1.b The usage factors for ASME Code Section III Class 1 piping systems are evaluated for both air and reactor coolant environments.	**1.b An analysis of the ASME Code, Section III, Class 1 piping systems will be performed.**	**1.b Report(s) exist and conclude that the usage factors for ASME Code Section III Class 1 piping systems are evaluated for air and reactor coolant environments.**
3. The ASME Code Section III, Class 2 ~~or~~ **and** 3 piping systems and components **(PSC)** are designed to retain their pressure integrity and functional capability under internal design and operating pressures and design basis loads.	3.i. An ~~analysis~~ **inspection of the design document(s) required by ASME Code Section III, Subarticle NCA-3550 for** ~~of~~ representative ASME Code, Section III, Class 2 ~~or~~ **and** 3 **PSC** ~~piping systems and components that significantly contribute to risk~~ will be performed.	3.i The **ASME Code Section III Design Report(s) (certified, when required by ASME Code) exist and conclude that the design of the representative ASME Code Section III Class 2 and 3 PSC complies with the requirements of ASME Code Section III.** ~~results of the analysis for the representative ASME Code, Section III, Class 2 or 3 piping systems and components exist and conclude that the design requirements of the ASME Code Section III are met , and~~
	3.ii An inspection of Design Specifications for all ASME Code Section III, Class 2 and 3 PSC will be performed.	**3.ii Design specifications are provided for all ASME Code Section III , Class 2 and 3 PSC.**

	3.iii An inspection of the design document(s) required by ASME Code Section III, Subarticle NCA-3550 for all risk-significant ASME Code Section III, Class 2 and 3 PSC will be performed.	3.iii The ASME Code Section III Design Report(s) (certified, when required by ASME Code) exist and conclude that the design of risk-significant ASME Code Section III Class 2 and 3 PSC comply with the requirements of ASME Code Section III.

Attachment 2

ITAAC Mark-ups for RAI's 14.03.03-20 and -21

Changes to ITAAC previously submitted to the NRC in response to RAI 242-2153, Question 14.03.03-05 and -6 for Tier 1 Subsections 2.4.2, 2.4.4, 2.4.5, 2.4.6, 2.6.4 (expanded ITAAC for emergency power source support systems), 2.7.1.2, 2.7.1.9, 2.7.1.10, 2.7.1.11, 2.7.3.1, 2.7.3.3, 2.7.3.5, 2.7.6.3, 2.7.6.7, 2.11.2, and 2.11.3) will be revised consistent with the proposed changes provided in responses to Questions 14.03.03-20 and -21, for ITAAC Tables 2.4.1-2 and 2.4.2-5. The following are a compilation of the proposed changes to ITAAC:

Impact on DCD

Reactor Coolant System ITAAC Item 4.a in Table 2.4.2-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4.a.i The ASME Code Section III components~~,~~ **of the RCS**, identified in Table 2.4.2-2, are ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	4.a.i ~~Inspections will be conducted~~ **An inspection** of the as-built **ASME Code Section III** components ~~as-documented in the ASME design reports~~ **of the RCS will be performed**.	4.a.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** – ~~ASME Code Section III data design reports~~ exist and conclude that the as-built ASME Code **Section III** components of the RCS identified in Table 2.4.2-2 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
4.a.ii The ASME Code Section III components of the RCS identified in Table 2.4.2-2 are reconciled with the design requirements.	**4.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	**4.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the RCS identified in Table 2.4.2-2 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

Emergency Core Cooling System ITAAC Items 2.a and 2.b in Table 2.4.4-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.i The ASME Code Section III components **of the ECCS**, identified in Table 2.4.4-2, are ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.a.i ~~Inspections will be conducted~~ **An inspection** of the as-built **ASME Code Section III** components ~~as documented in the ASME design reports~~ **of the ECCS will be performed**.	2.a.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** components **of the ECCS** identified in Table 2.4.4-2 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.a.ii The ASME Code Section III components of the ECCS identified in Table 2.4.4-2 are reconciled with the design requirements.	**2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	**2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the ECCS identified in Table 2.4.4-2 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**
2.b.i The ASME Code Section III piping **of the ECCS, including supports,** identified in Table 2.4.4-3, is ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.b.i ~~Inspections will be conducted~~ **An inspection** of the as-built **ASME Code Section III** piping **system** ~~as documented in the ASME design reports~~ **of the ECCS, including supports, will be performed**.	2.b.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** piping ~~system~~ **of the ECCS, including supports,** identified in Table 2.4.4-3 ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.

2.b.ii The ASME Code Section III piping of the ECCS, including supports, identified in Table 2.4.4-3 is reconciled with the design requirements.	2.b.ii ~~An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.~~ A reconciliation analysis of the piping of the ECCS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.	2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping ~~system~~ of the ECCS, including supports, identified in Table 2.4.4-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.

Residual Heat Removal System ITAAC Item 2.a and 2.b in Table 2.4.5-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.i The ASME Code Section III components of the RHRS, identified in Table 2.4.5-2, are ~~designed and constructed~~ fabricated, installed, and inspected in accordance with ASME Code Section III requirements.	2.a.i An inspection of the as-built ASME Code Section III components of the RHRS will be performed.	2.a.i The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) ~~ASME Code Section III data design reports~~ exist and conclude that the as-built ASME Code Section III components of the RHRS identified in Table 2.4.5-2 are ~~reconciled with the design documents~~ fabricated, installed, and inspected in accordance with ASME Code Section III requirements.
2.a.ii The ASME Code Section III components of the RHRS identified in Table 2.4.5-2 are reconciled with the design requirements.	2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed. ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the RHRS identified in Table 2.4.5-2 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.

2.b.i The ASME Code Section III piping **of the RHRS**, **including supports,** identified in Table 2.4.5-3, is ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.b.i An inspection of the as-built ASME Code **Section III** piping ~~system~~ of the RHRS**, including supports,** will be performed.	2.b.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built ASME Code **Section III** piping ~~system~~ of the RHRS**, including supports,** identified in Table 2.4.5-~~2~~**3** ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.b.ii The ASME Code Section III piping of the RHRS, including supports, identified in Table 2.4.5-3 is reconciled with the design requirements.	**2.b.ii** ~~**An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.**~~ **A reconciliation analysis of the piping of the RHRS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.**	**2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping** ~~**system**~~ **of the RHRS, including supports, identified in Table 2.4.5-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

Chemical and Volume Control System ITAAC Item 2.a and 2.b in Table 2.4.6-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.i The ASME Code Section III components **of the CVCS**, identified in Table 2.4.6-2, are ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.a.i ~~Inspections will be performed on~~ **An inspection** of the as-built **ASME Code Section III** components ~~as-documented in the ASME design reports~~ **of the CVCS will be performed**.	2.a.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** – ~~ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** components **of the CVCS** identified in Table 2.4.6-2 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.

2.a.ii The ASME Code Section III components of the CVCS identified in Table 2.4.6-2 are reconciled with the design requirements.	**2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~**An analysis will be conducted to reconcile the as-built component information with the ASME design reports.**~~	**2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the CVCS identified in Table 2.4.6-2 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**
2.b.**i** The ASME Code Section III piping **of the CVCS, including supports,** identified in Table 2.4.6-3, is ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.b.**i** ~~Inspections will be conducted~~ **An inspection** of the as-built **ASME Code Section III** piping ~~**system**~~ ~~as documented in the ASME design reports~~ **of the CVCS, including supports, will be performed**.	2.b.**i** **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** piping ~~**system**~~ **of the CVCS, including supports,** identified in Table 2.4.6-3 ~~as ASME Code Section III are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.b.ii The ASME Code Section III piping of the CVCS, including supports, identified in Table 2.4.6-3 is reconciled with the design requirements.	**2.b.ii** ~~**An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.**~~ **A reconciliation analysis of the piping of the CVCS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.**	**2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping** ~~**system**~~ **of the CVCS, including supports, identified in Table 2.4.6-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

Emergency Power Sources System ITAAC Item 26.a and 26.b will be added to Table 2.6.4-1 as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
26.a.i The ASME Code Section III components of the EPS support systems are ~~designed and~~ fabricated, installed, and inspected in accordance with ASME Code Section III requirements.	26.a.i An inspection of the as-built ASME Code Section III components of the EPS support systems will be performed.	26.a.i The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude that the as-built ASME Code Section III components of the EPS support systems are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.
26.a.ii The ASME Code Section III components of the EPS support systems are reconciled with the design requirements.	26.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed. ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	26.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the EPS support systems are reconciled with the design requirements. The report documents the results of the reconciliation analysis.
26.b.i The ASME Code Section III piping of the EPS support systems, including supports, is ~~are designed and~~ fabricated, installed, and inspected in accordance with ASME Code Section III requirements.	26.b.i An inspection of the as-built ASME Code Section III piping ~~system~~ of the EPS support systems, including supports, will be performed.	26.b.i The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable exist and conclude that the as-built ASME Code Section III piping ~~system~~ of the EPS support systems, including supports, ~~are~~ is fabricated, installed, and inspected in accordance with ASME Code Section III requirements.
26.b.ii The ASME Code Section III piping of the of the EPS support systems, including supports, is reconciled with the design requirements.	26.b.ii ~~An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.~~ A reconciliation analysis of the piping of the EPS support systems, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.	26.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping ~~system~~ of the EPS support systems, including supports is reconciled with the design requirements. The report documents the results of the reconciliation analysis.

Main Steam System ITAAC Item 2.a and 2.b in Table 2.7.1.2-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.i The ASME Code Section III components **of the MSS**, identified in Table 2.7.1.2-2, are ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.a.i ~~Inspections will be performed on~~ **An inspection of** the as-built **ASME Code Section III** components ~~as-documented in the ASME design reports~~ **of the MSS will be performed**.	2.a.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** components **of the MSS** identified in Table 2.7.1.2-2 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.a.ii The ASME Code Section III components of the MSS identified in Table 2.7.1.2-2 are reconciled with the design requirements.	**2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	**2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the MSS identified in Table 2.7.1.2-2 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**
2.b.i The ASME Code Section III piping **of the MSS, including supports**, identified in Table 2.7.1.2-3, is ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.b.i ~~Inspections will be performed on~~ **An inspection of** the as-built **ASME Code Section III** piping ~~system~~ ~~as-documented in the ASME design reports~~ **of the MSS, including supports, will be performed**.	2.b.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Ccode Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** piping ~~system~~ **of the MSS, including supports,** identified in Table 2.7.1.2-3 ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.

2.b.ii The ASME Code Section III piping of the MSS, including supports, identified in Table 2.7.1.2-3 is reconciled with the design requirements.	**2.b.ii ~~An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.~~** **A reconciliation analysis of the piping of the MSS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.**	**2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping ~~system~~ of the MSS, including supports, identified in Table 2.7.1.2-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

Condensate and Feedwater System ITAAC Item 2.a and 2.b in Table 2.7.1.9-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.**i** The ASME Code Section III components **of the CFS**, identified in Table 2.7.1.9-2, are ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.a.**i** ~~Inspections will be performed on~~ **An inspection of** the as-built **ASME Code Section III** components ~~as-documented in the ASME design reports~~ **of the CFS will be performed**.	2.a.**i** **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** – ~~ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** components **of the CFS** identified in Table 2.7.1.9-2 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.a.ii The ASME Code Section III components of the CFS identified in Table 2.7.1.9-2 are reconciled with the design requirements.	**2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	**2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the CFS identified in Table 2.7.1.9-2 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

2.b.i The ASME Code Section III piping **of the CFS, including supports**, identified in Table 2.7.1.9-3, is ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.b.i ~~Inspections will be performed on~~ **An inspection of** the as-built **ASME Code Section III** piping ~~system~~ ~~as documented in the ASME design reports~~ **of the CFS, including supports, will be performed**.	2.b.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** piping ~~system~~ **of the CFS, including supports,** identified in Table 2.7.1.9-3 ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.b.ii The ASME Code Section III piping of the CFS, including supports, identified in Table 2.7.1.9-3 is reconciled with the design requirements.	**2.b.ii** ~~**An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.**~~ **A reconciliation analysis of the piping of the CFS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.**	**2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping ~~system~~ of the CFS, including supports, identified in Table 2.7.1.9-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

Steam Generator Blowdown System ITAAC Item 2.a and 2.b in Table 2.7.1.10-4 (Note: Table 2.7.1.10-3 has been renumbered Table 2.7.1.10-4 in response to RAI 222-1933) will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.i The ASME Code Section III components **of the SGBDS**, identified in Table 2.7.1.10-1, are ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.a.i An inspection ~~will be conducted~~ of the as-built **ASME Code Section III** components ~~as documented in the ASME design reports~~ **of the SGBDS will be performed**.	2.a.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** components **of the SGBDS** identified in Table 2.7.1.10-1 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.

2.a.ii The ASME Code Section III components of the SGBDS identified in Table 2.7.1.10-1 are reconciled with the design requirements.	**2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~**An analysis will be conducted to reconcile the as-built component information with the ASME design reports.**~~	**2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the SGBDS identified in Table 2.7.1.10-1 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**
2.b.**i** The ASME Code Section III piping **of the SGBDS, including supports**, identified in Table 2.7.1.10-2, is ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.b.**i** An inspection ~~will be conducted~~ of the as-built **ASME Code Section III** piping ~~**system**~~ ~~as documented in the ASME design reports~~ **of the SGBDS, including supports, will be performed**.	2.b.**i** **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** piping ~~**system**~~ **of the SGBDS, including supports,** identified in Table 2.7.1.10-2 ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.b.ii The ASME Code Section III piping of the SGBDS, including supports, identified in Table 2.7.1.10-2 is reconciled with the design requirements.	**2.b.ii** ~~**An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.**~~ **A reconciliation analysis of the piping of the SGBDS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.**	**2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping** ~~**system**~~ **of the SGBDS, including supports, identified in Table 2.7.1.10-2 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

Emergency Feedwater System ITAAC Item 2.a and 2.b in Table 2.7.1.11-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.i The ASME Code Section III components **of the EFWS**, identified in Table 2.7.1.11-2, are ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.a.i ~~Inspections will be performed on~~ **An inspection of** the as-built **ASME Code Section III** components ~~as documented in the ASME design reports~~ **of the EFWS will be performed**.	2.a.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** components **of the EFWS** identified in Table 2.7.1.11-2 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.a.ii The ASME Code Section III components of the EFWS identified in Table 2.7.1.11-2 are reconciled with the design requirements.	**2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	**2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the EFWS identified in Table 2.7.1.11-2 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**
2.b.i The ASME Code Section III piping **of the EFWS, including supports**, identified in Table 2.7.1.11-3, is ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.b.i ~~Inspections will be performed on~~ **An inspection of** the as-built **ASME Code Section III** piping ~~system~~ ~~as documented in the ASME design reports~~ **of the EFWS, including supports, will be performed**.	2.b.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Ccode Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** piping ~~system~~ **of the EFWS, including supports,** identified in Table 2.7.1.11-3 ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.

2.b.ii The ASME Code Section III piping of the EFWS, including supports, identified in Table 2.7.1.11-3 is reconciled with the design requirements.	**2.b.ii ~~An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.~~** **A reconciliation analysis of the piping of the EFWS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.**	**2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping ~~system~~ of the EFWS, including supports, identified in Table 2.7.1.11-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

Essential Service Water System ITAAC Item 2.a and 2.b in Table 2.7.3.1-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.**i** The ASME Code Section III components **of the ESWS**, identified in Table 2.7.3.1-2, are ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.a.**i** An inspection ~~will be conducted~~ of the as-built **ASME Code Section III** components ~~as documented in the ASME design reports~~ **of the ESWS will be performed**.	2.a.**i** **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** – ~~ASME Code Section III~~ **data** ~~design reports~~ exist and conclude that the as-built **ASME Code Section III** components **of the ESWS** identified in Table 2.7.3.1-2 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.a.ii The ASME Code Section III components of the ESWS identified in Table 2.7.3.1-2 are reconciled with the design requirements.	**2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	**2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the ESWS identified in Table 2.7.3.1-2 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

2.b.1 The ASME Code Section III piping **of the ESWS, including supports**, identified in Table 2.7.3.1-3, is ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.b.i An inspection ~~will be conducted~~ of the as-built **ASME Code Section III** piping ~~system~~ ~~as documented in the ASME design reports~~ **of the ESWS, including supports, will be performed**.	2.b.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** piping ~~system~~ **of the EFWS, including supports,** identified in Table 2.7.3.1-3 ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.b.ii The ASME Code Section III piping of the ESWS, including supports, identified in Table 2.7.3.1-3 is reconciled with the design requirements.	**2.b.ii** ~~**An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.**~~ **A reconciliation analysis of the piping of the ESWS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.**	**2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping** ~~**system**~~ **of the ESWS, including supports, identified in Table 2.7.3.1-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

Component Cooling Water System ITAAC Item 2.a and 2.b in Table 2.7.3.3-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.i The ASME Code Section III components **of the CCWS**, identified in Table 2.7.3.3-2, are ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.a.i ~~Inspections will be conducted~~ **An inspection** of the as-built **ASME Code Section III** components ~~as documented in the ASME design reports~~ **of the CCWS will be performed**.	2.a.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** components **of the CCWS** identified in Table 2.7.3.3-2 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.

2.a.ii The ASME Code Section III components of the CCWS identified in Table 2.7.3.3-2 are reconciled with the design requirements.	**2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~**An analysis will be conducted to reconcile the as-built component information with the ASME design reports.**~~	**2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the CCWS identified in Table 2.7.3.3-2 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**
2.b.**i** The ASME Code Section III piping **of the CCWS, including supports**, identified in Table 2.7.3.3-3, is ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.b.**i** ~~Inspections will be conducted~~ **An inspection** of the as-built **ASME Code Section III** piping ~~system~~ ~~as-documented in the ASME design reports~~ **of the CCWS, including supports, will be performed**.	2.b.**i** **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** piping ~~system~~ **of the CCWS, including supports,** identified in Table 2.7.3.3-3 ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.b.ii The ASME Code Section III piping of the CCWS, including supports, identified in Table 2.7.3.3-3 is reconciled with the design requirements.	**2.b.ii** ~~**An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.**~~ **A reconciliation analysis of the piping of the CCWS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.**	**2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping** ~~**system**~~ **of the CCWS, including supports, identified in Table 2.7.3.3-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

Essential Chilled Water System ITAAC Item 2.a and 2.b in Table 2.7.3.5-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.i The ASME Code Section III components **of the ECWS**, identified in Table 2.7.3.5-2, are ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.a.i An inspection ~~will be conducted~~ of the as-built **of ASME Code Section III** components ~~as documented in ASME design reports~~ **of the ECWS will be performed**.	2.a.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** – ~~ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** components **of the ECWS** identified in Table 2.7.3.5-2 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.a.ii The ASME Code Section III components of the ECWS identified in Table 2.7.3.5-2 are reconciled with the design requirements.	**2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~**An analysis will be conducted to reconcile the as-built component information with the ASME design reports.**~~	**2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the ECWS identified in Table 2.7.3.5-2 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**
2.b.i The ASME Code Section III piping **of the ECWS, including supports**, identified in Table 2.7.3.5-3, is ~~designed and constructed~~ **fabricated, installed, and inspected** in accordance with ASME Code Section III requirements.	2.b.i An inspection ~~will be conducted~~ of the as-built **ASME Code Section III** piping ~~**system**~~ ~~as documented in the ASME design reports~~ **of the ECWS, including supports, will be performed**.	2.b.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** piping ~~**system**~~ **of the ECWS, including supports,** identified in Table 2.7.3.5-3 ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.

2.b.ii The ASME Code Section III piping of the ECWS, including supports, identified in Table 2.7.3.5-3 is reconciled with the design requirements.	2.b.ii ~~An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.~~ A reconciliation analysis of the piping of the ECWS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.	2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping ~~system~~ of the ECWS, including supports, identified in Table 2.7.3.5-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.

Spent Fuel Pool Cooling System ITAAC Item 2.a and 2.b in Table 2.7.6.3-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.i The ASME Code Section III components of the SFPCS, identified in Table 2.7.6.3-1, are ~~designed and constructed~~ fabricated, installed and inspected in accordance with ASME Code Section III requirements.	2.a.i ~~Inspections will be performed~~ An inspection of the as-built ASME Code Section III components ~~as-documented in the ASME design reports~~ of the SFPCS will be performed.	2.a.ii The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built ASME Code Section III components of the SFPCS identified in Table 2.7.6.3-1 are ~~reconciled with the design documents~~ fabricated, installed, and inspected in accordance with ASME Code Section III requirements.
2.a.ii The ASME Code Section III components of the SFPCS identified in Table 2.7.6.3-1 are reconciled with the design requirements.	2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed. ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the SFPCS identified in Table 2.7.6.3-1 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.

2.b.i The ASME Code Section III piping **of the SFPCS, including supports,** identified in Table 2.7.6.3-2, is ~~designed and constructed~~ **fabricated installed and inspected** in accordance with ASME Code Section III requirements.	2.b.i ~~Inspections will be performed on~~ **An inspection of** the as-built **ASME Code Section III** piping ~~system as documented in the ASME design reports~~ **of the SFPCS, including supports, will be performed**.	2.b.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** piping ~~system~~ **of the SFPCS, including supports,** identified in Table 2.7.6.3-2 ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.b.ii The ASME Code Section III piping of the SFPCS, including supports, identified in Table 2.7.6.3-2 is reconciled with the design requirements.	**2.b.ii** ~~**An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.**~~ **A reconciliation analysis of the piping of the SFPCS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.**	**2.b.ii The ASME Code Section III design report(s) (certified when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping** ~~**system**~~ **of the SFPCS, including supports, identified in Table 2.7.6.3-2 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

Process and Post Accident Sampling System ITAAC Item 2.a and 2.b in Table 2.7.6.7-5 (Note: Table 2.7.6.7-4 has been renumbered Table 2.7.6.7-5 in response to RAI 222-1933) will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.i The **ASME Code Section III** components **of the PSS,** identified in Table 2.7.6.7-1**,** ~~as ASME Code Section III~~ are ~~designed and constructed~~ **fabricated, installed and inspected** in accordance with ASME Code Section III requirements.	2.a.i An inspection ~~will be conducted~~ of the as-built **ASME Code Section III** components ~~as documented in ASME design reports~~ **of the PSS will be performed**.	2.a.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist **and conclude that** ~~for~~ the as-built **ASME Code Section III** components **of the PSS** identified in Table 2.7.6.7-1 **are fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.

2.a.ii The ASME Code Section III components of the PSS identified in Table 2.7.6.7-1 are reconciled with the design requirements.	2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed. ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the PSS identified in Table 2.7.6.7-1 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.
2.b.i The ASME Code Section III piping of the PSS, including supports, identified in Table 2.7.6.7-3, is ~~designed and~~ fabricated, installed and inspected in accordance with ASME Code Section III requirements.	2.b.i An inspection of the as-built ASME Code Section III piping ~~system~~ of the PSS, including supports, will be performed.	2.b.i The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude that the as-built ASME Code Section III piping ~~system~~ of the PSS, including supports, identified in Table 2.7.6.7-3 is fabricated, installed, and inspected in accordance with ASME Code Section III requirements.
2.b.ii The ASME Code Section III piping of the PSS, including supports, identified in Table 2.7.6.7-3 is reconciled with the design requirements.	2.b.ii ~~An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.~~ A reconciliation analysis of the piping of the PSS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.	2.b.ii The ASME Code Section III design report(s) (certified when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping ~~system~~ of the PSS, including supports, identified in Table 2.7.6.7-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.

Equipment and Floor Drainage Systems ITAAC Item 6 in Table 2.7.6.8-1 as proposed in response to RAI 242, Question 14.03.03-16, will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6.a The ASME Code Section III drain isolation valves from the ESF equipment rooms are ~~designed and~~ fabricated, installed and inspected in accordance with ~~the requirements of the~~ ASME Code Section III requirements.	**6.a An inspection of the as-built ASME Code Section III drain isolation valves from the ESF equipment rooms will be performed.**	**6.a The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude that the as-built ASME Code Section III drain isolation valves from the ESF equipment rooms are fabricated, installed, and inspected in accordance with ASME Code Section III requirements.**
6.b The ASME Code Section III drain isolation valves from the ESF equipment rooms are reconciled with the design requirements.	**6.b A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed. ~~Inspection and/or analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~**	**6.b The ASME Code Section III design report(s) (certified, when required by ASME Code) exists and concludes ~~that~~ the as-built ASME Code Section III drain isolation valves from the ESF equipment rooms are reconciled with the design documents. The report documents the results of the reconciliation analysis.**

Containment Isolation System ITAAC Item 2.a and 2.b in Table 2.11.2-2 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.**i** The ASME Code Section III components **of the CIS**, identified in Table 2.11.2-1, are ~~designed and constructed~~ **fabricated, installed and inspected** in accordance with ASME Code Section III requirements.	2.a.**i** ~~Inspections will be conducted~~ **An inspection** of the as-built **ASME Code Section III** components ~~as documented in the ASME design reports~~ **of the CIS will be performed**.	2.a.**i** **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built ASME ~~c~~**C**ode **Section III** components **of the CIS** identified in Table 2.11.2-1 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.

2.a.ii The ASME Code Section III components of the CIS identified in Table 2.11.2-1 are reconciled with the design requirements.	**2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~**An analysis will be conducted to reconcile the as-built component information with the ASME design reports.**~~	**2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the CIS identified in Table 2.11.2-1 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**
2.b.**i** The ASME Code Section III piping **of the CIS, including supports,** is ~~designed and constructed~~ **fabricated, installed and inspected** in accordance with ASME Code Section III requirements.	2.b.**i** ~~Inspections will be conducted~~ **An inspection** of the as **ASME Code Section III** piping ~~**system** as documented in the ASME design reports~~ **of the CIS, including supports, will be performed**.	2.b.**i** **The ASME Code data report(s) (certified when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built ASME ~~c~~**C**ode **Section III** piping ~~**system**~~ **of the CIS, including supports,** ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.b.ii The ASME Code Section III piping of the CIS, including supports, is reconciled with the design requirements.	**2.b.ii** ~~**An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.**~~ **A reconciliation analysis of the piping of the CIS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA3550) will be performed.**	**2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping** ~~**system**~~ **of the CIS, including supports, is reconciled with the design requirements. The report documents the results of the reconciliation analysis.**

Containment Spray System ITAAC Item 2.a and 2.b in Table 2.11.3-5 will be revised as shown below:

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2.a.i The ASME Code Section III components **of the CSS**, identified in Table 2.11.3-2, are ~~designed and constructed~~ **fabricated, installed and inspected** in accordance with ASME Code Section III requirements.	2.a.i ~~Inspections will be conducted~~ **An inspection** of the as-built **ASME Code Section III** components ~~as documented in the ASME design reports~~ **of the CSS will be performed**.	2.a.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Code Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** components **of the CSS** identified in Table 2.11.3-2 are ~~reconciled with the design documents~~ **fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.
2.a.ii The ASME Code Section III components of the CSS identified in Table 2.11.3-2 are reconciled with the design requirements.	**2.a.ii A reconciliation analysis of the components using as-designed and as-built information and ASME Code Section III design report(s) (NCA-3550) will be performed.** ~~An analysis will be conducted to reconcile the as-built component information with the ASME design reports.~~	**2.a.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III components of the CSS identified in Table 2.11.3-2 are reconciled with the design requirements. The report documents the results of the reconciliation analysis.**
2.b.i The ASME Code Section III piping **of the CSS, including supports,** identified in Table 2.11.3-3, is ~~designed and constructed~~ **fabricated, installed and inspected** in accordance with ASME Code Section III requirements.	2.b.i ~~Inspections will be conducted~~ **An inspection** of the as-built **ASME Code Section III** piping ~~system as documented in the ASME design reports~~ **of the CSS, including supports, will be performed**.	2.b.i **The ASME Code Section III data report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable)** ~~The ASME Ccode Section III data design reports~~ exist and conclude that the as-built **ASME Code Section III** piping ~~system~~ **of the CSS, including supports,** identified in Table 2.11.3-3 ~~are reconciled with the design documents~~ **is fabricated, installed, and inspected in accordance with ASME Code Section III requirements**.

2.b.ii The ASME Code Section III piping of the CSS, including supports, identified in Table 2.11.3-3 is reconciled with the design requirements.	2.b.ii ~~An analysis will be conducted to reconcile the as-built piping system information with the ASME design reports.~~ A reconciliation analysis of the piping of the CSS, including supports, using as-designed and as-built information and ASME Code Section III design report(s) (NCA3550) will be performed.	2.b.ii The ASME Code Section III design report(s) (certified, when required by ASME Code) exist and conclude that the as-built ASME Code Section III piping ~~system~~ of the CSS, including supports, identified in Table 2.11.3-3 is reconciled with the design requirements. The report documents the results of the reconciliation analysis.