

ESBWR DCD Tier 1

26A6641AB Revision 4 to Revision 5 Change List

Item	Location	Description of Change
1.	S1.1.1 Definitions	<p>The following is added to the “as built” definition in response to a discussion with the NRC in a meeting 4/22/2008, and as per the 5/27/2008 draft NEI guidance NEI 08-01 suggested definition to reflect that the fact that some ITAAC may be performed before equipment is installed and installation will not alter the results of those ITAAC.</p> <p>Determination of physical properties of the as-built structure, system, or component may be based on measurements, inspections, or tests that occur prior to installation provided that subsequent fabrication, handling, installation, and testing do not alter the properties.</p>
2.	S1.1.1 Definitions	<p>The following ASME Code Report definition is added in response to RAIs 14.3-277:</p> <p>ASME Code Report means a report required by the ASME Code and whose content requirements are stipulated by the ASME Code. Each such ASME Code report is final, and when required is certified in accordance with the Code.</p>
3.	S1.1.1 Definitions	<p>The following “Report” definition is added in response to RAI 14.3-278:</p> <p>Report means, as used in the Acceptance Criteria, a document created by or for the licensee that verifies that the acceptance criteria of the subject ITAAC have been met and references the supporting documentation. Reports typically include but are not limited to: results of walkdowns, results of visual inspection, field measurements, reviews of design and construction documents.</p>
4.	S1.1.1 Definitions	<p>Revised definition for “Division” based on the information from response to RAI 7.1-46</p>
5.	S1.1.1 Definitions	<p>Modified the definition for “Environmental Qualification” and added the term “Type tests, or type tests and/or analyses of safety related mechanical equipment” in response to RAI 14.3-276.</p>

Item	Location	Description of Change
6.	S1.1.1 Definitions	Added definition for “Exists” in response to RAI 14.3-154
7.	S1.1.1 Definitions	Modified definition for “Inspect or Inspection” in response to RAI 14.3-279.
8.	S1.1.1 Definitions	Added definition for “Reactor Pressure Vessel Water (RPV Level.” This was in response to NRC comments in a 10/18/2007 on the removal of the Figure, and GEH committed to include it in an appropriate place in Tier 1.
9.	S1.1.1 Definitions	Added definition for “Report” in response to RAI 14.3-278.
10.	S1.1.2.1 Treatment of Individual Items	<p>The first paragraph has been modified as follows in response to RAI 14.3-280:</p> <p>The absence of any discussion or depiction of an item in the Design Description or accompanying figures shall not be construed as prohibiting a licensee from utilizing such an item, unless it would prevent an item from performing its safety functions, or impairing the performance of those safety functions, as discussed or depicted in the Design Description or accompanying figures.</p>
11.	S1.1.2.2 Implementation of ITAAC	Added requirement for discussion with NRC prior to Notification for nonsystem-based ITAAC in response to RAI 14.3-281.
12.	S1.1.2.2	Added a paragraph to discuss nominal values in the Acceptance Criteria of the ITAAC. This is a statement that reflects that there are a number of nominal values. There is no specific tolerance given, but this is simply a statement that says that the actual testing tolerance will be determined when the tests are developed during ITAAC closure.
13.	Figure 1.1.1-1 RPV Water Level Range Definition	Added Figure 1.1.1-1 RPV Water Level Range Definition to define and better describe water level range. This was in response to NRC comments in a 10/18/2007 on the removal of the Figure, and GEH committed to include it in an appropriate place in Tier 1.
14.	S1.2 FIGURE LEGEND	Added Figure legend as suggested in NRC Regulatory Guide 14.3, Item 3, on Page 14.3-15.

Item	Location	Description of Change
15.	Figure 1.2-1 Legend of Tier 1 System Diagrams	Added Figure 1.2-1 Legend of Tier 1 System Diagrams as suggested in NRC Regulatory Guide 14.3, Item 3, on Page 14.3-15.
16.	S2.1.1, Design Description, 3 rd paragraph	<p>Added new paragraph to incorporate new design information based on RAI 14.3-204, S01:</p> <p>“The reactor core contains a matrix of fuel rods assembled into fuel bundles using structural elements. Control rods in the reactor perform the functions of power distribution shaping, reactivity control, and scram reactivity insertion for safety shutdown response. The core is designed for 1132 fuel bundles and 269 control rods arranged as shown in Figure 2.1.1-2.”</p> <p>" NOTE: Not previously submitted."</p>
17.	S2.1.1 Design Description Item #3	<p>Item 3 is revised in response to RAIs 14.3-180, 14.3-185. and 14.3-131 S02.</p> <p>" NOTE: RAI 14.3-131 S02 Not previously submitted."</p>
18.	S2.1.1 Design Description Item #5	<p>Item 5 is revised to reference "design pressure" rather than “internal pressure that will be experienced during service” in response to RAIs 14.3-283.</p>
19.	S2.1.1 Design Description Item #8	<p>The Design Description Item 8 is added as follows in response to RAI 14.3-180:</p> <p>“ The RPV internal structures listed in Table 2.1.1-1 (chimney and partitions, chimney head and steam separators assembly, and steam dryer assembly) must meet the limited provisions of ASME III regarding certification that these components maintain structural integrity so as not to adversely affect RPV core support structure.”</p>
20.	S2.1.1 Design Description Item #9	<p>Item 9 is added as follows in response to RAI 4.8-S02:</p> <p>The initial fuel to be loaded into the core will withstand flow-induced vibration and maintain fuel cladding integrity during operation.</p>
21.	S2.1.1 Design Description item # 10	<p>Item 10 is added to incorporate new information based on RAI 14.3-204, S01:</p> <p>“(10) The fuel bundles and control rods intended for initial core load have been designed and constructed in accordance with the principal design requirements.”</p> <p>" NOTE: Not previously submitted."</p>

Item	Location	Description of Change
22.	S2.1.1 Design Description item # 11	Item 11 is added to incorporate new information based on RAI 14.3-204, S01: “(11) The reactor internals arrangement will accommodate the fuel bundle and control rod locations shown on Figure 2.1.1-2.” " NOTE: Not previously submitted."
23.	T2.1.1-1, rows 3, 4, 5, and new note *.	In response to RAI 14.3-180: Added a “Yes *” to each cell in the “ASME Code Section III” column, and added the following corresponding note. “* The chimney and partitions, the chimney head and steam separators assembly, and the steam dryer assembly are subject to the ASME III certification requirement specified in ASME III, Subsection NG-1122(c).”
24.	T2.1.1-2 Key Dimensions of RPV Components and Acceptance Variations	Revised Table T2.1.1-2 to remove brackets and add Elevation B and C to be consistent with DCD Tier 2 Table 5.3-3. Changed Dimension variation to 177.2 min, 6.976 min to be consistent with DCD Tier 2 Table 1.3-1
25.	T2.1.1-3 Acceptance Criteria #1	Added ASME Code report requirement for ASME Section III components in response to RAI 14.3-390
26.	T2.1.1-1, ITAAC 3	ITAAC 3 is revised in response to RAIs 14.3-180, 14.3-185, 14.3-390 and 14.3-131 S02. " NOTE: RAI 14.3-131 S02 Not previously submitted."
27.	T2.1.1-3 Acceptance Criteria #4	Revised Acceptance Criteria to include ASME Code report requirement for ASME Section III components in response to RAI 14.3-390
28.	T2.1.1-3 Design Commitment, and Acceptance Criteria #5	Revised Design Commitment and Acceptance Criteria in response to RAI 14.3-282, 283, and 390
29.	T2.1.1-3 ITA and Acceptance Criteria #6	Revised ITA and Acceptance Criteria items 6i to reflect Seismic Category 1 structure in place of seismic structure in response RAI 14.3-386
30.	T2.1.2-3, ITAAC 8	Added ITAAC # 8 in response to RAI 14.3-180
31.	T2.1.2-3, ITAAC 9	Added ITAAC # 9 in response to RAI 4.8-7 S02
32.	T2.1.2-3, ITAAC 10	ITAAC 10 is added in response to RAI 14.3-204 S01 " NOTE: Not previously submitted."

Item	Location	Description of Change
33.	T2.1.2-3, ITAAC 11	ITAAC 11 is added in response to RAI 14.3-204 S01 " NOTE: Not previously submitted."
34.	F2.1.1-1	Figure 2.1.1-1, Reactor Pressure Vessel System Key Features Layout, is revised to reflect certain changes in the associated Tier 2 figure.
35.	F2.1.1-2	Figure 2.1.1-2 is added to show the fuel bundle and control rod locations based on RAI 14.3-204 S01. The figure is referenced in new ITAAC 11.
36.	S2.1.2 and T2.1.2-3, through-out	Deleted the redundant "System" terms and made other associated editorial changes in response to RAI 14.3-299.
37.	S2.1.2 Design Description Item #2	Item 2a and 2b are revised in response to RAI 14.3-185.
38.	S2.1.2 Design Description Item #2	The Design Description, Item 2, ASME Code Section III, has been modified to separate the design ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3- 131-S02. " NOTE: Not previously submitted."
39.	S2.1.2 Design Description Item #4a	Replaced "internal pressures that will be experienced during service" with "their design pressure," in response to RAIs 14.3-295 and 14.3-341
40.	S2.1.2 Design Description Item #5b	Clarified that each Seismic Category I lines identified is designed to withstand combined normal and seismic design basis loads without a loss of its safety-related function(s) in response to RAI 14.3-300.
41.	S2.1.2 Design Description Item #6	DD Items 6a and 6b are revised to clarify electrical separation in response to RAI 14.3-345.
42.	S2.1.2 Design Description Item #7	Deleted Item 7 in response to RAI 14.3-301
43.	S2.1.2 Design Description Item #8	Revised Item 8 in response to RAIs 14,3-302 and 14.3-246
44.	S2.1.2 Design Description Item #9	The Design Description for Item 9 is changed to "Deleted" based on RAI 14.3-304 S01, and because no valves in the Nuclear Boiler System fit into the category of repositionable valves. " NOTE: Not previously submitted."

Item	Location	Description of Change
45.	S2.1.2 Design Description Item #10	Item 10 is revised based on RAI 14.3-305 S01 for fail-safe testing of the MSIVs and FWIVs on loss of electrical power to the solenoid valves. " NOTE: Not previously submitted."
46.	S2.1.2 Design Description Item #11	Deleted "design" from Item 11 in response to RAI 3.14-306
47.	S2.1.2 Design Description Item #13	Item 13 is revised to replace "each" with "its associated," in response to RAI 14.3-286
48.	S2.1.2 Design Description Item #15	Item 15 is revised as ITAAC 15.a. as Item 15.b is being added and Item 15.b is added for the fast-closure testing of the FWIV to achieve consistency with Tier 2, Table 5.4-1.
49.	S2.1.2 Design Description Item #16	Revised Item 16 in response to RAI 14,3-310
50.	S2.1.2 Design Description Item #16	Item 16 is changed to Item 16.a and Items 16.b and 16.c are added to achieve consistency with Tier 2, Table 5.4-1 for the combined FWIV leakage.
51.	S2.1.2 Design Description Item #17	Added "by lifting at its nominal setpoint pressure." To be consistent with ITAAC DC that was revised in response to RAI 14.3-311
52.	S2.1.2 Design Description Item #18	Revised Item 18 in response to RAI 14,3-312
53.	S2.1.2 Design Description Item #19, 20, and 22	Inserted "(i.e., is greater than or equal to that used in)" after "satisfies" in response to RAI 14.3-291.
54.	S2.1.2 Design Description Item #21	Added "measured" and made minor editorial clarification in response to RAI 14.3-290
55.	S2.1.2 Design Description Item #24	Revised Item 24 in responses to RAIs 14.3-292 and 314.
56.	S2.1.2 Design Description Item #25	Qualified "rapid depressurization" by inserting "(i.e., has a flow capacity that is greater than or equal to the design flow capacity under design basis conditions)," in response to RAI 14.3-293.

Item	Location	Description of Change
57.	S2.1.2 Design Description Item #28	Item 17 from Rev. 3 that was deleted in Rev. 4 is added back as new ITAAC 28 in response to RAI 14.3-183 as follows: Vacuum breakers are provided on SRV discharge lines to reduce the post-discharge reflood height of water in the discharge lines.
58.	S2.1.2 Design Description Item #29	Revised Item 29 in responses to RAIs 14.3-187
59.	S2.1.2, Design Description Item #30, 31 and 32	Items 30, 31 and 32 are added for ITAAC verification of key TRACG analysis input in response to RAI 14.3-189
60.	S2.1.2 Design Description Item # 33	Added Item 33 for NBS software in response to RAI 14.3-241
61.	T2.1.2-1	Added two additional valve numbers V20 & V21 to the Equipment ID for the feedwater isolation valves to relate to revised Figure 2.1.2-2. Changed the outboard isolation check valves to reflect that these are in the lines that connect to the RWCU/SDC system, as shown on revised Figure 2.1.2-2 to be consistent with Tier 2.
62.	T2.1.2-1	Revised Containment Isolation Valve column for Main Steam drain/bypass subsystem to read "Inboard and outboard upstream drains isolation valves (see Table 2.15.1a).
63.	T2.1.2-2	The Safety Valves (SV) row is deleted from Table 2.1.2-2 and Table 2.1.2-2 is revised in response to RAI 14.3-304

Item	Location	Description of Change
64.	T2.1.2-2	<p>Added two additional valve numbers V20 & V21 to the Equipment ID for the feedwater isolation valves to relate to revised Figure 2.1.2-2. Changed “No” to “Yes” in the RCPB and Containment Isolation columns for indicating that these valves have containment isolation valve function to be consistent with Tier 2, Section 5.4, revisions.</p> <p>Deleted the feedwater outboard isolation check valves from this table because the outboard isolation check valves (V14 and V17) are changed to gate valve; change is also to be consistent with Tier 2 Section 5.4. Added two branch isolation testable check valves (V13 and V16) to be consistent with Tier 2 Section 5.4. Revised Table T2.1.2-2. Due to feedwater design change, the equipment name for valves V14, V17, V20 and V15 is changed to Feedwater outboard isolation valves and that V13 and 16 is changed to Feedwater branch line isolation check valves.</p>
65.	T2.1.2-3, ITAAC 1a AC	Revised Acceptance Criteria for the ITAAC for ASME Code systems in response to RAI 390
66.	T2.1.2-3, ITAAC #2	ITAAC 2 is modified in response to RAIs 14.3-185, 213, 342, 344, and 390.
67.	T2.1.2-3, ITAAC #2	<p>ITAAC 2 is revised to separate the ASME Code Section III design activities ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3-131-S02. This results in a total of six ITAAC to replace two ITAAC. ITAAC 2.a is now ITAAC 2.a.1, 2.a.2, and 2.a.3. ITAAC 2.b is now ITAAC 2.b.1, 2.b.2, and 2.b.3. ITAAC 2.b.1 is designated as Design Acceptance Criteria. As appropriate, the Acceptance Criteria column includes reference to ASME Code reports.</p> <p>" NOTE: Not previously submitted."</p>
68.	T2.1.2-3, ITAAC #3a ITA	In the ITA deleted the “a” from the “1a” in “Table 2.1.2-1a” in response to RAI 14.3-294.
69.	T2.1.2-3 ITAAC 3a ITA	<p>Revised ITA as follows: Inspection of the as-built pressure boundary welds will be performed in accordance with the ASME Code Section III.</p>

Item	Location	Description of Change
70.	T2.1.2-3 ITAAC 3a and 3b AC	Revised Acceptance Criteria for the ITAAC for ASME Code systems in response to RAI 390
71.	T2.1.2-3 ITAAC 4	Revised ITAAC 4 in response to RAIs 295, 341, 344, 282, and 390
72.	T2.1.2-3, ITAAC 5a ITA i)	In the ITA deleted the “a” from the “1a” in “Table 2.1.2-1a” in response to RAI 14.3-294.
73.	T2.1.2-3, ITAAC 5a ITA i) and AC i)	Revised ITAAC ITA and AC to clarify seismic Category 1 structures in response to RAIs 14.3-296 and 297.
74.	T2.1.2-3, ITAAC 5a ITA iii)	Replace the ITA with “Inspection will be performed to verify that the as-installed equipment including anchorage is bounded by the tested or analyzed conditions,” to meet the intent of the request in RAI 14.3-298.
75.	T2.1.2-3, ITAAC 5a, AC iii)	Replace the AC with “A report exists and concludes that the loading on the as-installed equipment including associated anchorage falls within the design basis seismic load conditions used for type testing or analysis,” in response to RAI 14.3-298.
76.	T2.1.2-3, ITAAC 5.b)	Clarified that each Seismic Category I line identified is designed to withstand combined normal and seismic design basis loads without a loss of its safety-related function(s) in response to RAI 14.3-300.
77.	T2.1.2-3, ITAAC 6	ITAAC 6 is revised to clarify electrical separation in response to RAI 14.3-345.in response to RAI 345
78.	T2.1.2-3, ITAAC 7	Deleted ITAAC 7 in response to RAI 14.3-301
79.	T2.1.2-3, ITAAC 8	Revised ITAAC 8 in response to RAIs 14,3-302 and 14.3-246
80.	T2.1.2-3, ITAAC 9	ITAAC 9 is “Deleted” based on RAI 14.3-304 S01, and because no valves in the Nuclear Boiler System fit into the category of repositionable valves. " NOTE: Not previously submitted."
81.	T2.1.2-3, ITAAC 10	ITAAC # 10 deleted in response to RAIs 14.3-284 and 305
82.	T2.1.2-3, ITAAC 10	ITAAC 10 is revised based on RAI 14.3-305 S01 for fail-safe testing of the MSIVs and FWIVs on loss of electrical power to the solenoid valves. " NOTE: Not previously submitted."

Item	Location	Description of Change
83.	T2.1.2-3, ITAAC 11 DC	Deleted “design” from ITAAC 11 in response to RAI 3.14-306
84.	T2.1.2-3, ITAAC 12 ITA	Clarified the ITA to read “Inspections of the each as-built MSL flow restrictor throat diameter will be performed” in response to RAI 14.3-307.
85.	T2.1.2-3, ITAAC 13	Clarified the ITAAC DC by replacing “each” with “its associated,” in response to RAI 14.3-286.
86.	T2.1.2-3, ITAAC 14 ITA and AC	Revised ITAAC 14 ITA and AC in response to RAI 14.3-317
87.	T2.1.2-3, ITAAC 15	ITAAC 15 is revised as ITAAC 15.a. Removed “as-built” from the ITA column because the testing is a type test performed before the MSIVs will be installed in the plant.
88.	T2.1.2-3, ITAAC 15.b	Item 15b is added in for the fast-closure testing of the FWIV to achieve consistency with Tier 2, Table 5.4-1.
89.	T2.1.2-3, ITAAC 16	ITAAC 16 is changed to ITAAC 16.a. and the acceptance criteria are revised to achieve consistency with Tier 2, Table 5.4-1.
90.	T2.1.2-3, ITAAC 16.b & c	ITAAC 16.b and ITAAC 16.c are added to achieve consistency with Tier 2, Table 5.4-1 for the combined FWIV leakage.
91.	T2.1.2-3, ITAAC 17	Clarified the DC by adding “, by lifting at its nominal setpoint pressure,” to be consistent with the AC, in response to RAI 14.3-311.
92.	T2.1.2-3 ITAAC 18 and 21	Added “measured” to and clarified the DCs in response to RAI 14.3-290
93.	T2.1.2-3, ITAAC 18	DC is clarified by adding “is” before “from.” AC modified by replacing “for the overpressure operation mode” with “(in the overpressure operation of self-actuated or mechanical lift mode), which is from when the pressure exceeds the valve set pressure to when the valve is fully open,” to be technically consistent with requested change in RAI 14.3-346.

Item	Location	Description of Change
94.	T2.1.2-3, Items 19, 20, and 22 DC	Inserted “(i.e., is greater than or equal to that used in)” after “satisfies” in response to RAI 14.3-291.
95.	T2.1.2-3, ITAAC 24	Revised Item 24 in responses to RAIs 14.3-292 and 314.
96.	T2.1.2-3, ITAAC 24	ITAAC 24 AC is revised to reflect inlet pressure of 6,584 kPa ± 685 kPa gauge (1100 psig ± 99psi) or greater to be consistent with DCD Tier 2 Table 5.4-4 that is revised in response to RAI 14.3-182 S01. " NOTE: Not previously submitted."
97.	T2.1.2-3, ITAAC 25, DC	Qualified “rapid depressurization” by inserting “(i.e., has a flow capacity that is greater than or equal to the design flow capacity under design basis conditions),” in response to RAI 14.3-293.
98.	T2.1.2-3, ITAAC 28	ITAAC 17 from Rev. 3 that was deleted in Rev. 4 is added back as new ITAAC 28 in response to RAI 14.3-183.
99.	T2.1.2-3, ITAAC 29	Revised Item 29 in response to RAI 14.3-187
100.	T2.1.2-3, ITAAC 30, 31, and 32	ITAACs 30, 31 and 32 are added for verification of key TRACG analysis input in response to RAI 14.3-189
101.	T2.1.2-3, ITAAC 33	Added Item 33 for NBS software in response to RAI 14.3-241
102.	F2.1.2-2	Revisions to Figure 2.1.2-2 are made to reflect changes to feedwater valves to achieve consistency with design modifications to the system reflected in Tier 2, Section 5.4.
103.	S2.2.1 Functional Requirement (3)	To ensure consistency with Tier 2 Section 15.3.9, the sentence has been reworded as follows: RC&IS automatic functions-initiators are [AH1]defined in Table 2.2.1-3.
104.	T2.2.1-2 ATLM Functions	To correct a typographical error: Enforces the Operating Limit Maximum Linear Heat Generation Rate (OLMLHGR) [SMK2]
105.	T2.2.1-2 ATLM Functions	Revised in response to RAI 4.3-12.

Item	Location	Description of Change
106.	T2.2.1-2 Motor Controller Cabinet (MCC) Functions	To achieve consistency with the Acronym List, delete the (MC) at the end of the first function as follows: Houses the CRDS FMCRD motor controllers. Revised in response to RAI 14.3-323.
107.	T2.2.1-3 Initiator column, second entry	To correct a typographical error: Changed “Minimum” to “Maximum” [SMK3]
108.	T2.2.1-3 Second Functional Entry	To achieve consistency with DCD Tier 2 Section 15.2.2.2 a new SCRRI function has been added.
109.	T2.2.1-3 – end of existing table	To achieve consistency with DCD Tier 2 Sections 7.7.2 and 7.7.3 the following functions have been added: <ul style="list-style-type: none"> • Rod separation detective rod block • Scram follow/ARI FMCRD motor run-in • One way block high pressure Feedwater heater bypass • One way block high pressure heater steam heating valves one-way block.
110.	T2.2.1-6, ITAAC Item 2, AC	Revised in response to RAI 14.3-147
111.	T2.2.1-6, ITAAC Item 3, ITA	To achieve consistency with Table 2.2.1-3 reword as follows: Test(s) and type test(s) will be performed for the initiators on the as-built RC&IS using simulated signals to perform automatic functions listed in Table 2.2.1-3. [KRD4]
112.	T2.2.1-6, ITAAC Item 3, AC	To achieve consistency with Table 2.2.1-3 reword as follows: Test and type test report(s) document that the RC&IS is capable of performing the functions for the initiators as defined in Table 2.2.1-3.
113.	F2.2.1-1	Figure 2.2.1-1 deleted in response to RAI 14.3-168..

Item	Location	Description of Change
114.	S2.2.2, Design Description, Item 2	<p>The Design Description, Item 2, ASME Code Section III, has been modified to separate the design ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3-131 S02.</p> <p>" NOTE: RAI 14.3-131 S02 Not previously submitted."</p>
115.	S2.2.2 Functional Arrangement	<p>Editorial Change: The functional arrangement of the CRD System comprises three major functional groups:</p>
116.	S2.2.2 Functional Requirements 2.a, 3.a and 4.a	<p>In response to RAI 14.3-344 delete the words “and piping” in Functional Requirements 2.a, 3.a and 4.a.</p>
117.	S2.2.2 Functional Requirements 2, 3 and 4	<p>Item 2, 3, and 4 is revised in response to RAIs 14.3-180, 14.3-185. and 14.3-131 S02.</p> <p>" NOTE: RAI 14.3-131 S02 Not previously submitted."</p>
118.	S2.2.2 Functional Requirement 4	<p>In response to RAI 14.3-341 replace the words “rated pressure” with their design pressure.</p>
119.	S2.2.2 Functional Requirement 8	<p>Reword functional requirement 8 as follows: The HPCRD has a high-pressure makeup mode of operation that injects water to the RPV via the RWCU/SDC return path.</p>
120.	S2.2.2 Functional Requirements Number 12	<p>To comply with writer’s guide rule prohibiting specific numeric values in ITAAC DCs, Functional Requirement 12 reworded to read: CRD maximum allowable scram times are defined in Table 2.2.2-2.</p>
121.	S2.2.2 Functional Requirement 13	<p>In response to RAI 14.3-169 reword functional requirement 13 as follows: Conformance with IEEE Std. 603 requirements by the safety-related control system structures, systems, and components defined in Tier 1 Tables 2.2.2-1 and 2.2.2-6 is addressed in Subsection 2.2.15.</p>

Item	Location	Description of Change
122.	S2.2.2 Functional Requirement 14	Editorial typographical error correction: The equipment qualification of CRDS components defined in Tables 2.2.2-1, 2.2.2-5, and 2.2.2-6, is addressed in Section 3.8.
123.	S2.2.2 Functional Requirement 15	In response to RAI 14.3-191 the following entry was made to Section 2.2.2: The FMCRD has an electro-mechanical brake with a minimum required holding torque on the motor drive shaft.
124.	T2.2.2-3 Function – SCRRRI Interfacing System	Change to: RC&IS and DPS
125.	T2.2.2-5 Scram Inlet Piping	In response to RAI 14.3-190 the ASME Code Section III applicability has been changed from No to Yes and Footnote 1 has been deleted.
126.	T2.2.2-3 Provide make up water to RPV, Interfacing system.	To achieve consistency between Tier 2 Section 7.7.1 and T2.2.2-3 change “RPS” to NBS
127.	T2.2.2-6	To correct the erroneous entry of a nonsafety-related on a table reserved for safety-related equipment, the FMCRD position indication reed switches row was deleted.
128.	T2.2.2-7, ITAAC Item 1 AC, first sentence	ITAAC 1 is revised in response to RAIs 14.3-180, 14.3-185, 14.3-390 and 14.3-131 S02. " NOTE: RAI 14.3-131 S02 Not previously submitted."
129.	T2.2.2-7, ITAAC Item 2 DC	ITAAC 2 is revised in response to RAIs 14.3-180, 14.3-185, 14.3-390 and 14.3-131 S02. " NOTE: RAI 14.3-131 S02 Not previously submitted."
130.	T2.2.2-7, ITAAC Item 3 DC	ITAAC 3 is revised in response to RAIs 14.3-180, 14.3-185, 14.3-390 and 14.3-131 S02. " NOTE: RAI 14.3-131 S02 Not previously submitted."

Item	Location	Description of Change
131.	T 2.2.2-7, ITAAC Item 4 DC	<p>ITAAC 4 is revised in response to RAIs 14.3-180, 14.3-185, 14.3-390 and 14.3-131 S02.</p> <p>" NOTE: RAI 14.3-131 S02 Not previously submitted."</p>
132.	T2.2.2-7, ITAAC Item 8 DC	<p>In response to RAI 14.3-341, DC 8 is modified as follows:</p> <p>The HPCRD has a high-pressure makeup mode of operation that injects water to the RPV via the RWCU/SDC return path.</p>
133.	T2.2.2-7, ITAAC Item 8 DC	<p>In response to RAI 14.3-341, DC 8 ITA is modified as follows:</p> <p>Test(s) of the HPCRD high-pressure makeup mode of operation will be conducted on the as-built system verifying that water is injected to the RPV via the RWCU/SDC return path.</p>
134.	T2.2.2-7, ITAAC Item 8 DC	<p>In response to RAI 14.3-341, DC 8 AC is modified as follows:</p> <p>Test(s) of the HPCRD high-pressure makeup mode of operation will be conducted on the as-built system verifying that water is injected to the RPV via the RWCU/SDC return path.</p>
135.	T2.2.2-7, ITAAC Item 9 DC	<p>In response to RAI 14.3-350, DC 9 ITA is modified as follows:</p> <p>Inspections will be performed to verify that the as-built CRD system conforms with the automatic functions, initiators, and associated interfacing systems defined in Table 2.2.2-3.</p> <p>Test(s) and type test(s) will be performed on the as-built system using simulated signals initiated from all of the associated interfacing as-built systems specified in Table 2.2.2-3.</p>

Item	Location	Description of Change
136.	T2.2.2-7, ITAAC Item 9 DC	<p>In response to RAI 14.3-350, DC 8 AC is modified as follows:</p> <p>Inspection report(s) document that the as-built CRD system conforms with the automatic functions, initiators, and associated interfacing systems defined in Table 2.2.2-3.</p> <p>Test and type test report(s) document the system is capable of performing the functions defined in Table 2.2.2-3 using simulated signals initiated from all of the associated interfacing as-built systems specified in Table 2.2.2-3.</p>
137.	T2.2.2-7, ITAAC number 12	<p>To comply with writer's guide rule prohibiting specific numeric values in ITAAC DCs, ITAAC 12 DC was reworded to read:</p> <p>CRD maximum allowable scram times are defined in Table 2.2.2-2.</p>
138.	T2.2.2-7, ITAAC Item 15 DC	<p>In response to RAI 14.3-191, DC 15 is modified as follows:</p> <p>The FMCRD has an electro-mechanical brake with a minimum required holding torque on the motor drive shaft.</p>
139.	T2.2.2-7, ITAAC Item 15 DC	<p>In response to RAI 14.3-191, DC 15 ITA is modified as follows:</p> <p>Tests of each FMCRD brake will be conducted in a test facility</p>
140.	T2.2.2-7, ITAAC Item 15 DC	<p>In response to RAI 14.3-191, DC 15 AC is modified as follows:</p> <p>The FMCRD electro-mechanical brake has a minimum required holding torque of 49 N. m (36 ft-lb_f) on the motor drive shaft.</p>

Item	Location	Description of Change
141.	S2.2.3, Design Description 2 nd P	<p>In response to RAI 4.3-12 the following sentence was added:</p> <p>The FWCS changes reactor power by automatically or manually controlling FW temperature by modulating the 7th FW heater steam heating valves or the high-pressure FW heater bypass valves.</p>
142.	S2.2.3, Functional Requirement 4	<p>In response to RAI 14.3-172 the following functional requirement was added:</p> <p>FWCS minimum inventory of alarms, displays, controls and status indications in the main control room are addressed in Table 3.3-1, Item 6.</p>
143.	S2.2.3, Functional Requirement 5	<p>In response to RAI 14.3-252 the following functional requirement was added:</p> <p>(5) FWCS controllers are fault tolerant^[AH5].</p>
144.	T2.2.3-1	<p>In response to RAI 14.3-164 the Title of Table 2.2.3-1 has been changed to:</p> <p>FWCS Functional Arrangement</p>
145.	T2.2.3-1	<p>To achieve consistency with DCD Tier 2 Section 7.7.3.1.1 and in response to RAI 14.3-165 the following change was made:</p> <p>FWCS is nonsafety-related. ^[SMK6]</p>
146.	T2.2.3-1	<p>To achieve consistency with DCD Tier 2 Section 15.2.4.1 and 15A.3.5.2, the following change was made:</p> <p>FWCS uses triple-redundant, fault tolerant digital controllers^[SMK7] (FTDC)</p>
147.	T2.2.3-2	<p>In response to RAI 14.3-165 and RAI 4.3-12 and as a result of the Rev 5 consistency review Table 2.2.3-2 was revised to add and delete several Functions, Initiators and Interfacing Systems.</p>

Item	Location	Description of Change
148.	T2.2.3-3, Parameter-RPV Level Control	Clarified “Control” to be “RPV Level Control.” Added new “FW Temperature Control” parameter and applicable descriptions.
149.	T2.2.3-3 Parameter-RPV Level Control, Last Description	This change was made to make DCD Tier 1 consistent with Tier 2 Section 7.7.3.2.2. Reworded sentence to read: Reactor feed pump loop trim controller output plus master feedwater flow controller output modulates individual reactor feed pump ASD:
150.	T2.2.3-3 Parameter Entry	Manual mode: FW temperature setpoint set by operator
151.		Automatic mode: FW temperature setpoint is provided by PAS Modulate FW heater No. 7 steam inlet valves Modulate HP FW Heaters bypass valves
152.	T2.2.3-4 ITAAC Item 4	In response to RAI 14.3-172 the following DC was added: FWCS minimum inventory of alarms, displays, controls, and status indications in the main control room are addressed in Table 3.3-1, Item 6.
153.	T2.2.3-4 ITAAC Item 4	In response to RAI 14.3-172 the following ITA was added: See Table 3.3-1, Item 6.
154.	T2.2.3-4 ITAAC Item 4	In response to RAI 14.3-172 the following AC was added: See Table 3.3-1, Item 6.
155.	T2.2.3-4 ITAAC Item 5	In response to RAI 14.3-275 the following DC was added: FWCS controllers are fault tolerant ^[KRD8] .

Item	Location	Description of Change
156.	T2.2.3-4 ITAAC Item 5	<p>In response to RAI 14.3-275 the following ITA was added:</p> <p>Test(s) will be performed simulating failure of each FWCS temperature controller.</p> <p>b. Test(s) will be performed simulating failure of each FWCS level controller</p>
157.	T2.2.3-4 ITAAC Item 5	<p>In response to RAI 14.3-275 the following AC was added:</p> <p>Test and type test report(s) document that failure of any one FWCS temperature controller will not affect FWCS output.</p> <p>b. Test and type test report(s) document that failure of any one FWCS level controller will not affect FWCS output.</p>
158.	S2.2.4, Functional Requirements, Item (3)	<p>Editorial change:</p> <p>Deleted the phrase, “in the main control room”, which did not apply.</p>
159.	S2.2.4, Functional Requirements, Item (5)	<p>To make this section internally consistent replace the words with Table 2.2.4-5 to which additional information is being added as part of Revision 5 of this document.</p> <p>New Sentence should read:</p> <p>Conformance with IEEE Std. 603 requirements by the safety-related control system structures, systems, and components defined in Table 2.2.4-5 is addressed in Subsection 2.2.15.</p>
160.	S2.2.4, Functional Requirements, Item (9)	<p>Editorial change:</p> <p>Added the phrase, “from the respective accumulator”, for clarification.</p>
161.	S2.2.4, Functional Requirement (10)	<p>In response to RAI 14.3-344, Item 10.a was reworded as follows:</p> <p>The components identified in Table 2.2.4-4 as ASME Code Section III are designed, fabricated, installed, and inspected in accordance with ASME Code Section III requirements.</p>

Item	Location	Description of Change
162.	S2.2.4, Functional Requirement (10)	<p>In response to RAI 14.3-344, Item 10.b was reworded as follows:</p> <p>The piping identified in Table 2.2.4-4 as ASME Code Section III are designed, fabricated, installed, and inspected in accordance with ASME Code Section III requirements.</p>
163.	S2.2.4, Functional Requirement (12.a)	<p>In response to RAI 14.3-341, Item 12.a was reworded as follows:</p> <p>The components identified in Table 2.2.4-4 as ASME Code Section III retain their pressure boundary integrity at their design pressure.</p>
164.	S2.2.4, Functional Requirement (13)	<p>In response to RAI 14.3-352 S01, Item 13 was reworded as follows:</p> <p>The Seismic Category I components [AH9]identified in Tables 2.2.4-4 and 2.2.4-5 can withstand seismic design basis loads without loss of safety function.</p>
165.	S2.2.4, Functional Requirements (14) and (17)	<p>In response to RAI 14.3-352 S01, Items 14 and 17 were deleted..</p>
166.	S2.2.4, Functional Requirements, Item (15)	<p>Editorial change: Sentence rewritten to meet technical writing requirements.</p>
167.	S2.2.4, Functional Requirement (23)	<p>In response to RAI 14.3-241 the following Functional requirement was added:</p> <p>SLC software is developed in accordance with the software development program described in Section 3.2.</p>
168.	T2.2.4.1	<p>SLC System Functional Arrangement table added in response to RAI 14.3-193</p>
169.	T2.2.4-1 12 th item from the end	<p>Editorial change to read: Each accumulator has piping and valves used for initial and periodic solution addition and gas (nitrogen) charging.</p>

Item	Location	Description of Change
170.	T2.2.4-1, Last item	Editorial change: Added the word, “environmentally” before the word “qualified”, and deleted the phrase “for a mild environment” at the end of the sentence. The environmental qualification of the equipment is specified in Tier 2, Chapter 3, of the DCD.
171.	T2.2.4-2, First item	Replaced “ADS” with “NBS and DPS”. Change supported by Tier 2, Sections 7.4.1.2 and 7.4.1.3.
172.	T2.2.4-2, Second item	Added “and ATWS/SLC”. Change supported by Tier 2, Section 7.4.1.2.
173.	T2.2.4-2, Third item	Added “and ATWS/SLC”. Change supported by Tier 2, Section 7.4.1.2.
174.	T2.2.4-2, Fourth item	Deleted “RPS” and inserted “ATWS/SLC”. Change supported by Tier 2, Section 7.4.1.2.
175.	T2.2.4-3, Second item	Deleted “and send RWCU/SDC isolation signal to LD&IS” from end of sentence. Change supported by Tier 2, Section 7.4.1.2.
176.	T2.2.4-3, Third item	Deleted “and send signal to LD&IS for RWCU/SDC isolation” from end of sentence. Change supported by Tier 2, Section 7.4.1.2.
177.	T2.2.4-3, New fourth item	Added new item, “RWCU/SDC isolation signal to LD&IS on SLC injection (ATWS/SLC). Change supported by Tier 2, Section 7.4.1.2.
178.	T2.2.4-3, Old fourth item	Deleted “and send signal to LD&IS for RWCU/SDC isolation” from end of sentence. Change supported by Tier 2, Section 7.4.1.2.
179.	T2.2.4.4	In Response to RAI 14.3-215 added Train A Accumulator to Equipment Name Column
180.	T2.2.4.4	In Response to RAI 14.3-215 added Train A Accumulator Vent line flow restricting orifice to Equipment Name Column
181.	T2.2.4.4	In Response to RAI 14.3-215 added Train B piping from the locked open valve closest to the reactor vessel through the first NS class break to Equipment Name Column

Item	Location	Description of Change
182.	T2.2.4-4, Third item row, Last Column	Editorial Change: Changed “N”, which was an acronym for “No” to “Note 1”. Note 1 was added for consistency back to ITAAC Table 2.2.4-6, Item #4. For some mechanical components, the determination of MCR alarm inclusion will be determined per ITAAC Item #4.
183.	T2.2.4-4, Fifth item row, Last Column	Editorial Change: Changed “N”, which was an acronym for “No” to “Note 1”. Note 1 was added for consistency back to ITAAC Table 2.2.4-6, Item #4. For some mechanical components, the determination of MCR alarm inclusion will be determined per ITAAC Item #4.
184.	T2.2.4-4, Fifth and Sixth item rows	Editorial Change: Reversed the rows for these items for consistency in the listing of the components.
185.	T2.2.4-4, Seventh entry	Editorial change: Change Train “A” to Train “B”
186.	T2.2.4-4, Ninth item row, Last Column	Editorial Change: Changed “N”, which was an acronym for “No” to “Note 1”. Note 1 was added for consistency back to ITAAC Table 2.2.4-6, Item #4. For some mechanical components, the determination of MCR alarm inclusion will be determined per ITAAC Item #4.
187.	T2.2.4-4, Tenth item row, Last Column	Editorial Change: Changed “N”, which was an acronym for “No” to “Note 1”. Note 1 was added for consistency back to ITAAC Table 2.2.4-6, Item #4. For some mechanical components, the determination of MCR alarm inclusion will be determined per ITAAC Item #4.
188.	T2.2.4-4, Twelfth item row, Last Column	Editorial Change: Changed “N”, which was an acronym for “No” to “Note 1”. Note 1 was added for consistency back to ITAAC Table 2.2.4-6, Item #4. For some mechanical components, the determination of MCR alarm inclusion will be determined per ITAAC Item #4.

Item	Location	Description of Change
189.	T2.2.4-4, Thirteenth item row, Last Column	Editorial Change: Changed “N”, which was an acronym for “No” to “Note 1”. Note 1 was added for consistency back to ITAAC Table 2.2.4-6, Item #4. For some mechanical components, the determination of MCR alarm inclusion will be determined per ITAAC Item #4.
190.	T2.2.4-4, Fourteenth item row	Editorial Change: Changed “Train A Accumulator Vent Line flow restricting orifice” to “Train B Accumulator Vent Line flow restricting orifice”. The train A accumulator venting orifice was listed twice in the table, whereas the train B accumulator venting orifice was unlisted.
191.	T2.2.4-4, Note at end of Table	Editorial Change: Note 1 added for consistency back to ITAAC Table 2.2.4-6, Item #4. For some mechanical components, the determination of MCR alarm inclusion will be determined per ITAAC Item #4.
192.	T2.2.4-5	Deleted Active Function Column
193.	T2.2.4-5	As a result of the Consistency Review a significant addition to the table was made to include appropriate electrical equipment.
194.	T2.2.4-5, Third column heading	Editorial change: Deleted “Note 1” from the column heading to the fifth and sixth item rows since the note only applied to those items.
195.	T2.2.4-5, Fifth and Sixth item rows, Third column entry	Editorial change: Added “Note 1” for reason stated in Change List Item #24.
196.	T2.2.4-5, Seventh item rows, Description column	Editorial change: Added “Train A and Train B” for clarification.
197.	T2.2.4-5, New eighth through nineteenth item rows	Editorial change: Added additional components of an electrical nature which were included in Figure 2.2.4-1, but were not included in Table 2.2.4-5.

Item	Location	Description of Change
198.	T2.2.4-5, New Note 2	<p>Editorial change: Note 2 added for consistency back to ITAAC Table 2.2.4-6, Item #4. For some electrical components, the determination of Safety-related Display inclusion will be determined per ITAAC Item #4.</p>
199.	T2.2.4-6 ITAAC Item (1)	<p>In response to RAI 14.3-390 ITAAC 1 AC was reworded as follows:</p> <p>Report(s) document(s) that the as-built system conforms to the functional arrangement defined in Table 2.2.4-1 and shown in Figure 2.2.4-1. For components and piping identified in Table 2.2.4-4 as ASME Code Section III, this report is an ASME Code report.</p>
200.	T2.2.4-6, Third item, Design Commitment column	<p>Editorial change: Deleted the phrase, “in the main control room”, which did not apply.</p>
201.	T2.2.4-6, ITAAC Item 5C ITA and AC	<p>Replace ITA and AC with the generic seismic ITA and AC given to the NRC in response to RAI 14.3-387.</p>
202.	T2.2.4-6, Seventh item, Second column	<p>Deleted the brackets around “6.21” Mpa. The value is supported by Tier 2, Section 9.3.5.</p>
203.	T2.2.4-6, Seventh item, Third column	<p>Deleted the brackets around “196” seconds. The value is supported by Tier 2, Section 9.3.5</p>
204.	T2.2.4-6, Seventh item, Third column	<p>Deleted the brackets around “519” seconds. The value is supported by Tier 2, Section 9.3.5.</p>
205.	T2.2.4-6, Eighth item, Second column	<p>Editorial change: Changed “ITAAC #3” to “ITAAC #7”. ITAAC #7 is related to ITAAC #8, whereas ITAAC #3 is unrelated.</p>
206.	T2.2.4-6 ITAAC Items 10 a	<p>In response to RAI 14.3-390 ITAAC has been modified to read as follows:</p> <p>The components identified in Table 2.2.4-4 as ASME Code Section III are designed, fabricated, installed, and inspected in accordance with ASME Code Section III requirements</p>

Item	Location	Description of Change
207.	T2.2.4-6 ITAAC Items 10 a	<p>In response to RAI 14.3-390 ITAAC ITA has been modified to read as follows:</p> <p>Inspection of certified documents for as-built components will be conducted.</p>
208.	T2.2.4-6 ITAAC Items 10 a	<p>In response to RAI 14.3-390 ITAAC AC has been modified to read as follows:</p> <p>An ASME Code N-5 Data Report exists and concludes that installation or construction of the SLC components identified in Table 2.2.4-4 as ASME Code Section III have been completed in accordance with ASME Code.</p> <p>An ASME Code Design Report exists and concludes that design reconciliation has been completed in accordance with the ASME Code for as-built reconciliation of the SLC System components identified in Table 2.2.4-4 as ASME Code Section III.</p>
209.	T2.2.4-6 ITAAC Items 10 b	<p>An ASME Code N-5 Data Report exists and concludes that installation or construction of the SLC piping identified in Table 2.2.4-4 as ASME Code Section III have been completed in accordance with ASME Code.</p> <p>An ASME Code Design Report exists and concludes that design reconciliation has been completed in accordance with the ASME Code for as-built reconciliation of the SLC System piping identified in Table 2.2.4-4 as ASME Code Section III</p>
210.	T2.2.4-6 ITAAC item 12	<p>In response to RAI 14.3-390, ITAAC 12.a AC and 12.b AC have been reworded to read:</p> <p>An ASME Code Report exists and concludes that the results of the hydrostatic test of the ASME Code components of the SLC System comply with the requirements of the ASME Code, Section III.</p>

Item	Location	Description of Change
211.	T2.2.4-6 ITAAC item 12	<p>In response to RAI 14.3-390, ITAAC 12.b AC has been reworded to read:</p> <p>An ASME Code Report exists and concludes that the results of the hydrostatic test of the ASME Code piping of the SLC System comply with the requirements of the ASME Code, Section III.</p>
212.	T2.2.4-6 ITAAC item 13	<p>In response to RAI 14.3-387, ITAAC 13 DC has been reworded to read:</p> <p>The seismic Category I components [AH10] identified in Tables 2.2.4-4 and 2.2.4-5 can withstand seismic design basis loads without loss of safety function.</p>
213.	T2.2.4-6 ITAAC item 13 ITA	<p>In response to RAI 14.3-296 ITAC Item 13 ITA has been reworded to read:</p> <p>Inspection will be performed to verify that the seismic Category I equipment and valves identified in Tables 2.2.4-4 and 2.2.4-5 are located in a seismic Category I structure</p>
214.	T2.2.4-6 ITAAC item 14 AC	<p>In response to RAI 14.3-352 S01, ITAAC 14 DC has been deleted.</p>
215.	T2.2.4-6 ITAAC item 16 AC	<p>In response to RAI 14.3-247, ITAAC 16 AC has been reworded to read:</p> <p>Report(s) document that the test signal exists only in the safety-related division under test in the System.</p> <p>b. Inspection report(s) of the as-installed safety-related divisions in the SLC System document(s) that:</p> <p>i) Physical separation or electrical isolation exists between these safety-related divisions in accordance with RG 1.75.</p> <p>ii) Physical separation or electrical isolation exists between safety-related Divisions and nonsafety-related equipment in accordance with RG 1.75.</p>
216.	T2.2.4-6 ITAAC item 17	<p>In response to RAI 14.3-301, ITAAC 17 DC has been deleted.</p>
217.	T2.2.4-6 ITAAC item 23	<p>In response to RAI 14.3-241, ITAAC 23 has been added.</p>

Item	Location	Description of Change
218.	S2.2.5, Functional Requirements	In response to RAI 14.3-241, Functional Requirement 7 has been added.
219.	T2.2.5-1, 3 rd entry	As a result of the consistency review, this entry has been reworded to read: NMS is a four division, redundant, logic based ^[DW11] system.
220.	T2.2.5-1, 5 th entry	In response to RAI 14.3-255 ITAAC this entry has been reworded to read: NMS controllers and their preamplifiers ^[SMK12] are located in mild environments ^[DW13] in divisionally separate rooms in the Control Building (CB) and Reactor Building (RB) ^[DW14] .
221.	T2.2.5-1, 5 th entry from the bottom	Deleted gamma thermometer to delete unnecessary detail.
222.	T2.2.5-2	To achieve consistency with Tier 2 Tables 7.2-2, 7.2-3, 7.2-4, 7.2-6 and Section 7.2.2, Functions which do not cause a trip were removed.
223.	T2.2.5-3, Interlock	Added Rod Blocks to achieve consistency with Section 2.2.1 (RC&IS)
224.	T2.2.5-3, Interlock, APRM signal	Power level is needed by DPS per Table 2.2.14-2 and Tier 2 Section 7.8.1.1.3 Added DPS to read APRM Signal (RPS, RC&IS, DPS)
225.	T2.2.5-3, Interlock, SRNM signal	Power level needed by DPS per Table 2.2.14-2, Tier 2 Section 7.8.1.1.3 and 7.8.1.2.3 Added DPS to read APRM Signal (RC&IS, DPS)
226.	T2.2.5-3	Item4 changed SLC to NMS to correct an error.
227.	T2.2.5-4	In response to RAI 14.3-241, ITAAC Item 7 has been added.
228.	T2.2.6, Functional Requirement 2	In response to RAI 14.3-257 S01 this functional requirement has been reworded to read: RSS dedicated controls are defined in Table 2.2.6-2 Note: RAI 14.3-257 S01 not previously submitted.

Item	Location	Description of Change
229.	S2.2.6, Functional Requirement 2	<p>To more adequately describe the controls of the remote shutdown system reword functional description to read:</p> <p>RSS dedicated controls are defined in Table 2.2.6-2.</p>
230.	T2.2.6-3, Design Commitment 2	<p>To more adequately describe the controls of the remote shutdown system reword ITAAC Item 2DC to read:</p> <p>RSS dedicated controls are defined in Table 2.2.6-2.</p> <p>These changes address RAI 14.3-257 S01. Note: RAI 14.3-257 S01 not previously submitted.</p>
231.	S2.2.6	<p>In response to RAI 14.3-241, Functional Requirement 6 has been added.</p>
232.	T2.2.6-3	<p>In response to RAI 14.3-241, ITAAC item 6 has been added.</p>
233.	T2.2.6-3, Design Commitment 2	<p>Reword ITAAC Item 2 ITA to read: Test(s) and type test(s) will be performed on the dedicated controls defined in Table 2.2.6-2.</p>
234.	T2.2.6-3, Design Commitment 2	<p>Reword ITAAC Item 2 AC to read: Test report(s) document(s) that the RSS panels are capable of issuing control signals from the dedicated controls defined in Table 2.2.6-2.</p>
235.	2.2.7	<p>In response to RAI 14.3-241, Functional Requirement 7 has been added, referencing the software development program.</p>
236.	T2.2.7-1	<p>In an amended response, RAI 14.3-258 S01, the entry “The primary function of the RPS is to achieve reactor shutdown before fuel damage occurs” has been deleted and the last item has been reworded to read:</p> <p>Automatic and manual scram initiation logic systems are independent of each other.</p>
237.	T2.2.7-2, Next to last entry	<p>In response to RAI 4.3-12 the following initiator was added:</p> <p>High simulated thermal power (feedwater temperature biased)</p>

Item	Location	Description of Change
238.	T2.2.7-2, Last entry	<p>In response to RAI 4.3-12 the following initiator was added:</p> <p>Feedwater temperature exceeding allowable simulated thermal power vs. Feedwater temperature domain.</p>
239.	T2.2.7-2 Last entry	<p>In response to RAI 4.3-12 the following interfacing system was added:</p> <p>NBS, NMS</p>
240.	T2.2.7-3 Interlock (System Interface) 6 th and 8 th entries	<p>To achieve consistency with Tier 2 Section 7.2.1.2.4.3 delete the following Interlock System entries:</p> <p>Drywell pressure signal (to LD&IS)</p> <p>Loss of Power Generation Bus (Loss of FW Flow) signal (to ICS)</p>
241.	T2.2.7-3 Interlock (System Interface) last two entries	<p>For clarification, the last two entries are reworded to read:</p> <p>RPS division of logic (TLU output) manual divisional bypass switches</p> <p>RPS division of logic (DTM Output) Manual divisional bypass switches</p>
242.	T2.2.7-4	<p>In response to RAI 14.3-241, ITAAC Item 7 has been added.</p>
243.	S2.2.9, Functional Requirements	<p>In response to RAI 14.3-260, Functional Requirement 4 has been added.</p>
244.	T2.2.9-3, ITAAC Item 4	<p>In response to RAI 14.3-260, ITAAC Item 4 has been added.</p>
245.	T2.2.10-1, 2 nd to last entry, first bullet	<p>To achieve consistency with Tier 2 Section 7.1.2.8.6.1, this item was reworded to read:</p> <p>Suppression Pool Temperature Monitoring Subsystem</p>
246.	S2.2.12 Functional Requirements	<p>In response to RAI 14.3-241, Functional Requirement 9 has been added.</p>
247.	T2.2.12-2	<p>Replaced “RWCU/SDC Flow High” with “RWCU/SDC Differential Mass Flow High” for correct parameter per LD&IS design specification.</p>

Item	Location	Description of Change
248.	T2.2.12-2	Deleted monitored variables “HCW Drain Line Radiation High” and “LCW Drain Line Radiation High” due to design change.
249.	T2.2.12-2	Replaced “IC Pool Vent Radiation High” with “Isolation Condenser Vent Exhaust Radiation High” to be consistent with Subsection 5.2.5 header.
250.	T2.2.12-2	Replaced “Turbine Inlet Pressure Low” with “Main Steamline Pressure Low” to be consistent with Subsection 5.2.5 header.
251.	T2.2.12-2	Added column for Feedwater Lines and note and added rows for Reactor Water Level High, Feedwater Lines Differential Pressure High, Drywell Water Level High, and Reactor Water Level Low-Low due to feedwater penetration isolation design change and change of containment isolation signal logic.
252.	T2.2.12-2	Added note (3) to specify feedwater isolation signals coincidence.
253.	T2.2.12-2	Added note (2) for clarification.
254.	T2.2.12-3	Replaced “RWCU/SDC Flow High” with “RWCU/SDC Differential Mass Flow High” for correct parameter per LD&IS specification.
255.	T2.2.12-3	Moved monitored variable “Isolation Condenser Steamline Flow High” into a separate row, as a separate system flow detection.
256.	T2.2.12-3	Added monitored variable “Isolation Condenser Condensate” per system design specification.
257.	T2.2.12-3	Added “X” for Misc. Leaks. This is part of the system design specification.
258.	T2.2.12-3	Replaced “SRV Discharge Line Temperature High” with “SRV and SV Discharge Line Temperature High” for consistency.
259.	T2.2.12-3	Added monitored variable “Feedwater Lines Differential Pressure High” due to feedwater isolation logic design change.
260.	T2.2.12-3	Added monitored variables “Main Steamline Pressure Low” and “Main Condenser Vacuum Low.” These variables are a part of the existing system design specification.

Item	Location	Description of Change
261.	T2.2.12-3	Added new monitored variable “Drywell Water Level High” as part of feedwater isolation logic design change.
262.	T2.2.12-5	In response to RAI 14.3-241, ITAAC item 9 has been added.
263.	S2.2.13 Design Description and Functional Requirements	Revised in response to RAI 14.3-241 and 14.3-173.
264.	T2.2.13-1	Revised in response to RAI 14.3-173
265.	T2.2.13.2, Interfacing Systems	Revised in response to RAI 14.3-261
266.	T2.2.13.2, last entry	As stated in Tier 2 Section 7.1 and 7.2, smoke detection is not an ESF. GRHAVS isolation entry was deleted.
267.	T2.2.13-3, Interlock	To achieve consistency with Tier 2 Table 7.3-02 which states that group 1 SRV has no time delay, second entry reworded to read: Group 1 SRV open
268.	T2.2.13-3, Interlock	To achieve consistency with Tier 2 Section 7.3, second entry reworded to read: Last interlock entry (GDCS equalization . . .) deleted
269.	T2.2.13-4, ITAAC Item 2	Revised in response to RAI 14.3-272
270.	T2.2.13-4, ITAAC Item 3	Revised in response to RAI 14.3-272
271.	T2.2.13-4, ITAAC Item 7	Revised in response to RAI 14.3-241 and RAI 14.3-173
272.	S2.2.14, Functional Arrangement	In response to RAI 14.3-263, the reference to Figure 2.2.14-1 has been replaced with reference to Table 2.2.14-2.
273.	S2.2.14, Functional Requirements	In response to RAI 14.3-241, Functional Requirement 10 has been added.

Item	Location	Description of Change
274.	T2.2.14-1	In response to RAI 14.3-264, “out of three channels” was added to the better describe the triple redundant DPS controllers, and the new last two sentences were added: “DPS process variable sensors are different from those used by the RPS and SSLC/ESF. DPS uses hardware and software that is separate and independent from that used by the RPS and SSLC/ESF.”
275.	T2.2.14-2	In response to RAI 4.3-12 and RAI 14.3-263, and as a result of the Rev 5 consistency review with the system requirements in Tier 2 S7.8.1 and Table 19A-2, Tier 1 Table 2.2.14-2 was revised to add and delete several Functions, Initiators and Interfacing Systems.
276.	T2.2.14-2	In response to RAI 14.3-188, the Function, Initiators, and Interfaces were added for the Function: ADS Inhibit (DPS).
277.	T2.2.14-2	To support incorporation of results of future analyses described in ITAAC, footnote “1” was added to the Table Title.
278.	T2.2.14-2	To support incorporation of results of future analyses described in ITAAC, added Footnote text: Function, Initiator, or Interface change allowed if justified by confirmatory analyses and/or protection system FMEA in support of DPS scope validation (see Table 2.2.14-4, Items 8 and 9).
279.	T2.2.14-3	In response to RAI 14.3-188, RAI 14.3-263, and as a result of the Rev 5 consistency review, Table 2.2.14-3 was revised to add several manual actions by ATWS/SLC and by DPS.
280.	T2.2.14-3	In response to RAI 14.3-263, the implementing systems were added in parentheses.
281.	T2.2.14-3	In response to RAI 14.3-188, Footnote text “1” and “2” was added: 1: For applicable ATWS conditions, refer to Initiator column, Table 2.2.14-2, for the Functions “ADS inhibit (ATWS/SLC)” and “ADS inhibit (DPS)” 2: Implementing system is shown in parentheses.
282.	T2.2.14-3	To support incorporation of results of future analyses described in ITAAC, footnote “3” was added to the Table Title.

Item	Location	Description of Change
283.	T2.2.14-3	To support incorporation of results of future analyses described in ITAAC, Footnote text was added: Changes to specific Controls and/or Interlocks Interfaces allowed if justified by confirmatory analyses and/or protection system FMEA in support of DPS scope validation (see Table 2.2.14-4, Items 8 and 9).
284.	T2.2.14-4, ITAAC Item 1	In response to RAI 14.3-263, replaced references to Figure 2.2.14-1 with references to Table 2.2.14-2.
285.	T2.2.14-4, ITAAC Item 8	In response to RAI 14.3-263, added the notation {{Design Acceptance Criteria}}.
286.	T2.2.14-4, ITAAC Item 9	In response to RAI 14.3-262, deleted the parenthetical note “(which address NUREG/CR-6303 Type 1-3 failures)”. In response to RAI 14.3-263, added the notation {{Design Acceptance Criteria}}.
287.	T2.2.14-4, ITAAC Item 10	In response to RAI 14.3-241, ITAAC Item 10 has been added.
288.	S2.2.15 Design Descriptions	Revised Design Descriptions in accordance with RAI 14.3-265
289.	T2.2.15-1	Revised Table 2.2.15-1 in accordance with RAI 14.3-265, RAI 14.3-159 and RAI 6.3-63.
290.	T2.2.15-2	Revised Table 2.2.15-2 in accordance with RAI 14.3-265.
291.	T2.2.15-2	Revised Table 2.2.15-2 in accordance with RAI 14.3-266 to reference current revision of System Logic Diagrams (SLDs).
292.	T2.2.15-2	Revised Table 2.2.15-1 in accordance with RAI 7.1-27 S01 for IEEE Std. 603 criterion 5.7 and 6.5.
293.	S2.3.1, 1 st para	Corrected proper designation as “Safety System Logic and Control/Engineered Safety Features (SSLC/ESF).”
294.	2.3.1(4)f	Added initiation of protective actions to the design description. Reference Table 2.3.1-1.
295.	2.3.1(6)	Added design description item in response to RAI 14.3-139 S01.
296.	2.3.1(7)	Added design description item in response to RAI 14.3-161.
297.	2.3.1(8)	Added design description item in response to RAI 14.3-161.

Item	Location	Description of Change
298.	2.3.1, last paragraph	Reference to Radwaste and Offgas Tables established.
299.	T2.3.1-1, ID 1, 2 nd column	Item 1 safety classification revised from Safety-Related to nonsafety-related.
300.	T2.3.1-1, ID 1, 4 th column	Safety function description revised to “NA”
301.	T2.3.1-1, ID 4A, 4B	Added “...emergency air filtration units...started...” in response to RAI 14.3-158
302.	T2.3.1-1, Item 12, 2 nd column	Item 1 safety classification revised from safety-related to nonsafety-related.
303.	T2.3.1-1, Item 12, 4 th column	Safety function description revised to “NA.”
304.	T2.3.1-1, Item 13	Separated ID number 13 into 13A, 13B, 13C for the 3 stacks design.
305.	T2.3.1-2, Item 2b	Acceptance Criteria linked to RG 1.75 in response to RAI 14.3-247
306.	T2.3.1-2, Item 3	Seismic category requirements clarified in response to RAIs 14.3-296, 297, 383, and 386.
307.	T2.3.1-2, Item 4	Enhancements to ITAAC incorporated in response to RAI 14.3-155
308.	T2.3.1-2, Item 6	Response to RAI 14.3-139 S01. New ITAAC added.
309.	T2.3.1-2, Item 7	Response to RAI 14.3-161. New ITAAC added.
310.	T2.3.1-2, Item 8	Response to RAI 14.3-241. ITAAC for software added.
311.	DCD Tier 1 Fig 2.3.1-1	Replaced the old Figure 2.3.1-1 with new design reflecting the 3 stacks.
312.	T2.3.2-1	ARM description revised; new ARMs added. Change due to revised Radiation Zone drawings and General Arrangement drawings for the ARMs.

Item	Location	Description of Change
313.	S2.4.1, Design Description	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations:</p> <p>Figure 2.4.1-1, ICS Functional Arrangement, Table 2.4.1-1, ICS Mechanical Equipment, Table 2.4.1-2, ICS Electrical Equipment, and Table 2.4.1-3, ITAAC for the ICS System.</p> <p>Added Design Descriptions that are consistent with the ITAAC Design commitments of Table 2.4.1-3.</p>
314.	S2.4.1, Design Description, Para. 1	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p><i>Figure 2.4.1-1 shows the Isolation Condenser System (ICS), (Figure 2.4.1-1, Table 2.4.1-3 ITAAC 1) which removes decay heat from the RPV when the reactor is isolated (Table 2.4.1-3 ITAAC 22). Decay heat removal keeps the RPV pressure below the SRV pressure setpoint. ICS consists of four independent trains, each containing a heat exchanger that condenses steam on the tube side and transfers heat by heating and boiling water in the IC/PCC pool, which is then vented to the atmosphere (Figure 2.4.1-1, Table 2.4.1-1, Table 2.4.1-3 ITAAC 1).</i></p>
315.	S2.4.1, Design Description, Para. 2	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p><i>To commence operation of an ICS train, a condensate return valve and condensate return bypass valve are opened (Table 2.4.1-3 ITAAC 13), whereupon the standing condensate drains into the reactor and the steam-water interface in the IC tube bundle moves downward exposing cooler tube surfaces to the hot steam (Figure 2.4.1-1, Table 2.4.1-3 ITAAC 1).</i></p>

Item	Location	Description of Change
316.	S2.4.1, Design Description, Item 2	The Design Description, Item 2, ASME Code Section III, has been modified to separate the design ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3-141-S02.
317.	S2.4.1, Design Description, Para. 3	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p><i>The ICS initiates automatically on any of the following:</i></p> <ul style="list-style-type: none"> • <i>RPV high pressure following a time delay</i> • <i>RPV water level below level 2 following a time delay</i> • <i>RPV water level below level 1</i> • <i>Loss of power to 2 of 4 reactor feed pumps with the reactor mode switch in RUN</i> • <i>MSIVs in 2 of 4 steam lines less than fully open ($\leq 92\%$ open) with the reactor mode switch in RUN.</i> <p><i>(Table 2.4.1-3 ITAAC 16, 17)</i></p>
318.	S2.4.1, Design Description, Para. 4	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p><i>The operator from the MCR can also initiate the ICS manually (Table 2.4.1-2, Table 2.4.1-3 ITAAC 13). A fail-open pneumatically operated condensate return bypass valve in each train opens if the control power is lost (Table 2.4.1-1, Table 2.4.1-3 ITAAC 10, 21).</i></p>

Item	Location	Description of Change
319.	S2.4.1, Design Description, Para. 5	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p><i>An in-line vessel is located on the condensate return line. The in-line vessel is located on each ICS train to provide additional condensate volume to the RPV (Figure 2.4.1-1, Table 2.4.1-1, Table 2.4.1-3 ITAAC 1). The amount of water volume contained in each train of ICS is at least [13.88 m³ (490 ft³)] (Table 2.4.1-3 ITAAC 23).</i></p>
320.	S2.4.1, Design Description, Para. 6	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p><i>An ICS train is isolated automatically when either a high radiation level in the IC compartment is detected or excess flow is detected in the steam supply line or condensate return line (Table 2.4.1-3 ITAAC 12, 14, 15).</i></p>
321.	S2.4.1, Design Description, Para. 7	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p><i>The IC/PCC pool is divided into sub compartments that are interconnected at their lower ends to provide full use of the water inventory for heat removal by any IC (Figure 2.4.1-1, Table 2.4.1-3 ITAAC 1).</i></p>

Item	Location	Description of Change
322.	S2.4.1, Design Description, Para. 8	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p><i>The IC/PCC pools in combination with the Dryer/Separator pool and Reactor Well have an installed capacity that provides at least 72 hours of reactor decay heat removal capability without makeup. Two normally closed valves connect the Dryer/Separator pool and the IC/PCC expansion pool (Table 2.4.1-3 ITAAC 24). The heat rejection process can be continued indefinitely by replenishing the IC/PCC pool inventory. An independent FAPCS makeup line is provided to convey emergency makeup water into the IC/PCC pool, from either the site Fire Protection System or from piping connections located at grade level in the reactor yard external to the Reactor Building (Figure 2.6.2-1, Table 2.6.2-1, Table 2.6.2-2 ITAAC 1, 7). This makeup can be accomplished without any valving changes in the Reactor Building no matter what the prior operating mode of the FAPCS might have been (Figure 2.6.2-1, Table 2.6.2-1, Table 2.6.2-2 ITAAC 1).</i></p>

Item	Location	Description of Change
323.	S2.4.1, Design Description, Para. 9	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p>The ICS passively removes sensible and core decay heat from the reactor with minimal loss of coolant inventory from the reactor, when the normal heat removal system is unavailable following any of the following events.</p> <ul style="list-style-type: none"> • Sudden reactor isolation at power operating conditions • During station blackout (i.e., unavailability of all AC power) • Anticipated Transient Without Scram (ATWS) • Loss of Coolant Accident (LOCA) <p><i>(Table 2.4.1-3 ITAAC 16, 17, 22, 23)</i></p>
324.	S2.4.1, Design Description, Para. 10	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p><i>The ICs are sized to remove post shutdown reactor decay heat with 3 of 4 ICs operating and to reduce reactor pressure and temperature to safe shutdown conditions (Table 2.4.1-3 ITAAC 22, 23), with occasional venting of noncondensable gases to the suppression pool (Figure 2.4.1-1, Table 2.4.1-3 ITAAC 1, 18, 19). Because the heat exchangers (ICs) are independent of plant AC power (Table 2.4.1-2, Table 2.4.1-3 ITAAC 6), they function whenever normal heat removal systems are unavailable, to maintain reactor pressure and temperature below the SRV setpoints (repeat of information in the introductory paragraph for 2.4.1 Design Description).</i></p>

Item	Location	Description of Change
325.	S2.4.1, Design Description, Para. 11	<p data-bbox="716 281 1398 422">Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p data-bbox="716 480 1406 842"><i>The portions of the ICS steam supply (P-1), condensate return (P-2) and purge lines (including isolation valves), which are located inside the containment and out to and including the IC flow restrictors, are designed to ASME Code Section III, Class 1, Quality Class A. Other portions of the ICS including the vent lines are ASME Code Section III, Class 2, Quality Class B (Table 2.4.1-1, Table 2.4.1-3 ITAAC 2, 3, 4). The IC/PCC pools are safety-related and Seismic Category I (Table 2.4.1-3 ITAAC 25).</i></p>

Item	Location	Description of Change
326.	S2.4.1, Design Description, Para. 12	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p><i>Safety Requirements:</i></p> <p>The ICS performs the following safety-related functions:</p> <ul style="list-style-type: none"> • Automatically limit pressure within the reactor coolant pressure boundary below the SRV setpoints following any abnormal event that results in containment isolation. • In event of a LOCA, ICS provides additional liquid inventory upon opening of the condensate return valves. The ICS also provides an initial depressurization of the reactor on loss of feedwater flow. • With an intact RCPB, the ICS in conjunction with the water in the RPV, conserve sufficient reactor coolant volume to avoid automatic depressurization caused by low reactor water level. • Remove reactor decay heat produced during and following an abnormal event, which involve reactor scram and containment isolation. The abnormal events include Station Blackout and Anticipated Transient Without Scram (ATWS). <p><i>(Table 2.4.1-3 ITAAC 16-24)</i></p>
327.	S2.4.1, Design Description, Para. 13	<p>Subsection 2.4.1, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p><i>ICS software is developed in accordance with the software development program described in Section 3.2 (Table 2.4.1-3 ITAAC 27).</i></p>
328.	T2.4.1-1 IC (A) (B) (C) (D) Condensate Return Line Valve	<p>Changed from yes to no under column “Containment isolation Valve” in response to RAI 5.4-302 S02</p>

Item	Location	Description of Change
329.	T2.4.1-1 IC (A) (B) (C) (D) Condensate Return Line Bypass Valve	Changed from “Yes” to “No” under column “Containment Isolation Valve” in response to RAI 5.4-302 S02
330.	T2.4.1-1 IC (A)(B)(C)(D) Steam Supply Line Isolation Valve V-1 (A)(B)(C)(D) and V-2 (A)(B)(C)(D)	Deleted footnote and added designation “Yes/No” under column headed Control Q-DCIS / DPS
331.	T2.4.1-2 “Active Function”	Deleted Column “Active Function” as part of consistency with RAI 14.3-354.
332.	T2.4.1-1 Lower IC (A)(B)(C)(D) header Vent Line Valve V-11(A)(B)(C)(D)	Changed from remotely operated ‘Yes’ to No to reflect the change of these valves to a pressure actuated valve for reliability improvements
333.	T2.4.1-1 Lower IC (A)(B)(C)(D) header Vent Line Valve V-12(A)(B)(C)(D)	Changed the Loss of Motive Power Position from “Closed” to “Open” ‘Yes’ to No to reflect the change of the failure position of these valves for reliability improvements
334.	T2.4.1-2 Lower IC (A)(B)(C)(D) header Vent Line Valve V-11(A)(B)(C)(D)	Changed from Remotely Pperated Valve ‘Yes’ to “No” to reflect the change of these valves to a pressure actuated valve for reliability improvements
335.	T2.4.1-3 #4 Design Commitment	Revised per RAI 14.3-390.
336.	T2.4.1-3 #4 Acceptance Criteria	Change from ...the IC system conform with the requirements...” to the IC system comply with the requirements... in response to RAI 14.3-382
337.	Table 2.4.1-3 Design Commitment #2	Replaced “designed and constructed” with “designed, fabricated, installed and inspected” in response to RAI 14.3-185
338.	Table 2.4.1-3 Inspection, Tests, Analyses #2	Changed “Inspection will be conducted of the as-built components as documented in the ASME design reports” to “Inspection of certified documents for as-built components will be conducted.” In response to RAI 14.3-213.
339.	T2.4.1-3 Inspection, Tests, Analyses Design Commitment #2b	Separated commitment for components and piping as a result of a review of ITAAC associated with ASME Code piping in response to RAI 14.3-344.

Item	Location	Description of Change
340.	T2.4.1-3 Acceptance Criteria # 1 thru #4	Modified the acceptance criteria to match the requested wording provided in RAI 14.3-390.
341.	F2.4.1-1 Isolation Condenser System Schematic	Changed drawing to show Lower Header Vent Line valve change V11(A)(B)(C)(D) to a pressure actuated valve.
342.	T2.4.2-3, ITAAC 2.	ITAAC 2 is revised to separate the ASME Code Section III design activities ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3, 141-S02. This results in a total of six ITAAC to replace two ITAAC. ITAAC 2.a is now ITAAC 2.a.1, 2.a.2, and 2.a.3. ITAAC 2.b is now ITAAC 2.b.1, 2.b.2, and 2.b.3. ITAAC 2.b.1 is designated as Design Acceptance Criteria. As appropriate, the Acceptance Criteria column includes reference to ASME Code reports.
343.	T2.4.1.3, Design Commitment #5	Changed “equipment” to “components” and deleted 5b to be consistent with changes made in response to RAI 14.3-354.
344.	T2.4.1.3, Acceptance Criteria #6bii	Revised acceptance criteria 6bii to address RG 1.75 in response to RAI 14.3-247.
345.	T2.4.1.3, ITAAC #7	Deleted ITAAC in response to RAI 14.3-301
346.	T2.4.1.3, ITAAC #12	Minimum closing time for the condensate return valve in response to RAI 14.3-201.
347.	T2.4.1.3, ITAAC #27	Added ITAAC for ICS software development in response to RAI 14.3-201
348.	T2.4.1.3, ITAAC #28	Added ITAAC for to address conformance to IEEE Std. 603 in response to RAI 7.1-9.
349.	S2.4.2 Design Description, Item 2	The Design Description, Item 2, ASME Code Section III, has been modified to separate the design ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3-141 S02.
350.	S2.4.2 Design Description (5)	Revised Design Description to address ambiguity of use of the term functional capability in response to RAI 14.3-354 and modified for consistency with response to RAI 14.3-352 S01

Item	Location	Description of Change
351.	S2.4.2 Design Description (6)	Revised design description to state that the minimum set of CR alarms, displays and alarms to include “the applicable codes and standards”.
352.	S2.4.2 Design Description (10a)	Revised and modified for consistency with response to RAI 14.3-352 S01 to resolve ambiguity regarding the use of the term ”functional capability.”
353.	S2.4.2 Design Description (10b)	Added Design Description to address the maximum fully open reverse flow coefficient of the GDCS injection valves in response to RAI 6.3-78.
354.	S2.4.2 Design Description (16)	Deleted description of mechanical division of equipment for meeting the single failure criteria the GDCS outside the drywell in response to RAI 14.3-301.
355.	S2.4.2 Design Description (23)	Added design commitment for a software development program in response to RAI 14.3-241.
356.	S2.4.2 Design Description (24)	Added per RAI 21.6-112 Note: Response to this RAI has previously not been submitted.
357.	S2.4.2 Design Description (25,26 and 27)	Added design commitments because the deluge system is risk significant. Response to RAI 14.3-149.
358.	T2.4.2-1	Added additional lines items to the mechanical equipment table to include all ASME Code Class components.
359.	T2.4.2-2	Deleted the column for “Active Function” to address ambiguity regarding the use of functional capability. Provides consistency with mechanical equipment table in level of detail
360.	T2.4.2-2	Added deluge system electrical equipment in response to RAI 14.3-149.
361.	T2.4.2-3 ITAAC (5a)	Revised ITAAC to resolve ambiguity regarding use of the term “functional capability” In response to RAI 14.3-354.
362.	T2.4.2-3 ITAAC (5b)	Deleted ITAAC to resolve ambiguity regarding use of the term “functional capability” In response to RAI 14.3-354.

Item	Location	Description of Change
363.	T2.4.2-3 ITAAC (6)	Revised ITAAC for identifying minimum inventory of alarms, controls and displays to reference Section 3.3.
364.	T2.4.2-3 ITAAC (8a)(8b)	Revised the Inspections, Tests, Analyses and Acceptance Criteria to provide analysis and provide acceptance criteria for the GDCS flow tests in response to 14.3-356
365.	T2.4.2-3 ITAAC (10a) Design Commitment	Revised wording to provide consistency of approach used in response to RAI 14.3-354.
366.	T2.4.2-3 ITAAC (10b) Design Commitment	Added testing of check valves in response to RAI 6.3-78
367.	T2.4.2-3 ITAAC (16)	Deleted description of mechanical division of equipment for meeting the single failure criteria the GDCS outside the drywell in response to RAI 14.3-301.
368.	T2.4.2-3 ITAAC (23) (24)	
369.	T2.4.2-3 ITAAC (25) (26) (27)	Added ITAAC because the deluge system is risk significant Responds to RAI 14.3-149
370.	S2.5.5, Design Description, Items 2 and 6	Items 2 and 6 DD are revised to reflect Seismic Category 1 in response to RAI 14.3-359.
371.	T2.5.5-1, ITAACs 2 and 6 DC	ITAAC 2 and 6 are revised to reflect Seismic Category 1 in response to RAI 14.3-359.
372.	T2.5.5-1, ITAAC 3 ITA and AC	In ITAAC 3 ITA and AC, added “in accordance with ANSI N14.6, 1993” in response to RAI 14.3-358
373.	T2.5.5-1, ITAAC 7 AC	In ITAAC 7 AC, added “at 125% of rated load capacity” after performed in response to RAI 14.3-360
374.	S2.5.6, Design Description, Items 3 and 4	The Design Description was modified to delete Items 3 and 4. GEH submitted Licensing Topical Reports (NEDC-33374P) for the new fuel rack and spent fuel rack criticality analyses.
375.	T2.5.6-1, ITAAC 1 and 2 ITA	Added “and analysis” after inspection in response to RAIs 14.3-361 and 362

Item	Location	Description of Change
376.	T2.5.6-1, ITAAC 1 and 2 AC	Revised ITAAC 1 and 2 AC to clarify the documentation for analysis and inspection results in response to RAIs 14.3-361 and 362
377.	T2.5.6-1, ITAACs 3 and 4	ITAAC 3 and 4 are deleted because the new fuel rack criticality analysis has been submitted to the NRC for review in advance of the completion of the design certification.
378.	T2.5.6-1, ITAAC 6 ITA	Revised ITAAC 6 ITA regarding maximum allowable stresses in response to RAI 14.3-363. Revised ITA to match AC for specific application.
379.	S2.5.10, Design Description, Item 2	Based on the response to RAI 9.1-35 for Tier 2 Section 9, IFTS now has subcomponents that are classified as Seismic Category I, II, and NS (all are nonsafety-related). Item 2 is revised to be consistent with the changes in Tier 2.
380.	T2.5.10-1, ITAAC 2 ITA and AC	Revised ITAAC ITA and AC to clarify seismic Category 1 structures in response to RAIs 14.3-296, and 297.
381.	T2.5.10-1, ITAAC 2	Based on the response to RAI 9.1-35 for Tier 2 Section 9, IFTS now has subcomponents that are classified as Seismic Category I, II, and NS (all are nonsafety-related). ITAAC 2 is revised to be consistent with the changes in Tier 2.
382.	S2.6.1, First Para.	Added new function description for post-LOCA shutdown cooling, supported by Tier 2, section 5.4.8.
383.	S2.6.1, Item (7)	Changed the word "equipment" to "components".
384.	T2.6.1-1, New First Column	Added new column for Equipment Identifiers to provide consistency within Tier 1.
385.	T2.6.1-1, Throughout Table	Added new equipment identifiers for existing table entries to provide consistency within Tier 1.
386.	T2.6.1-1, Item Row 7	More accurate description and separated two valve listings into one.
387.	T2.6.1-1, Item Row 8	New valve equipment entry due to separating a two valve listing into an individual valve listing from V-1(A,B)
388.	T2.6.1-1, Item Row 9	More accurate description and separated two valve listings into one.
389.	T2.6.1-1, Item Row 10	Valve added to provide consistency within Tier 1.

Item	Location	Description of Change
390.	T2.6.1-1, Item Row 11	New valve equipment entry due to separating a two valve listing into an individual valve listing from V-2(A,B)
391.	T2.6.1-1, Item Row 12	More accurate description and separated two valve listings into one.
392.	T2.6.1-1, Item Row 13	Added valve to meet requirements for Tier 1 ITAAC
393.	T2.6.1-1, Item Row 14	Added valve to meet requirements for Tier 1 ITAAC
394.	T2.6.1-1, Item Row 15	More accurate description.
395.	T2.6.1-1, Item Row 16	New valve equipment entry due to separating a two valve listing into an individual valve listing from V-9(A,B)
396.	T2.6.1-1, Item Row 18	More accurate description and separated two valve listings into one.
397.	T2.6.1-1, Item Row 19	New valve equipment entry due to separating a two valve listing into an individual valve listing from V-11(A,B)
398.	T2.6.1-1, Item Row 22	More accurate description.
399.	T2.6.1-1, Item Row 29	More accurate description.
400.	T2.6.1-2, Item 1, Acceptance Criteria Column	Deleted “and piping”. The use of “components” and “piping” is redundant. Piping is a subset of components.
401.	T2.6.1-2, Item 7	Entire ITAAC rewritten to be consistent with ITAAC Table 2.16.2-2, Item 3, which is the NRC accepted standard per the response to RAI 14.3-387.
402.	T2.6.2-1, New First Column	Added new column for Equipment Identifiers to provide consistency within Tier 1.
403.	T2.6.2-1, Throughout Table	Added new equipment identifiers for existing table entries to provide consistency within Tier 1.
404.	S2.6.2 Design Description (2)	Changed the following in the Design Commitment: “designed and constructed” to “designed, fabricated, installed, and inspected” in response to RAI 14.3-185
405.	S2.6.2 Design Description (2)	Revised to separate components and piping in response to RAI 14.3-344.

Item	Location	Description of Change
406.	S2.6.2, Design Description, Item 2	The Design Description, Item 2, ASME Code Section III, has been modified to separate the design ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3-141 S02.
407.	S2.6.2 Design Description (3)	Revised to separate components and piping in response to RAI 14.3-344.
408.	S2.6.2 Design Description (4)	Revised to specify pressure boundary integrity tests at system design pressure in response to RAI 14.3-341
409.	S2.6.2 Design Description (4)	Revised to stipulate that components and piping are tested at their design pressure in response to RAI 14.3-341.
410.	S2.6.2 Design Description (5)	Changed “equipment” to “components” and deleted 5b to be consistent with changes made in response to RAI 14.3-352 S01.
411.	T2.6.2-2 Design Commitment #2	Changed the following in the Design Commitment: “designed and constructed” to “designed, fabricated, installed, and inspected” in response to RAI 14.3-185
412.	T2.6.2-2 ITAAC #1	Modified the acceptance criteria for the ITAAC for ASME Code systems to be consistent with the examples provided in RAI 14.3-390 for the Nuclear Boiler System.
413.	T2.6.2-2, ITAAC 2.	ITAAC 2 is revised to separate the ASME Code Section III design activities ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3, 141-S02. This results in a total of six ITAAC to replace two ITAAC. ITAAC 2.a is now ITAAC 2.a.1, 2.a.2, and 2.a.3. ITAAC 2.b is now ITAAC 2.b.1, 2.b.2, and 2.b.3. ITAAC 2.b.1 is designated as Design Acceptance Criteria. As appropriate, the Acceptance Criteria column includes reference to ASME Code reports.
414.	T2.6.2-2 ITAAC #2	Modified the acceptance criteria for the ITAAC for ASME Code systems to be consistent with the examples provided in RAI 14.3-390 for the Nuclear Boiler System.

Item	Location	Description of Change
415.	T2.6.2-2 ITAAC #3	Modified the acceptance criteria for the ITAAC for ASME Code systems to be consistent with the examples provided in RAI 14.3-390 for the Nuclear Boiler System.
416.	T2.6.2-2 ITAAC #4	Modified the acceptance criteria for the ITAAC for ASME Code systems to be consistent with the examples provided in RAI 14.3-390 for the Nuclear Boiler System.
417.	T2.6.2-2 ITAAC #2	Revised in response to RAI 14.3-344.
418.	T2.6.2-2 Acceptance Criteria #2	Revised to separate acceptance criteria for installation and construction from acceptance criteria for reconciliation.
419.	T2.6.2-2 ITAAC #2a Design Commitment	Modified ASME Code piping and components to ensure applicability and consistent use of terminology.
420.	T2.6.2-2 ITAAC #3a Design Commitment	Revised in response to RAI 14.3-344.
421.	T2.6.2-2 Inspections, tests, Analyses #3	Changed from “Pressure boundary welds in components identified in Table 2.1.2-1a as ASME Code Section III meet ASME Code Section III requirements.” To “Inspection of the as-built pressure boundary welds will be performed in accordance with the ASME Code Section III RAI 14.3-213
422.	T2.6.2-2 Design Commitment #4	Revised to stipulate that components and piping are tested at their design pressure in response to RAI 14.3-341.
423.	T2.6.2-2 Inspections, Tests, Analyses #4i)	Revised to state that a hydrostatic pressure test will be performed in response to RAIs 14.3-367 and revised as a result of RAI 14.3-367 S01.
424.	T2.6.2-2 Inspections, Tests, Analyses #4 i)	Revised to state that a hydrostatic pressure test will be performed on components and piping in response to RAI 14.3-39.
425.	T2.6.2-2 Acceptance Criteria #4i) and ii)	Changed wording to state that piping and components comply vs conform with ASME III requirements in response to RAI 14.3-282.
426.	T2.6.2-2 Acceptance Criteria #4ii)	Changed wording to state that “an ASME III code report exists and concludes...” requirements in response to RAI 14.3-390.

Item	Location	Description of Change
427.	T2.6.2-2 Acceptance Criteria #4i)	Revised to state that a hydrostatic pressure test will be performed in response to RAI 14.3-367
428.	S2.6.2-2 Acceptance Criteria #5a	Changed “equipment” to “components” to be consistent with changes made in response to RAI 14.3-352 S01.
429.	S2.6.2-2 Design Description #5a	Changed “equipment” to “components” and deleted “and piping”. Changed “without loss of structural integrity and safety function” to “safety function” to be consistent with changes made in response to RAI 14.3-352 S01.
430.	S2.6.2-2 Inspections, Tests, Analyses #5a	Changed “equipment” to “components” to be consistent with changes made in response to RAI 14.3-352 S01.
431.	S2.6.2-2 ITAAC #5b	Deleted to be consistent with changes made in response to RAI 14.3-352 S01.
432.	T2.6.2-2 Acceptance Criteria #7a.	Stipulated a flow rate of $\geq 545.1 \text{ m}^3/\text{hr}$ in response to RAI 14.3-369.
433.	T2.6.2-2 Acceptance Criteria #7c.	Revised AC to stipulate both the flow path and flow capacity are demonstrated in response to RAI 14.3-370.
434.	T2.6.2-2 Acceptance Criteria #9.	Provided additional AC detail of SFP and IC &PCC pools monitoring and alarm capability in response to RAI 9.1-41.
435.	S2.7.1, Design Description Item 5	Added Item 5 for MCR Panel software in response to RAI 14.3-241.
436.	T2.7.1-1, ITAAC 3a ITA	The ITA for ITAAC #3a is revised to clarify that the test checks for only the presence of a test signal in response to RAI 14.3-268.
437.	T2.7.1-1, ITAAC 5	Added ITAAC 5 for MCR Panel software in response to RAI 14.3-241.
438.	T2.7.3-1, ITAAC 3a ITA	The ITA for ITAAC #3a is revised to clarify that the test checks for only the presence of a test signal to be consistent with Table 2.7.1-1 ITAAC 3as revised by response to RAI 14.3-268.

Item	Location	Description of Change
439.	S2.7.1, Design Description Item 5	Added Item 5 for MCR Panel software in response to RAI 14.3-241.
440.	T2.7.1-1, ITAAC 3a ITA	The ITA for ITAAC #3a is revised to clarify that the test checks for only the presence of a test signal in response to RAI 14.3-268.
441.	T2.7.1-1, ITAAC 5	Added ITAAC 5 for MCR Panel software in response to RAI 14.3-241.
442.	T2.7.3-1, ITAAC 3a ITA	The ITA for ITAAC #3a is revised to clarify that the test checks for only the presence of a test signal to be consistent with Table 2.7.1-1 ITAAC 3as revised by response to RAI 14.3-268.
443.	S2.10.1, 1 st para	Additional information provided to better describe LWMS in response to RAI 14.3-143 S01.
444.	S2.10.1, 1 st para	Added sentence regarding compliance to 10 CFR 20 and 10 CFR 50 Appendix I in response to RAI 11.2-16.
445.	S2.10.1, 4 th para	Removed sentence describing permanent LWMS connection to temporary systems in response to RAI 11.2-16.
446.	S2.10.1, 4 th para item 1	Added reference to Table 2.1.1-1 in response to RAI 14.3-160.
447.	S2.10.1, 5 th para item 3	Eliminate the reference to circulating water flow in item 2 in response to RAI 11.2-16.
448.	S2.10.1, 5 th para, item 3	Additional information provided to better describe discharge flow monitoring in response to RAI 14.3-16 S01 and S02.
449.	T2.10.1-1	Added description of cubicle steel liners in response to RAI 14.3-160. Modified description to show correct number of tanks in each cubicle.
450.	T2.10.1-1	Changed Deep-bed ion exchangers to “Mixed-bed” ion exchangers in response to RAI 11.2-6.
451.	T2.10.1-1	Removed reference to mobile processing systems in response to RAI 11.2-6.

Item	Location	Description of Change
452.	T2.10.1-2 Design Commitment and AC # 1	Added reference to Table 2.10.1-1 in response to RAI 14.3-160 .
453.	T2.10.1-2 ITA #2 and Design Commitment #2	Revised ITA#2 and AC #2 to clarify hydrostatic test requirements for the LWMS piping in response to RAI 14.3-371 and 14.3-371 S01.
454.	T2.10.1-2 ITAAC item 4	Added ITAAC #4 for filtration media in response to RAI 11.2-16.
455.	S2.10.2, entire section	Provided for Design Description information for SWMS consistent with level of information for LWMS and GWS in response to RAIs 11.4-18 and 11.4-15 S01.
456.	T2.10.2-2	Provided two ITAACs for SWMS consistent with level of information for LWMS and GWS in response to RAIs 11.4-18 and 11.4-15 S01.
457.	S2.10.3, 1 st para, 3 rd para, and item #5	Additional information provided to better describe OGS in response to RAI 14.3-143 S01 and RAI 14.3-156.
458.	S2.10.3 Design Description #4	Revised design description #4 to define treat mode in response to RAI 14.3-372
459.	S2.10.3 Design Description #5	Added DD #5 in response to 14.3-143 S01
460.	T2.10.3-1 ITAAC #4 Design Commitment and Inspections, Tests, Analyses	Revised ITAAC #4 DC and ITA to define treat mode in response to RAI 14.3-372
461.		
462.		
463.	S2.11.1 Design Description item 2	Changed Design Description to show code testing is at design pressure in response to RAI 14.3-341
464.	S2.11.1 Design Description item 5	Expanded description of TMSS piping for Design Description in response to RAI 10.2-27
465.	S2.11.1 Design Description item 5 Inspections, Tests Analyses	Revised in response to RAI 14.3-390

Item	Location	Description of Change
466.	S2.11.1 Design Description item 5 Acceptance Criteria	Revised in response to RAI 14.3-390 and 14.3-282.
467.	S2.11.1 Design Description item 7	Added in response to RAI 10.2-27
468.	S2.11.1 Design Description item 8	Revised steam line parameters used in Abnormal Events in response to RAIs 10.2-27 and 14.3-317
469.	S2.11.1 Design Description item (9)	Added design description Item 9 to address the portions of the Turbine Main Steam System piping that are designed in accordance with the ASME Code. The changes address NRC RAI 14.3-141 S02 and 14.3-213 S01.
470.	2.11.1, Design Description, Item 9	The Design Description, Item 9, ASME Code Section III, has been modified to separate the design ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3-141 S02.
471.	S2.11.1 Design Description item (10)	Added design description Item (10) in response to RAI 14.3-213 S01
472.	T2.11.1-1 Design Description # 2	Changed Design Commitment to show code testing is at design pressure in response to RAI 14.3-341
473.	T2.11.1-1 Design commitment # 5	Expanded description of TMSS piping for Design Commitment in response to RAI 10.2-27
474.	T2.11.1-1 Design Commitment Item 7	Added in response to RAI 10.2-27
475.	T2.11.1-1 Design ITAAC Item 8	Revised steam line parameters used in Abnormal Events in response to RAI 14.3-317. Changed value of steam line pressure drop based on analysis results subsequent to the RAI.
476.	T2.11.1-1 ITAAC # 9	Added ITAAC Item 9 to address the portions of the Turbine Main Steam System piping that are designed in accordance with the ASME Code. The changes address NRC RAI 14.3-341 and 14.3-213 S01

Item	Location	Description of Change
477.	T2.11.2-1 ITAAC #9	ITAAC 2 is revised to separate the ASME Code Section III design activities ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3-141 S02. This results in a total of six ITAAC to replace two ITAAC. ITAAC 9.a is now ITAAC 9.a.1, 9.a.2, and 9.a.3. ITAAC 9.b is now ITAAC 9.b.1, 9.b.2, and 9.b.3. ITAAC 9.b.1 is designated as Design Acceptance Criteria. As appropriate, the Acceptance Criteria column includes reference to ASME Code reports.
478.	T2.11.1-1 Design ITAAC # 10	Added ITAAC # 10 in response to RAI 14.3-213 S01
479.	S2.11.2, 2 nd para 2 nd sentence	<p>Changed sentence from</p> <p>“The feedwater pumps take suction from the feedwater tank and pump feedwater through the high-pressure feedwater heaters to the reactor.”</p> <p>to</p> <p>“The feedwater booster pumps take suction from the open feedwater tank and provide adequate suction head for the reactor FW pumps, which pump feedwater through the high-pressure feedwater heaters to the reactor.”</p> <p>The change is consistent with the description of Tier 2 Section 10.4.7.2.1.</p>
480.	T2.11.2-1 ITAAC # 2 Acceptance Criteria	Removed brackets around numerical values in response to RAI 14.3-317
481.	T2.11.2-1 ITAAC # 3 Acceptance Criteria	Removed brackets around numerical values in response to RAI 14.3-317
482.	T2.11.2-1 ITAAC # 4 Acceptance Criteria	Removed brackets around numerical values in response to RAI 14.3-317
483.	T2.11.2-1 ITAAC # 5 Acceptance Criteria	Removed brackets around numerical values in response to RAI 14.3-317
484.	T2.11.2-1 ITAAC # 6 Acceptance Criteria	Removed brackets around numerical values in response to RAI 14.3-317
485.	T2.11.2-1 ITAAC # 7 Acceptance Criteria	Removed brackets around numerical values in response to RAI 14.3-317

Item	Location	Description of Change
486.	T2.11.2-1 ITAAC #8 Acceptance Criteria	Removed brackets around numerical value for nominal feedwater flow in response to RAI 14.3-317
487.	T2.11.2-1 ITAAC #8 Acceptance Criteria	Changed value of kg/s to have same number of significant figures as value in lbm/hr for value for nominal feedwater flow.
488.	S2.11.4 Design Description Item (2)	<p>Deleted “Favorably oriented turbine generators are located such that the containment and most safety-related Systems, Structures and Components outside containment are excluded from the low-trajectory hazard zone described in RG 1.115”</p> <p>Added the statement “The safety-related SSCs that are located within the low-trajectory turbine missile strike zone are either safeguarded from direct turbine missile strike or are failsafe in design.” In response to RAI 14.3-318</p> <p>Modified the response to read “The safety-related SSCs that are located within the low-trajectory turbine missile strike zone are failsafe in design.” To be consistent with DCD Tier 2 Sectio10.2.4.n</p>
489.	S2.11.4 Design Description Item (4)	Deleted “nominal” in description of MT stop valve closing time in response to RAI 14.3-319.
490.	S2.11.4 Design Description Item (6)	Added item 6 “The probability of a strike by a turbine missile is sufficiently low to prevent equipment damage to essential systems” in response to RAI 14.3-176 and subsequent NRC Staff telecom comments on that response.
491.	S2.11.4 Design Description Item (7)	Added “The as-built turbine material properties, turbine rotor and blade designs, pre-service inspection and testing results and in-service testing and inspection requirements meet the requirements defined in the Turbine Missile Probability Analysis.” In response to RAI 14.3-176.
492.	T2.11.4-1 Design ITAAC #2 Inspections, Tests and Analyses	Added ITA in response to RAI 14.3-176
493.	T2.11.4-1 Design ITAAC #3 Acceptance Criteria	Added AC in response to RAI 14.3-176

Item	Location	Description of Change
494.	T2.11.4-1 Design ITAAC #3 Acceptance Criteria	Revised Acceptance criteria and removed brackets around numerical values in response to RAI 14.3-318
495.	T2.11.4-1 Design ITAAC #4 Design Commitment	Deleted “nominal” in description of MT stop valve closing time in response to RAI 14.3-319.
496.	T2.11.4-1 Design ITAAC #4 Inspections, Tests and Analyses	Deleted “nominal” in description of MT stop valve closing time in response to RAI 14.3-319.
497.	T2.11.4-1 Design ITAAC #4 Acceptance Criteria	Deleted “nominal” in description of MT stop valve closing time. Clarified description of minimum closing time and removed brackets from numerical value in response to RAI 14.3-319.
498.	T2.11.4-1 Design ITAAC #4 Acceptance Criteria	Changed wording in RAI 14.3-319 from “greater than 0.100 seconds” to “greater than or equal to 0.100”. to be consistent with other ACs in table 2.11.4-1.
499.	T2.11.4-1 Design ITAAC #6 Design Commitment	Added item 6 “The probability of a strike by a turbine missile is sufficiently low to prevent equipment damage to essential systems” in response to RAI 14.3-176 and subsequent NRC Staff telecom comments on that response.
500.	T2.11.4-1 Design ITAAC #6 Inspections, Tests and Analyses	Added ITA for turbine missile probability analysis in response to RAI 14.3-176 and subsequent NRC Staff telecom comments on that response.
501.	T2.11.4-1 Design ITAAC #6 Acceptance Criteria	Added AC for turbine missile probability analysis in response to RAI 14.3-276 and subsequent NRC Staff telecom comments on that response.
502.	T2.11.4-1 Design ITAAC #7 Acceptance Criteria	Added “The as-built turbine material properties, turbine rotor and blade designs, pre-service inspection and testing results and in-service testing and inspection requirements meet the requirements defined in the Turbine Missile Probability Analysis.” In response to RAI 14.3-176.
503.	T2.11.4-1 Design ITAAC #7 Inspections, Tests and Analyses	Added ITA for as-built turbine material properties in response to RAI 14.3-176.
504.	T2.11.4-1 Design ITAAC #7 Acceptance Criteria	Added AC for as-built turbine material properties in response to RAI 14.3-176.

Item	Location	Description of Change
505.	S2.11.6 Design Description Item (2)	Deleted the words “signals(s) from” to clarify description in response to RAI 14.3-321.
506.	S2.11.6 Design Commitment #2	Deleted the words “signals(s) from” to clarify description in response to RAI 14.3-321.
507.	T2.11.6 Inspections, Tests and Analyses #2	Changed “signals(s)” to “signal” to clarify description in response to RAI 14.3-321.
508.	T2.11.6 Design Commitment #2	Changed “signals(s)” to “signal” to clarify description in response to RAI 14.3-321.
509.	T2.11.4-1 Design ITAAC #4 Acceptance Criteria	Revised Acceptance criteria and removed brackets around numerical values in response to RAI 14.3-322
510.	T2.11.4-1 Design ITAAC #5 Acceptance Criteria	Revised Acceptance criteria and removed brackets around numerical values in response to RAI 14.3-322
511.	T2.11.4-1 Design ITAAC #6 Acceptance Criteria	Revised Acceptance criteria and removed brackets around numerical values in response to RAI 14.3-322
512.	T2.11.4-1 Design ITAAC #7 Acceptance Criteria	Revised Acceptance criteria and removed brackets around numerical values in response to RAI 14.3-322
513.	S2.12.3, 1 st para, last sent.	Added “standby” to diesel generator to distinguish from ancillary diesel generators added under design change and removed “...under LOPP conditions” for consistency with Tier 2 RTNSS function descriptions.
514.	S2.12.3, former 2 nd para. and bullets	<p>Deleted entire paragraph and bullets as the information provided redundant details that are already shown on the functional arrangement drawing, Figure 2.12.3-1:</p> <p>“The functional arrangement of the RCCWS is that it consists of two 100% capacity independent and redundant trains. Both trains share a chemical addition tank. The pumps in each train discharge to a common header leading to the RCCWS heat exchangers header. RCCWS cooling water is supplied to the following major users:</p> <ul style="list-style-type: none"> • Chilled Water System (CWS) Nuclear Island chiller-condenser • RWCU/SDC non-regenerative heat exchanger • FAPCS heat exchanger • Standby On Site AC Power Supply Diesel Generators”

Item	Location	Description of Change
515.	S2.12.3, new 2 nd para.	Added paragraph in response to RAI 22.5-1: “The functional arrangement of the RCCWS is shown on Figure 2.12.3-1.”
516.	S2.12.3, 2 nd para., Item (1)	Added “.....and is shown on Figure 2.12.3-1” for added detail.
517.	S2.12.3, 2 nd para., Item #2	Added “standby” to diesel generator to distinguish from ancillary diesel generators added under design change and removed “...under LOPP conditions” for consistency with Tier 2 RTNSS function descriptions.
518.	T 2.12.3-1, ITAAC 1, Commitment and Acceptance Criteria	Added “and is shown on Figure 2.12.3-1” in response to RAI 22.5-1.
519.	T 2.12.3-1, ITAAC 2, Commitment, Inspections and Tests, and Acceptance Criteria	Revised “diesel generator” to “standby diesel generator” to distinguish from ancillary diesel generators added under design change.
520.	T 2.12.3-1, ITAAC 2, Commitment	Removed “...under LOPP conditions” in for consistency with Tier 2 RTNSS function descriptions.
521.	F2.12.3-1	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
522.	S2.12.5, 1 st para, last sent	Revised statement to provide standard RTNSS function description for consistency with Tier 2 RTNSS function descriptions from: “...additional regulatory oversight for providing cooling support for certain safety-related HVAC systems” To: “...additional regulatory oversight for its nonsafety-related functions to provide post 72-hour cooling support for RCCWS and HVAC systems.”
523.	S2.12.5, 2 nd para, (2)	Revised “HVAC” to “RCCWS and HVAC systems” for consistency with Tier 2 RTNSS function descriptions.
524.	T 2.12.5 ITAAC 2, Commitment, Inspections and Tests, and Acceptance Criteria	Revised “HVAC” to “RCCWS and HVAC systems” for consistency with Tier 2 RTNSS function descriptions.

Item	Location	Description of Change
525.	F2.12.5-1	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
526.	F2.12.7-1	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
527.	S2.12.12	Revised “no entry for this system” to “The Hot Water System for the ESBWR design has been eliminated” as result of engineering change.
528.	S2.13.4, 1 st para., Item (2), new Items f, g, and h.	<p>Added new items to provide additional requirements of standby diesel generator in response to RAI 14.3-177:</p> <ul style="list-style-type: none"> f. “Each of the standby diesel generator jacket cooling water systems controls the flow of water to maintain required water temperature. g. Each standby diesel generator has instrumentation provided to monitor lube oil temperature, pressure and sump level, ensuring proper operation of the system. h. Each standby diesel generator is provided with a separate intake and exhaust system.”
529.	S2.13.4, 1st para., Item (3)	<p>Revised sentence for clarification from:</p> <p>“The minimum set of displays, alarms and controls, based on the applicable codes and standards, including HFE evaluations emergency procedure guidelines, is available in the main control room.”</p> <p>To:</p> <p>“The Standby Onsite Power Supply minimum inventory of alarms, displays, controls, and status indications in the main control room are addressed in Section 3.3.”</p>
530.	T2.13.4-2, ITAAC 2a, Acceptance Criteria	Revised “within one minute of starting” to “within 2 minutes of starting” to be consistent with Tier 2, Subsection 8.3.1.1.8.
531.	T2.13.4-2, ITAAC 2c, Acceptance Criteria	Revised “that is operating at rated load.” to “under continuous operation” to be consistent with requirements in Tier 2, Subsection 9.5.4.2.
532.	T2.13.4-2, new ITAAC 2f, 2g, and 2h	Added new items to provide additional requirements of standby diesel generator in response to RAI 14.3-177.
533.	S2.15.6, 1 st para., former last sent.	Deleted sentence as this ITAAC has been included as part of the Containment Monitoring System.

Item	Location	Description of Change
534.	S2.15.6, former 2 nd para.	Deleted paragraph as this detail has been included as part of the Containment Monitoring System.
535.	S2.15.6, former 3 rd para.	Deleted sentence as this ITAAC has been included as part of the Containment Monitoring System.
536.	T2.15.6-1, deleted	Deleted Table as this ITAAC has been included as part of the Containment Monitoring System.
537.	T2.15.6-2, deleted	Deleted Table as this ITAAC has been included as part of the Containment Monitoring System.
538.	S2.16.2.1, Item (7)	Added “electrical cabinet cooling and CRD / RWCU motor cooling” to provide additional post 72-hour cooling functions.
539.	S2.16.2.1, New Item (10)	Added new item in response to RAI 14.3-241.
540.	S2.16.2.1, New Item (11)	Added requirement to test RB HVAC CONAVS Purge Exhaust Filters to verify RTNSS function.
541.	S2.16.2.2, 1 st para., 3 rd sent.	Added “Subsystem” after “Control Building General Area HVAC” for clarification.
542.	S2.16.2.2, 3 rd para., last sent.	Revised “...provided by the ESBWR design” to “...provided by the ESBWR design for the first 72 hours” to clarify the basis.
543.	S2.16.2.2, 4 th para., Item (4)	<p>Revised in response to RAI 9.4-33 S01 from:</p> <p>(1) “The CRHAVS provides cooling to the CRHA.</p> <p style="padding-left: 20px;">a. In the CRHA, temperature rise on a loss of normal cooling will not exceed 8.3°C (15°F) for 72 hours.</p> <p style="padding-left: 20px;">b. The CRHA heat sink is maintained at or below 25.56°C (78°F).”</p> <p>To:</p> <p>(2) “The CRHAVS heat sink passively maintains the temperature of the CRHA within an acceptable range for the first 72 hours following a design basis accident.”</p>
544.	S2.16.2.2, 4 th para., new Items (7), (8), (9) and (10).	Added new items to further describe the functions of the CB HVAC System to provide additional requirements and in response to RAI’s 15.4-1 S01 and 14.3-241.
545.	S2.16.2.3, 1 st para., Item (5)	Revised to remove “of 31 pascals (0.125 inch water gauge)” and “of 200 l/s (424 cfm)” as these values are specified within the ITAAC table.
546.	S2.16.2.3, 1 st para., Item (9)	Revised to “Deleted” per RAI 9.4-31.

Item	Location	Description of Change
547.	S2.16.2.3, 1 st para., new Items (10), (11), (12) and (13)	Added new items to further describe the functions of the EFU's and in response to RAI 14.3-216 S01 (items 10, 11 and 12) and RAI 14.3-241 (item 13).
548.	S2.16.2.4, 2 nd para., Item (1)	Added "and is as shown in Figures 2.16.2-6a" as TB HVAC is RTNSS and figure is required.
549.	S2.16.2.5, 1 st para., Item (5)	Added "pump motors and N-DCIS" to further detail post 72-hour cooling.
550.	S2.16.2.7, 1 st para., Item (1)	Added "and is as shown in Figures 2.16.2-9" as EB HVAC is RTNSS and figure is required.
551.	T2.16.2-1, New line items for CLAVS	Added two (2) new items for CLAVS in response to RAI's 14.3-52 and 14.3-53.
552.	T2.16.2-2, ITAAC 7, Commitment, ITAAC, and Acceptance Criteria	Added "electrical cabinet cooling and CRD / RWCU motor cooling" to clarify the ITAAC details as responded to in RAI 9.4-34 S01 (MFN-TBD).
553.	T2.16.2-2, new ITAAC (10)	Added new ITAAC in response to RAI 14.3-241.
554.	T2.16.2-2, new ITAAC (11)	Added new ITAAC in response to RAI 9.4-34 S01 (MFN-TBD)
555.	T2.16.2-2, deleted two Items	Moved components "EFU downstream isolation dampers" and "CRHAVS EFUs" as these are associated with EFUs as per response to RAI 14.3-227.
556.	T2.16.2-4, ITAAC 4	Revised ITAAC in response to 9.4-33 S01 (MFN-TBD).
557.	T2.16.2-4, new ITAACs 7 and 8	Added new ITAACs in response to RAI 15.4-1 S01.
558.	T2.16.2-4, new ITAAC 9	Added new ITAAC in response to RAI 14.3-241.
559.	T2.16.2-4, new ITAAC 10	Added new item as this function is RTNSS and ITAAC is required as per response to RAI 9.4-39 S01 (MFN-TBD).
560.	T2.16.2-5, revised Item	Revised component "EFU Dampers" for clarification with response to RAI 14.3-227 to: "EFU supply CRHA isolation dampers, tornado protection dampers and missile protected intake louvers with connecting ducting (including supports)"

Item	Location	Description of Change
561.	T2.16.2-5, new Item	Added the following new component to specify the design requirements as provided in response to RAI 14.3-277: “EFU discharge CRHA isolation dampers and connecting ducting (including supports)”
562.	T2.16.2-6, ITAAC 5a, Commitment	Revised to specify “the minimum” for clarification and deleted values “of > 31 pascals (0.125 inch water gauge)” and “of 200 l/s (424 cfm)” as these are specified in the Acceptance Criteria.
563.	T2.16.2-6, ITAAC 9	Deleted item in response to RAI 9.4-31.
564.	T2.16.2-6, new ITAACs 10, 11, and 12	Added to ITAACs to specify requirements for EFU operation in response to RAI 14.3-216 (item 10 and 11) and RAI 14.3-217 (item 12).
565.	T2.16.2-6, new ITAAC 13	Added new ITAAC in response to RAI 14.3-241.
566.	T2.16.2-7, ITAAC 1	Added “and shown in Figure 2.16.2-6a” to clarify the Commitment and the Acceptance Criteria.
567.	T2.16.2-7, ITAAC 2	Revised “is adequate” to “meets the requirements” for clarification under Acceptance Criteria.
568.	T2.16.2-9, ITAAC 5	Added “pump motors and N-DCIS” to Commitment and Acceptance Criteria to provide additional requirements.
569.	T2.16.2-9, ITAAC 5	Revised “is adequate” to “meets the requirements” for clarification under Acceptance Criteria as per response to RAI 9.4-39 S01.
570.	T2.16.2-10, ITAAC 1	Added “and shown in Figure 2.16.2-9” to clarify the Commitment and the Acceptance Criteria.
571.	T2.16.2-10, ITAAC 2	Revised “is adequate” to “meets the requirements” for clarification under Acceptance Criteria.
572.	F2.16.2-1	Revised figure in response to RAI 14.3-52 S01 to reflect design development and for consistency with Tier 2. Entire figure revised.
573.	F2.16.2-2	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
574.	F2.16.2-3	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.

Item	Location	Description of Change
575.	F2.16.2-4	Revised figure in response to RAIs 9.4-49, 9.4-30, and 9.4-29 to reflect design development and for consistency with Tier 2. Entire figure revised.
576.	F2.16.2-5	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
577.	F2.16.2-6	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
578.	F2.16.2-6a, New	Added new figure to reflect RTNSS system functions for the TBVS.
579.	F2.16.2-7	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
580.	F2.16.2-8	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
581.	F2.16.2-9, New	Added new figure to reflect RTNSS system functions for the EBVS.
582.	S2.16.3, 2 nd para. Item (3)	<p>Revised sentence in accordance with response to RAI 14.3-209 S01 (MFN-TBD) for clarification from:</p> <p>“...plant areas containing safety-related equipment, including those that have automatic fire suppression systems, excluding the containment vessel.”</p> <p>To:</p> <p>“...plant areas containing safe shutdown equipment.”</p>
583.	S2.16.3 2 nd para. Item (4) a.	<p>Revised sentence as values are specified in the ITAAC table and for consistency with Tier 2 and from:</p> <p>“The Primary storage tanks contain a combined minimum usable firewater storage capacity of $\geq 3900 \text{ m}^3$ (1,030,000 gallons) of water.”</p> <p>To:</p> <p>“The Primary storage tanks contain the required combined minimum usable fire water storage capacity. ”</p>
584.	S2.16.3, 2 nd para., Item (4) b.	Revised to delete “1135.6 m ³ (300,000 gallons) of water” as values are specified in ITAAC table.
585.	S2.16.3, 2 nd para., Item (5)	<p>Revised sentence for consistency with Tier 2 from:</p> <p>“Each fire pump provides at least 454.2 m³/hr (2000 gpm) discharge flow with adequate pressure.”</p> <p>To:</p> <p>“Each fire pump provides the required minimum discharge flow with adequate pressure.”</p>

Item	Location	Description of Change
586.	S2.16.3, 2 nd para., Item (7) b.	Revised Item to be specific functional requirements from: “...fire pump contains adequate fuel oil capacity for 96 hours of fire pump operation.” To: “...fire pump contains adequate fuel oil capacity to support the RTNSS function of providing make up water from 72 hours to 7 days after an accident.”
587.	T2.16.3-1	Revised entire table to reflect Tier 2 Table 3.2-1.
588.	T2.16.3-2, ITAAC 3.	Revised entire ITAAC in response to RAI 14.3-209 S01 (MFN-TBD).
589.	T2.16.3-2, ITAAC 4a.	Revised Design Commitment for clarification and moved the value “a combined minimum usable firewater storage capacity of $\geq 3900 \text{ m}^3$ (1,030,000 gallons)” into the Acceptance Criteria.
590.	T2.16.3-2, ITAAC 4b.	Revised Design Commitment and moved the value “ $\geq 1135.6 \text{ m}^3$ (300,000) gallons” to the Acceptance Criteria “of $\geq 2082 \text{ m}^3$ (550,000) gallons”.
591.	T2.16.3-2, ITAAC 5.	Revised Design Commitment to be consistent with new flow requirements and moved the value “at least $454.2 \text{ m}^3/\text{hr}$ (2000 gpm)” to the Inspections and Acceptance Criteria “ $484 \text{ m}^3/\text{hr}$ (2130 gpm)”.
592.	T2.16.3-2, ITAAC 7a.	Revised “total” to “minimum” in Inspections, Test, and Analysis and Acceptance Criteria to clarify.
593.	T2.16.3-2, ITAAC 7b.	Revised in both Design Commitment and Acceptance Criteria for clarification from: “...for 96 hours of fire pump operation.” To: “...to support the RTNSS function of providing make up water from 72 hours to 7 days after an accident.”
594.	F2.16.3-1	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
595.	S2.16.3.1, 1 st para., Item (4)	Added additional requirement for verification of fire coating of structural steel in response to RAI 14.3-393. “Exposed structural steel protecting areas containing safe shutdown equipment is fireproofed with material with a fire rating of up to 3 hours as determined from the FHA.”

Item	Location	Description of Change
596.	T2.16.3.1-1 ITAAC 2, Inspections, Tests, Analysis	Revised sentence for consistency with Tier 2 in response to RAI 14.3-208, from: “Inspections will be performed to confirm that penetrations through fire barriers are sealed or closed” To: “Inspections will confirm that as-built penetrations through fire barriers are sealed or closed to provide fire resistance ratings at least equal to that required of the barriers.”
597.	T2.16.3.1-1 ITAAC 2, Acceptance criteria	Revised sentence for consistency with Tier 2 in response to RAI 14.3-208, from: “Inspection report(s) document that the asbuilt fire penetrations in the fire areas listed in Table 2.16.3.1-1 are sealed or closed.” To: “Inspection report(s) document that as-built penetrations through fire barriers provide fire resistance ratings at least equal to that required of the barriers.”
598.	T2.16.3.1-1, ITAAC 4,	Added new ITAAC requirement for verification of fire coating of structural steel in response to RAI 14.3-393.
599.	S2.16.4, 3 rd para., Item (2)	Revised item to be consistent with Tier 2 information of S9.3.3.2 from: “...liquid wastes from the equipment and floor drainage...” To: “...liquid wastes from floor drainage...”
600.	S2.16.4, 3 rd para., Item (3)	Revised item to be consistent with Tier 2 information of S9.3.3.2 from: “...emanating from the large process valves’ stem packing seals in the drywell and ...” To: “...emanating from equipment in the drywell and ...”
601.	T2.16.4-1, ITAAC 2, Design Commitment	Deleted “the equipment and” to be consistent with Tier 2 information of S9.3.3.2.
602.	T2.16.4-1, ITAAC 3, Design Commitment and Inspections, Tests, Analyses	Revised item to be consistent with Tier 2 information of S9.3.3.2.
603.	S2.13.1, Design Description	To adequately describe the newly added ancillary diesel buses 2.13.1 has been largely re-written.
604.	S2.13.1, Design Description, Item (7)	These changes address RAI 14.3-329.

Item	Location	Description of Change
605.	Table 2.13.1-1, Equipment Description	To clarify the descriptions of the isolation power center buses, bus numbers have been added to the descriptions and references to additional breakers has been added.
606.	Table 2.13.1-2, Item (3a), DC	To clarify the Item 3a, the DC has been revised to read as follows: Independence is provided between safety-related divisions as required by Regulatory Guide 1.75.
607.	Table 2.13.1-2, Item (3b), DC	To clarify the Item 3b, the DC has been revised to read as follows: Separation is provided between safety-related divisions, and between safety-related divisions and nonsafety-related equipment as required by Regulatory Guide 1.75.
608.	Table 2.13.1-2, Item (3b), AC	In response to RAI 14.3-328, the Item 3b AC has been revised to read as follows: Inspection report(s) document that, for the as-built safety-related 480 VAC Isolation Power Centers, physical separation and electrical isolation as required by Regulatory Guide 1.75 exists between safety - related divisions. Physical separation and electrical isolation as required by Regulatory Guide 1.75 exists between safety-related divisions and nonsafety-related equipment.
609.	Table 2.13.1-2, Item (5)	Editorial – renumbering.
610.	Table 2.13.1-2, Item (6a), DC	To clarify Item 6a, the DC has been revised to read as follows: The Onsite AC Power System provides the capability for distributing nonsafety-related ac power from onsite sources to their designated RTNSS loads.
611.	Table 2.13.1-2, Item (6b), DC	To eliminate duplication of in 2.13.4, the DC has been revised to read as follows: The Onsite AC Power System provides a PIP bus undervoltage signal to trip the PIP bus normal and alternate preferred power supply breakers.
612.	Table 2.13.1-2, Item (6b), AC	To clarify the AC has been revised to read as follows: Test report(s) demonstrate that the as-built PIP bus normal and alternate preferred power supply breakers trip after receiving a real or simulated PIP bus undervoltage signal.

Item	Location	Description of Change
613.	Table 2.13.1-2, Item (6c)	Auto loading is a nonsafety-related RTNSS C function and should not be included in Tier 1. Item 6c has been deleted.
614.	Table 2.13.1-2, Item (7), DC	In response to RAI 14.3-329 Item 7 DC was revised to read: The Onsite AC Power System minimum inventory of alarms, displays, controls, and status indications in the main control room are addressed in Section 3.3.
615.	S2.13.3, Design Description	To adequately describe the newly added ancillary diesel buses 2.13.1 has been largely re-written.
616.	Table 2.13.3-1, Equipment Description	To clarify the descriptions of division buses, bus numbers have been added to the descriptions.
617.	Table 2.13.3-2	Revised for clarification of busses.
618.	S2.13.3, Design Description, Old (6)	These changes address RAI 8.3-52 S03.
619.	S2.13.3, Design Description, Item (9)	These changes address RAI 16.2-129.
620.	S2.13.3, Design Description, Item (10)	These changes address RAI 14.3-330.
621.	Table 2.13.3-3, Item (1), AC	For clarification of the tables, AC was revised to read: Inspection report(s) document that the as-built 250 V Safety-Related DC systems conform with the functional arrangement as shown in Figure 2.13.3-1 and as described in section 2.13.3 and component locations are as shown in Table 2.13.3-1. These changes address RAI 14.3-375.
622.	Table 2.13.3-3, Item (3)	ITAAC was added.
623.	Table 2.13.3-3, New Item (6), DC	To clarify the Item 6, the DC has been revised to read as follows: Separation is provided between safety-related divisions, and between safety-related divisions and nonsafety-related equipment as required by Regulatory Guide 1.75.

Item	Location	Description of Change
624.	Table 2.13.3-3, old Item (6), AC	<p>In response to RAI 14.3-328, the Item 6 AC has been revised to read as follows:</p> <p>Inspection report(s) document that, for the as-built safety-related 480 VAC Isolation Power Centers, physical separation and electrical isolation as required by Regulatory Guide 1.75 exists between safety - related divisions. Physical separation and electrical isolation as required by Regulatory Guide 1.75 exists between safety-related divisions and nonsafety-related equipment.</p>
625.	Table 2.13.3-3, old Item (6)	<p>ITAAC deleted.</p> <p>These changes address RAI 8.3-52 S03.</p>
626.	Table 2.13.3-3, Item (9)	<p>These changes address RAI 16.2-129.</p>
627.	Table 2.13.3-3, Item (10)	<p>These changes address RAI 14.3-330.</p>
628.	Figure 2.1.3-1, Figure 2.13.3-2 (1&2)	<p>Revised figures to provide additional details.</p>
629.	S2.13.4, Design Description	<p>To adequately describe the newly added ancillary diesel buses 2.13.4 has been largely re-written.</p>
630.	S2.13.4, Design Description Item (2).f, g, h	<p>Added to adequately describe the standby diesel. These changes address RAI 14.3-177.</p>
631.	S2.13.4, Design Description Item (3)	<p>These changes address RAI 14.3-331.</p>
632.	T 2.13.4-1	<p>Added location of new Ancillary Diesel Generators</p>
633.	T2.13.4-2, Item 2a, DC	<p>To clarify the design commitment, DC was revised to read:</p> <p>“Upon receipt of an undervoltage signal from the Onsite AC Power System, the standby diesel generator starts and achieves rated speed and voltage.”</p>
634.	T2.13.4-2, Item 2a, AC	<p>To correct the AC for the standby diesel generator start the AC was revised to read:</p> <p>“Test report(s) demonstrate that the as-built standby diesel generator starts upon receipt of a real or simulated undervoltage signal on its associated PIP bus and achieves rated speed and voltage.”</p>

Item	Location	Description of Change
635.	T2.13.4-2, Item 2e, DC	To clarify the ITAAC requirement, DC was revised to read: “Each of the standby diesel generator starting air receivers is capable of starting the engine at its low pressure alarm setpoint.”
636.	T2.13.4-2, Item (2) f, g, h, DC	These changes address RAI 14.3-177.
637.	T2.13.4-2, Item (3), DC	Item 3 DC was revised to read: “The Onsite AC Power System minimum inventory of alarms, displays, controls, and status indications in the main control room are addressed in Section 3.3.” These changes address RAI 14.3-331.
638.	T2.13.4-2, Item (4)	To adequately test new ancillary diesels, several new ITAAC were added.
639.	S2.13.5, Design description Item (7)	In response to RAI 14.3-332 Item (7) has been revised to read: “The Uninterruptible AC Power Supply minimum inventory of alarms, displays, controls, and status indications in the main control room are addressed in Section 3.3.”
640.	S2.13.5, Design Description Item (9)	Editorial Clarification to achieve consistency with Tier 2 8.3.2.1.1 Item (9) has been revised to read: “The safety-related UPS rectifiers are designed to prevent their AC source from becoming a load on the 250 VDC safety-related batteries when the AC power source is de-energized or has degraded voltage.” These changes address RAI 16.2-129.
641.	T2.13.5-1	To clarify the descriptions of the division UPS buses, bus numbers have been added to the descriptions.
642.	T2.13.5-2, Item (5), DC	To clarify Item 6, the DC has been revised to read as follows: “Separation is provided between safety-related divisions, and between safety-related divisions and nonsafety-related equipment as required by Regulatory Guide 1.75.”

Item	Location	Description of Change
643.	T2.13.5-2, Item (5), AC	<p>In response to RAI 14.3-328, AC has been revised to read as follows:</p> <p>“Inspection report(s) document that, for the as-built safety-related 480 VAC Isolation Power Centers, physical separation and electrical isolation as required by Regulatory Guide 1.75 exists between safety - related divisions. Physical separation and electrical isolation as required by Regulatory Guide 1.75 exists between safety-related divisions and nonsafety-related equipment.”</p>
644.	T2.13.5-2, Item 6, ITA	<p>For clarification ITA was revised to read:</p> <p>“Testing of each as-built safety-related UPS inverter will be performed by applying a combination of simulated and/or real loads.”</p>
645.	T2.13.5-2, Item 6, AC	<p>For clarification, AC was revised to read:</p> <p>“Test report(s) document that the as-built safety-related UPS inverter supplies its rated load while maintaining its rated voltage at its rated frequency.”</p>
646.	T2.13.5-2, Item (7), DC	<p>In response to RAI 14.3-329 DC was revised to read:</p> <p>“The Uninterruptible AC Power Supply minimum inventory of alarms, displays, controls, and status indications in the main control room are addressed in Section 3.3.”</p> <p>These changes address RAI 14.3-332.</p>
647.	T2.13.5-2, Item (9), AC	<p>Revised to read:</p> <p>The safety-related UPS rectifiers are designed to prevent their AC source from becoming a load on the 250 VDC safety-related batteries when the AC power source is de-energized or has degraded voltage.”</p> <p>These changes address RAI 16.2-129.</p>
648.	T2.13.5-2, Item (9), ITA	<p>Revised to read:</p> <p>“Testing of each safety-related rectifier will be performed to demonstrate that there is no power feedback from a loss of AC input power.”</p> <p>These changes address RAI 16.2-129.</p>

Item	Location	Description of Change
649.	T2.13.5-2, Item (9)	Revised to read: “Test report(s) document that the safety-related rectifiers prevent the AC input source from becoming a load on the 250 VDC safety-related batteries during a loss of AC power condition.” These changes address RAI 16.2-129.
650.	Figure 2.13.5-1, Figure 2.13.5-2 (1&2)	Revised figures to provide additional details.
651.	S2.13.7, Design Description	Deleted information. No ITAAC are required for this system.
652.	Table 2.13.7-1	Deleted as Communications are nonsafety-related and do not require an ITAAC.
653.	S2.13.8, Design Description	In response to RAI 9.5-60 S02 the design description has been revised.
654.	T2.13.8-1	In response to RAI 9.5-60 S02 the table has been revised for consistency with changes in the design description.
655.	T2.13.8-1, Item (3), ITA	Revised to read: “Analysis of the Control Room and RSS Emergency Lighting System mountings and inspection of the as-built system will be performed.”
656.	T2.13.8-1, Item (3), AC	In response to RAI 14.3-333, item 3 AC was revised to read: “Analysis and inspection report(s) exist and document that the Control Room and RSS Emergency Lighting System mountings meet Seismic Category I requirements.”
657.	T2.13.8-1, Item (6), DC	In response to RAI 9.5-60 S02, the DC has been modified.
658.	S2.15.1, 1 st Sentence	New Sentence per 3.8.1. “The Containment System confines the potential release of radioactive material in the event of a design basis accident.”
659.	S2.15.1, 2 nd Sentence	New Sentence per 3.8.2.1. “The Containment System is comprised of a reinforced concrete containment vessel (RCCV), penetrations and drywell head.”

Item	Location	Description of Change
660.	S2.15.1, Design Description, Item 2	The Design Description, Item 2, has been modified to address the ASME Code requirements for the Containment system. The design is separated from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3, 141-S02, 14.3-185, 14.3-390.
661.	S2.15.1, Item (2)	New Item per 6.2.4.1. "Components and piping identified in Table 2.15.1-1a as ASME Code Section III are designed and constructed in accordance with ASME Code Section III requirements."
662.	S2.15.1, Item (2) a.	New Item per 3.8.1.2 & RAI 14.3-100. "The RCCV and its liners are designed to meet the requirements in Article CC-3000 of ASME Code, Section III, Division 2."
663.	S2.15.1, Item (2) b.	New Item per 3.8.2.2 & RAI 14.3-100. "The steel components of the RCCV are designed to meet the requirements in Article NE-3000 of ASME Code, Section III, Division 1."
664.	S2.15.1, Item (3) b.	New Item. "Pressure boundary welds in piping identified in Tables 2.15.1-1a and 2.15.1-1b as ASME Code Section III meet ASME Code Section III requirements." The changes address NRC RAI 14.3-390.
665.	S2.15.1, Item (4)	New Item per 6.2.7. "The components and piping identified in Tables 2.15.1-1a and 2.15.1-1b as ASME Code Section III retain their pressure boundary integrity at their design pressure." The changes address NRC RAI 14.3-390.
666.	S2.15.1, Item (5)	New Item per Table 3.2-1. "The seismic Category I equipment identified in Tables 2.15.1-1a, 2.15.1-1b, and 2.15.1-1c can withstand design basis load without loss of structural integrity and safety function."
667.	S2.15.1, Item (6) a.	New Item per 8.3.1.1 & 8.3.2.1. "The electrical safety-related components associated with actuation and status monitoring of final control elements of the Containment System components listed in Table 2.15.1-1, are powered from their respective safety-related division." The changes address NRC RAI 14.3-379.
668.	S2.15.1, Item (6) b.	Change to "Separate electrical penetrations are provided for circuits of each safety-related division and for nonsafety-related circuits" per 8.3.1.1.5.

Item	Location	Description of Change
669.	S2.15.1, Item (6) c.	New Item per 8.3.1.1.5. “The circuits of each electrical penetration are of the same voltage class.”
670.	S2.15.1, Item (7)	New Item per 3.1.2.7. “The containment system provides a barrier against the release of fission products to the atmosphere.”
671.	S2.15.1, Item (8)	New Item. “The containment system pressure boundary retains its structural integrity when subject to design pressure.”
672.	S2.15.1, Item (9)	Change to “The containment system provides the safety-related function of containment isolation for containment boundary integrity” per 6.2.4.
673.	S2.15.1, Item (10)	New Item per 8.3.1.4.1. “Containment electrical penetration assemblies, whose maximum available fault current (including failure of upstream devices) is greater than the continuous rating of the penetration, are protected against currents that are greater than the continuous ratings.”
674.	S2.15.1, Item (11)	New Item per 1.8.1.3.2. “The minimum set of displays, alarms and controls, based on the emergency procedure guidelines and important operator actions, is available in the main control room. .
675.	S2.15.1, Item (12)	New Item. “The amount of chlorine bearing cable insulation exposed to the containment atmosphere is limited.” The changes address NRC RAI 14.3-207.
676.	S2.15.1, Item (13)	<p>New Item. “The DW and WW volumes are adequately sized to accommodate the calculated maximum DW temperature and absolute pressure that are postulated to occur as a result of a design basis accident.</p> <p>The water volume of the wetwell suppression pool is adequately sized to condense the steam that is forced into the wetwell from the drywell due to a postulated pipe break.</p> <p>Each vacuum breaker isolation valve automatically closes if the vacuum breaker does not fully close when required.”</p> <p>The changes address NRC RAI 14.3-231.</p>
677.	S2.15.1, Item (14)	New Item. The changes address NRC RAI 14.3-231.

Item	Location	Description of Change
678.	S2.15.1, Item (15)	New Item. The changes address NRC RAI 14.3-231.
679.	S2.15.1, Item (16)	New Item per 6.2.1.1.2. "Each vacuum breaker has proximity sensors to detect open/close position. This indication is available in the main control room." The changes address NRC RAI 14.3-231.
680.	S2.15.1, Item (17)	New Item. "The containment penetration isolation design for each fluid piping system requiring isolation meets the single-failure criterion to ensure completion of penetration isolation." The changes address NRC RAI 6.2-115 S01.
681.	S2.15.1, Item (18)	New Item. "Drywell to wetwell bypass leakage is less than the assumed value used in the containment capability design basis containment response analysis." The changes address NRC RAI 14.3-229.
682.	S2.15.1, Item (19)	New Item. "Total drywell to wetwell vacuum breaker bypass pathway leakage is less than the assumed value used in the containment capability design basis containment response analysis." The changes address NRC RAI 14.3-229.
683.	T2.15.1-1a	Replace entire table per 3.2, 6.2.4.1, 6.2.5.4, 9.3.3.2, and RAIs 14.3-336 and 19.2-17(18) S01. Incorporates a design change to include the addition of a separate containment inerting system vent pipe and two manually operated isolation valves from the existing containment wetwell airspace penetration. This line provides a robust venting pathway directly to the RB/FB stack for severe accident containment overpressure protection. The changes address NRC RAI 6.2-157, 14.3-373.
684.	T2.15.1-1b	New Table. "Containment Mechanical Equipment." The changes address NRC RAI 14.3-229, 14.3-230.
685.	T2.15.1-1c	New Table. "Electrical Equipment." The changes address NRC RAI 14.3-229, 14.3-230.
686.	T2.15.1-1c, Row 7	Insert data on containment system logic controllers per RAI 6.3-63.
687.	T2.15.1-1d	New Table. "Containment System Penetration Isolation Valve Closure Times." The changes address NRC RAI 14.3-336.

Item	Location	Description of Change
688.	T2.15.1-1, ITAAC 2	ITAAC 2 has been modified to address the ASME Code requirements for the Containment system. The design is separated from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3, 141-S02, 14.3-185, 14.3-390 and 14.3-377..
689.	T2.15.1-2, ITAAC 2	The changes address NRC RAI 14.3-213, 14.3-344, and 14.3-390.
690.	T2.15.1-2	New Table per RAI 14.3-336. "Containment Isolation Valve Closure Time Acceptance Criteria."
691.	T2.15.1-3, Item 4i	Add "piping" to hydrostatic pressure test per RAI 14.3-378. The changes address NRC RAI 14.3-378, 14.3-282, 14.3-390.
692.	T2.15.1-2, Item 6a	The changes address NRC RAI 14.3-379.
693.	T2.15.1-3, Item 7	Insert "Perform Type A, B and C leakrate tests in accordance with 10 CFR 50 Appendix J" per 6.2.6 and RAI 14.3-97.
694.	T2.15.1-3, Item 8	Add strain measurements to first prototype containment to ensure structural integrity per 3.8.1.7.1, and RAIs 14.3-101 and 14.3-380 S01.
695.	T2.15.1-3, Item 9 (iv),(v) and (vi) ITA and AC	Removed test as there are no MOVs in containment isolation valve applications.
696.	T2.15.1-3, Item 10	Add analysis of as-built containment electrical penetration assemblies per 8.3.1.4.1.
697.	T2.15.1-3, Item 12	New Item. ITAAC: "Analyses and inspection will be used to confirm the final exposed chlorine bearing cable insulation mass. A report documents that the amount of chlorine bearing cable insulation exposed to the containment atmosphere (i.e. not within an enclosed cable tray, pipe, conduit, or metal cable jacketing) is \leq 3400 kg." The changes address NRC RAI 14.3-207.
698.	T2.15.1-3, Item 13	New Item. ITAAC: "Using as-built dimensions, the DW and WW volumes will be calculated. A report documents that the calculated as-built DW and WW volumes are greater than or equal to the design basis values." The changes address NRC RAI 14.3-231.

Item	Location	Description of Change
699.	T2.15.1-3, Item 14	New Item per 16.3.6.2.2. ITAAC: “Using as-built dimensions of the wetwell and a minimum measured suppression pool depth of 5.4 meters (213 inches), the volume of the suppression pool will be calculated. A report demonstrates that the calculated suppression pool water volume is equal to or greater than the water volume assumed in the containment performance safety analysis.” The changes address NRC RAI 14.3-231.
700.	T2.15.1-3, Item 15	New Item. ITAAC: “A test will be performed by providing a simulated or real not-fully closed vacuum breaker signal originating from the closed position proximity sensor and temperature sensors to close the associated vacuum breaker isolation valve. A report demonstrates that each as-built vacuum breaker isolation valve automatically closes when a simulated or real not-fully closed signal is provided from the closed position proximity sensor of its associated vacuum breaker.” The changes address NRC RAI 14.3-231.
701.	T2.15.1-3, Item 16	New Item per 6.2.1.1.2. ITAAC: “Testing will be performed with each as-built vacuum breaker to demonstrate that the proximity sensors indicate open and closed position; a vendor type test will be performed on a vacuum breaker to detect bypass leakage. Test report(s) demonstrate that each as-built vacuum breaker proximity sensor indicates an open position with the vacuum breaker open and indicates a closed position when the vacuum breaker is in the fully closed position; records of vendor type test concludes vacuum breakers temperature sensors detect bypass leakage.” The changes address NRC RAI 14.3-231.
702.	T2.15.1-3, Item 17	New Item. ITAAC: “Single-failure analysis is performed on the isolation design of each penetration class or penetration, as applicable. A study of all applicable primary containment fluid system penetrations demonstrates that, for each penetration or penetration class isolation design, the single-failure criterion is satisfied.” The changes address NRC RAI 6.2-115 S01.

Item	Location	Description of Change
703.	T2.15.1-3, Item 18	New Item. ITAAC: “A drywell to wetwell bypass leakage test will be conducted. Report(s) document that the results of the drywell to wetwell bypass leakage is less than or equal to 50% of the assumed value in the containment capability design basis containment response analysis.” The changes address NRC RAI 14.3-229.
704.	T2.15.1-3, Item 19	New Item. ITAAC: “A drywell to wetwell bypass leakage test will be conducted for each vacuum breaker and associated vacuum breaker isolation valve. Report(s) document that the results of the total drywell to wetwell vacuum breaker bypass pathway leakage is less than or equal to 35% of the assumed value in the containment capability design basis containment response analysis.” The changes address NRC RAI 14.3-229.
705.	F2.15.1-1	Changed vacuum breaker area from a total for all three to an area for each vacuum breaker. This will assure each vacuum breaker meets the required flow area in response to RAI 6.2-160. The changes address NRC RAI 14.3-234, 14.3-230.
706.	S2.15.2	Unchanged.
707.	S2.15.3, Item (2)	Added “identified in Table 2.15.3-1” in response to RAI 14.3-381. The changes address NRC RAI 14.3-231.
708.	S2.15.3, Item (3)	Change to “The Containment Internal Structures identified in Table 2.15.3-1 conform to Seismic Category I requirements and can withstand seismic design basis loads, suppression pool hydrodynamic loads, design basis loss of coolant accident generated loads and annulus pressurization loads without loss of structural integrity and safety function.” The changes address NRC RAI 14.3-228, 14.3-232, and 14.3-382.
709.	S2.15.3, Item (4)	Deleted. Relocated to Section 2.15.1 in response to RAI 14.3-231.
710.	S2.15.3, Item (5)	Changed “subject to pressure at or above design pressure” to “subjected to the maximum design differential pressure” to be consistent with ASME III, Division 2, CC-6000.
711.	S2.15.3, Item (6)	Deleted. Relocated to Section 2.15.1 in response to RAI 14.3-231.

Item	Location	Description of Change
712.	S2.15.3, Item (7)	Deleted. Relocated to Section 2.15.1 in response to RAI 14.3-231.
713.	S2.15.3, Item (8)	Deleted. Relocated to Section 2.15.1 in response to RAI 14.3-231.
714.	T2.15.3-2, Item 2, DC	Added “identified in Table 2.15.3-1” in response to RAI 14.3-381.
715.	T2.15.3-2, Item 2, ITA	Rewritten to say “Inspection and analyses will be performed for the as-built components of the Containment Internal Structures identified in Table 2.15.3-1” in response to RAI 14.3-381.
716.	T2.15.3-2, Item 2, AC	Rewritten to say “Inspection report and analyses document that the as-built components of the containment Internal Structures identified in Table 2.15.3-1 comply with ANSI/AISC N690 requirements” in response to RAI 14.3-381.
717.	T2.15.3-2, Item 3	Replace 3i, 2 nd Column with new text: “Analyses will be performed on the Containment Internal Structures identified in Table 2.15.3-1 to ensure they meet Seismic Category I requirements and can withstand seismic design basis loads, suppression pool hydrodynamic loads, design basis loss of coolant accident generated loads and annulus pressurization loads without loss of structural integrity and safety function.” The changes address NRC RAI 14.3-228, 231, 232, 381, and 382.
718.	T2.15.3-2, Item 3, DC	Added “design basis loss of coolant accident generated loads and annulus pressurization loads” in response to RAI 14.3-382.
719.	T2.15.3-2, Item 3, ITA, ii)	Added “ identified in Table 2.15.3-1” in response to RAI 14.3-382.
720.	T2.15.3-2, Item 3, AC, ii)	Added “ identified in Table 2.15.3-1” in response to RAI 14.3-382.
721.	T2.15.3-2, Item 4	Deleted. Relocated to Table 2.15.1-2 in response to RAI 14.3-231.
722.	T2.15.3-2, Item 5, DC	Changed “subject to pressure at or above design pressure” to “subjected to the maximum design differential pressure” to be consistent with ASME III, Division 2, CC-6000. The changes address NRC RAI 14.3-178, 14.3-337.

Item	Location	Description of Change
723.	T2.15.3-2, Item 5, ITA	Changed “1.15” to “1.0” and added “maximum” before “design differential pressure” to be consistent with ASME III, Division 2, CC-6000. The changes address NRC RAI 14.3-178, 14.3-337
724.	T2.15.3-2, Item 6	Deleted. Relocated to Table 2.15.1-2 in response to RAI 14.3-231.
725.	T2.15.3-2, Item 7	Deleted. Relocated to Table 2.15.1-2 in response to RAI 14.3-231.
726.	T2.15.3-2, Item 8	Deleted. Relocated to Table 2.15.1-2 in response to RAI 14.3-231.
727.	F2.15.3-1	Updated figure in response to RAI 14.3-231, and 14.3-234.
728.	2.15.4, Design Description, Para. 1, last sentence	Changed from “The system is entirely passive, with no moving parts” To “The system is passive, with no components that must actively function in the first 72 hours after a DBA” to be consistent with the DCD Tier 2 description in Subsection 6.2.2.2.2, Detailed System Description.
729.	2.15.4, Design Description, Para. 2-5	<p>Subsection 2.15.4, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations:</p> <p>Subsection 2.15.4; Figure 2.15.4-1, PCCS Functional Arrangement, Table 2.15.4-1, PCCS Mechanical Equipment, and Table 2.15.4-2, ITAAC for the PCCS System.</p> <p>Subsection 2.4.2; Figure 2.4.2-1, GDCS Functional Arrangement, and Table 2.4.2-3, ITAAC for the GDCS System.</p>
730.	2.15.4, Design Description, Para. 2	<p>Subsection 2.15.4, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Italic font:</p> <p>The PCCS consists of six low pressure, independent sets of two steam condenser modules (passive containment cooling condensers) that condense steam on the tube side and transfer heat from the drywell to water in a large cooling pool (IC/PCC pool) located outside the primary containment, which is vented to atmosphere (<i>Table 2.15.4-1, Table 2.15.4-2 ITAAC #1, Figure 2.15.4-1</i>).</p>

Item	Location	Description of Change
731.	2.15.4, Design Description, Para. 3	<p>Subsection 2.15.4, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p>Each PCCS condenser is located in a subcompartment of the IC/PCC pool. The IC/PCC pool subcompartments on each side of the reactor building communicate at their lower ends to enable full use of the collective water inventory, independent of the operational status of any given PCCS condenser. <i>(Table 2.15.4-2 ITAAC #1, Figure 2.15.4-1)</i></p>
732.	2.15.4, Design Description, Para. 4	<p>Subsection 2.15.4, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p>Each condenser, which is an integral part of the containment <i>(Table 2.15.4-2 ITAAC #4 and #10, Figure 2.15.4-1 Note 1)</i>, contains a drain line to one of the three <i>(Table 2.4.2-3 ITAAC #1, #17, #18, Figure 2.4.2-1 Note)</i> GDCS pools, and a vent discharge line the end of which is submerged in the pressure suppression pool <i>(Table 2.15.4-1, Table 2.15.4-2 ITAAC #1, Figure 2.15.4-1)</i>.</p>
733.	2.15.4, Design Description, Para. 5	<p>Subsection 2.15.4, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p>The PCCS condensers loops are driven by the pressure difference created between the containment drywell and the suppression pool during a LOCA <i>(Table 2.15.4-2 ITAAC #7, Figure 2.15.4-1)</i>, and as such require no sensing, control, logic or power actuated devices for operation <i>(repeat information from the first paragraph of Subsection 2.15.4 Design Description)</i>.</p>

Item	Location	Description of Change
734.	2.15.4, Design Description, Para. 4	<p>Subsection 2.15.4, Design Description, is re-written to be consistent with the format used in Tier 1. The information is covered in the following Tier 1 locations as annotated in Bold Italic font:</p> <p>Each condenser, which is an integral part of the containment (<i>Table 2.15.4-2 ITAAC #4 and #10, Figure 2.15.4-1 Note 1</i>), contains a drain line to one of the three (<i>Table 2.4.2-3 ITAAC #1, #17, #18, Figure 2.4.2-1 Note</i>) GDCS pools, and a vent discharge line the end of which is submerged in the pressure suppression pool (<i>Table 2.15.4-1, Table 2.15.4-2 ITAAC #1, Figure 2.15.4-1</i>).</p>
735.	S2.15.4, Design Description, Item 2	The Design Description, Item 2, ASME Code Section III, has been modified to separate the design ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3, 141-S02.
736.	S2.15.4, Items (2) a.&b.	Change to "... designed, fabricated, installed, and inspected in accordance with ASME Code Section III requirements." The changes address NRC RAI 14.3-185, 14.3-390.
737.	S2.15.4, Item (3)	The changes address NRC RAI 14.3-390.
738.	S2.15.4, Item (4)	The changes address NRC RAI 14.3-237.
739.	S2.15.4, Item (5)	Change to "The seismic Category I components identified in Table 2.15.4-1 can withstand seismic design basis loads without loss of safety function" per RAI 14.3-384.
740.	S2.15.4, Item (6)	Delete. The changes address NRC RAI 14.3-301.
741.	S2.15.4, Item (9)	New Item. "In order to ensure the PCCS can maintain the drywell to wetwell differential pressure to a limit less than the value that causes pressure relief through the horizontal vents, the vent line discharge point is submerged at an elevation below low water level but above the uppermost horizontal vent."
742.	S2.15.4, Item (10)	New Item. "The PCCS will be designed to limit the fraction of containment leakage through the condensers to an acceptable value."

Item	Location	Description of Change
743.	S2.15.4, Item (11)	New Item. "The PCCS vent fans flow rate is sufficient to meet beyond 72 hours containment cooling requirements."
744.	S2.15.4, Item (12)	New Item. "The PCCS vent fans can be remotely operated from the MCR."
745.	T2.15.4-1, Row 4	Insert data on vent fan check valve per RAI 6.2-139.
746.	T2.15.4-1, Row 6	Insert data on vent fan per RAI 6.2-139.
747.	T2.15.4-1, Row 7	Insert data on non-condensables vent line sparger per RAI 6.2-139.
748.	T2.15.4-1, Row 8	Insert data on PCCS inlet pipe debris filter per RAI 6.2-139.
749.	T2.15.4-1, Row 9	Insert data on PCCS vent fan line per RAI 6.2-139. The changes address NRC RAI 14.3-230.
750.	T2.15.4-2, Item 1	Add sentence to Acceptance Criteria. "For components and piping identified in Table 2.15.4-1 as ASME Code Section III, this report is an ASME Code report."
751.	T2.15-4-2, Item 2.	The changes address NRC RAI 14.3-185, 14.3-23, 14.3-344, and 14.3-390.
752.	T2.15.4-2, ITAAC 2.	ITAAC 2 is revised to separate the ASME Code Section III design activities ITAAC, which includes a Design Acceptance Criteria ITAAC for piping, from the ITAAC that will verify fabrication, installation, and inspection. The changes address NRC RAI 14.3, 141-S02. This results in a total of six ITAAC to replace two ITAAC. ITAAC 2.a is now ITAAC 2.a.1, 2.a.2, and 2.a.3. ITAAC 2.b is now ITAAC 2.b.1, 2.b.2, and 2.b.3. ITAAC 2.b.1 is designated as Design Acceptance Criteria. As appropriate, the Acceptance Criteria column includes reference to ASME Code reports.
753.	T2.15.4-2, Item 2.a1	Change ITAAC to "Inspection of certified documents for as-built components will be conducted; an ASME Code N-5 Report exists and concludes that installation or construction of the PCCS components identified in Table 2.15.4-1 as ASME Code Section III has been completed in accordance with ASME Code."

Item	Location	Description of Change
754.	T2.15.4-2, Item 2.a2	New Item. ITAAC: “Inspection of certified documents for as-built components will be conducted; an ASME Code Design Report exists and concludes that design reconciliation has been completed in accordance with the ASME Code for as-built reconciliation of the PCCS components identified in Table 2.15.4-1 as ASME Code Section III.”
755.	T2.15.4-2, Item 2.b1	Change ITAAC to “Inspection of certified documents for as-built piping will be conducted; an ASME Code N-5 Report exists and concludes that installation or construction of the NBS piping identified in Table 2.15.4-1 as ASME Code Section III has been completed in accordance with ASME Code.”
756.	T2.15.4-2, Item 2.b2	New Item. ITAAC: “Inspection of certified documents for as-built piping will be conducted; an ASME Code Design Report exists and concludes that design reconciliation has been completed in accordance with the ASME Code for as-built reconciliation of the PCCS piping identified in Table 2.15.4-1 as ASME Code Section III.”
757.	T2.15.4-2, Item 3	The changes address NRC RAI 14.3-390.
758.	T2.14.4-2, Item 4	The changes address NRC RAI 14.3-237.
759.	T2.15.4-2, Item 5	The changes address NRC RAI 14.3-383, 14.3-384.
760.	T2.15.4-2, Item 5i	Change ITAAC to “... the seismic Category I equipment identified in Table 2.15.4-1 is located in a seismic Category I structure.”
761.	T2.15.4-2, Item 6	Delete per RAI 14.3-301.

Item	Location	Description of Change
762.	T2.15.4-2, Item 7	<p>Replace ITAAC with new text. Column 2: “Using prototype test data and as-built PCC unit information, an analysis will be performed to establish the heat removal capability of the PCC unit.” Column 3: “Test and analysis reports exist and conclude that analyzed containment pressure for 72 hours after a LOCA is less than containment design pressure, and that the PCC unit heat removal capacity is no less than 11 MWt given the following conditions:</p> <ul style="list-style-type: none"> • Pure saturated steam in the tubes at 308 kPa (44.7 psi) absolute and 134°C (273°F) • IC/PCC pool water temperature is at atmospheric pressure and 102°C (216°F).” <p>The changes address NRC RAI 14.3-238, 14.3-385.</p>
763.	T2.15.4-2, Item 9	<p>New Item. ITAAC: “A visual inspection will be performed of the PCCS vent discharge point relative to the horizontal vents; the elevation of the discharge on the PCCS vent line is > 0.85 m (33.5 in) and < 0.90 m (35.4 in) above the top of the uppermost horizontal vent.” The changes address NRC RAI 6.2-169.</p>
764.	T2.15.4-2, Item 10	<p>New Item. ITAAC: “A pneumatic leakage test of the PCCS will be conducted; test report(s) and analysis document that the combined leakage from each of the PCCS heat exchangers is $\leq 0.025L_a$.”</p>
765.	T2.15.4-2, Item 11	<p>New Item per RAI 6.2-139. ITAAC: “Flow rate will be measured. A type test of the vent fan to be installed; test and analyses show that the PCC vent fans can provide a flow rate of 0.271 m³/s (575 cfm) under the following conditions:</p> <ul style="list-style-type: none"> • Pressure 299 kPa (43.4 psi) • Density 2.29 kg/m³ (0.143 lbm/ft³) • Head across fan 5.50 kPa (0.80 psi).”
766.	T2.15.4-2, Item 12	<p>New Item. ITAAC: “PCCS vent fans will be started using manually initiated signals from the MCR; report(s) exist and conclude that the PCCS vent fans start when manually initiated signals are sent from the MCR.”</p>
767.	F2.15.4-1	<p>New Figure per 6.2-16. “Passive Containment Cooling System Schematic.” The changes address NRC RAI 14.3-200, 14.3-230.</p>

Item	Location	Description of Change
768.	S2.15.5	Revised to include DD and ITAAC related to drywell temperature instrumentation added in revised Table 2.15.5-2 and new Table 2.15.5-1. This information has been relocated to the Containment Inerting System section 2.15.5 from DW Cooling section 2.15.6. DCS only provides cooling functions not indication or monitoring of containment parameters.
769.	New T2.15.5-1	Moved DW temperature system electrical equipment instrumentation in entirety from DW Cooling T2.15.6-1 to this new CIS table T2.15.5-1. DCS only provides cooling functions not indication or monitoring of containment parameters.
770.	T2.15.5-2, Item (3)	Revised to include additional item 3 for DW temperature indications. This information has been relocated to the Containment Inerting System section 2.15.5 from DW Cooling section 2.15.6. DCS only provides cooling functions not indication or monitoring of containment parameters.
771.	S2.15.6	Deleted reference to Table 2.15.6-1 in design description, removed instrumentation and control and ITAAC related to DW temperature instrumentation for Drywell Cooling System (DCS). This information has been relocated to the Containment Inerting System section 2.15.5. DCS only provides cooling functions not indication or monitoring of containment parameters.
772.	T2.15.6-1	Deleted. This information has been relocated to the Containment Inerting System section 2.15.5 under new Table 2.15.5-1, Containment Inerting System Electrical Equipment. DCS only provides cooling functions not indication or monitoring of containment parameters.
773.	T2.15.6-2	Deleted. This information has been relocated to the Containment Inerting System section 2.15.5 under revised Table 2.15.5-2, ITAAC for the Containment Inerting System. DCS only provides cooling functions not indication or monitoring of containment parameters.
774.	S2.15.7, Item (9)	New Item per RAI 14.3-241. "CMS software is developed in accordance with the software development program described in Section 3.2."
775.	T2.15.7-1	Unchanged.

Item	Location	Description of Change
776.	T2.15.7-2, Item 6i	Change ITAAC to "... located in a seismic Category I structure."
777.	T2.15.7-2, Item 9	New Item per RAI 14.3-241. ITAAC: "See Section 3.2."
778.	F2.15.7-1	New Figure per 7.5.1. "Containment Monitoring System Design."
779.	S2.16.1(5)	Response to RAI 9.1-33 S01. The design description was revised.
780.	S2.16.1(6)	Response to RAI 9.1-33 S01. The design description was revised.
781.	T2.16.1-1	ITAAC 5 revised in response to RAI 9.1-33 S01. The design description was revised.
782.	T2.16.1-1	ITAAC 6 revised in response to RAI 9.1-33 S01. The design description was revised.
783.	S2.16.2.1 2nd para, 1 st sent.	Added additional detail to describe that CONAVS and REPAVS dampers close on high radiation signal.
784.	S2.16.2.1 3 rd para. Item (2)	Added additional detail to describe that CONAVS and REPAVS dampers close on high radiation signal and CONAVS, REPAVS and CLAVS dampers close on loss of AC power
785.	S2.16.2.1, 3 rd para. Item (7)	Added "electrical cabinet cooling and CRD / RWCU motor cooling" to provide additional post 72-hour cooling functions.
786.	S2.16.2.1, 3 rd para. New Item (10)	Added new item in response to RAI 14.3-241.
787.	S2.16.2.1, 3 rd para. New Item (11)	Added new item to test Reactor Building purge exhaust filters added under engineering design change.
788.	S2.16.2.2, 1 st para., 3 rd sent.	Added "Subsystem" after "Control Building General Area HVAC" for clarification.
789.	S2.16.2.2, 3 rd para., last sent.	Revised "...provided by the ESBWR design" to "...provided by the ESBWR design for the first 72 hours" to clarify the basis.
790.	S2.16.2.2, 4th para., 2 nd sent.	Revised figure numbers for CB GAVS from 2.16.2-5 and 6 to 2.16.2-5a and 5b for consistency.

Item	Location	Description of Change
791.	S2.16.2.2, 4 th para., Item (4)	<p>Revised in response to RAI 9.4-33 S01(note that a response to this RAI has not been previously submitted) from:</p> <p>(7) “The CRHAVS provides cooling to the CRHA.</p> <p>c. In the CRHA, temperature rise on a loss of normal cooling will not exceed 8.3°C (15°F) for 72 hours.</p> <p>d. The CRHA heat sink is maintained at or below 25.56°C (78°F).”</p> <p>To:</p> <p>(8) “The CRHAVS heat sink passively maintains the temperature of the CRHA within an acceptable range for the first 72 hours following a design basis accident.”</p>
792.	S2.16.2.2, 4 th para., new Items (7), (8), and (9).	Added new items to further describe the functions of the CB HVAC System to provide additional requirements and in response to RAI’s 15.4-1 S01 and 14.3-241.
793.	S2.16.2.2, 4 th para., new Item (10).	Added new item (10) to describe the functions of the CB HVAC System components for post 72 hour control room cooling and cooling for post accident monitoring heat loads added by engineering change.
794.	S2.16.2.3, 1 st para., 4 th sent.	Removed maximum number of CRHA occupants for habitability design as unnecessary information.
795.	S2.16.2.3, 1 st para., Item (5)	Revised to remove “of 31 pascals (0.125 inch water gauge)” and “of 200 l/s (424 cfm)” as these values are specified within the ITAAC table.
796.	S2.16.2.3, 1 st para., Item (9)	Revised to “Deleted” per RAI 9.4-31.
797.	S2.16.2.3, 1 st para., new Item (10) (11) and (12)	Added new items to provide testing of EFU functions per response to RAI 14.3-216, 217 and 216S01 (note that a response to this RAI has not been previously submitted)
798.	S2.16.2.3, 1 st para., new Item (13).	Added new items to further describe the functions of the EFU’s and in response to RAI 14.3-241.
799.	S2.16.2.4, 2 nd para., 1 st sent.	Deleted phrase “(by exhausting more air than is supplied)” to remove unnecessary detail.
800.	S2.16.2.4, 2 nd para., Item (1)	Added “and is as shown in Figure 2.16.2-6” as TB HVAC is RTNSS and figure is required.
801.	S2.16.2.5, 1 st para., Item (5)	Added “pump motors and N-DCIS” to further detail post 72-hour cooling.

Item	Location	Description of Change
802.	S2.16.2.7, 1 st para., Item (1)	Added “and is as shown in Figure 2.16.2-9” as EB HVAC is RTNSS and figure is required.
803.	T2.16.2-1, New line items for CLAVS	Added two (2) new items for CLAVS in response to RAI’s 14.3-52 and 14.3-53.
804.	T2.16.2-2 Item 3	Provided additional details of inspections, tests and analysis and acceptance criteria related to structural requirements for safety related components as described in response to RAI 14.3-387. Revised response by deleting “seismic” to ensure bouding by the analyzed condition.
805.	T2.16.2-2, ITAAC 7, Commitment, ITAAC, and Acceptance Criteria	Added “electrical cabinet cooling and CRD / RWCU motor cooling” to clarify the ITAAC details.
806.	T2.16.2-2, new ITAAC 10	Added new ITAAC in response to 14.3-241.
807.	T2.16.2-2, new ITAAC 11	Added new item to test Reactor Building purge exhaust filters added under engineering design change.
808.	T2.16.2-3, deleted two Items	Deleted safety related components related to EFUs from Control Building HVAC Safety Related Component list. These items are provided on Table 2.16.2-5.
809.	T2.16.2-4, ITAAC 4	Revised ITAAC in response to 9.4-33 S01(note that a response to this RAI has not been previously submitted).
810.	T2.16.2-4, new ITAACs 7 and 8	Added new ITAACs in response to RAI 15.4-1 S01.
811.	T2.16.2-4, new ITAAC 9	Added new ITAAC in response to RAI 14.3-241.
812.	T2.16.2-4, new ITAAC 10	Added new item as a result of engineering change. This function is RTNSS and ITAAC is required.
813.	T2.16.2-5, revised Item	Revised component “EFU Dampers” for clarification to: “EFU supply CRHA isolation dampers, tornado protection dampers and missile protected intake louvers with connecting ducting (including supports)”
814.	T2.16.2-5, new Item	Added new component to specify the design requirements” “EFU discharge CRHA isolation dampers and connecting ducting (including supports)”

Item	Location	Description of Change
815.	T2.16.2-6, ITAAC 5a, Commitment	Revised to specify “the minimum” for clarification and deleted values “of > 31 pascals (0.125 inch water gauge)” and “of 200 l/s (424 cfm)” as these are specified in the Acceptance Criteria.
816.	T2.16.2-6, ITAAC 9	Deleted item in response to RAI 9.4-31.
817.	T2.16.2-6, new ITAACs 10, 11, and 12	Added new items to provide testing of EFU functions per response to RAI 14.3-216, 217 and 216S01 (note that a response to this RAI has not been previously submitted)
818.	T2.16.2-6, new ITAAC 13	Added new ITAAC in response to RAI 14.3-241.
819.	T2.16.2-7, ITAAC 1	Added “and is as shown in Figure 2.16.2-6” to clarify the Commitment and the Acceptance Criteria.
820.	T2.16.2-7, ITAAC 2	Revised “is adequate” to “meets the requirements” for clarification under Acceptance Criteria.
821.	T2.16.2-9, ITAAC 5	Added “pump motors and N-DCIS” to Commitment and Acceptance Criteria to provide additional requirements.
822.	T2.16.2-9, ITAAC 5	Revised “is adequate” to “meets the requirements” for clarification under Acceptance Criteria.
823.	T2.16.2-10, ITAAC 1	Added “and shown in Figure 2.16.2-9” to clarify the Commitment and the Acceptance Criteria.
824.	T2.16.2-10, ITAAC 2	Revised “is adequate” to “meets the requirements” for clarification under Acceptance Criteria.
825.	F2.16.2-1	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
826.	F2.16.2-2	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
827.	F2.16.2-3	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
828.	F2.16.2-4	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
829.	F2.16.2-5a	Revised figure to reflect design development and for consistency with Tier 2. Renumbered figure from 2.16.2-5 to 2.16.2-5a for consistency. Entire figure revised.

Item	Location	Description of Change
830.	F2.16.2-5b	Revised figure to reflect design development and for consistency with Tier 2. Renumbered figure from 2.16.2-6 to 2.16.2-5b for consistency. Entire figure revised.
831.	F2.16.2-6, New	Added new figure for RTNSS system TBVS. Former Figure F2.16.2-6 renumbered Figure 2.16.2-5b.
832.	F2.16.2-7	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
833.	F2.16.2-8	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.
834.	F2.16.2-9, New	Added new figure for RTNSS system EBVS.
835.	S2.16.3, 2 nd para. Item (3)	Revised sentence in response to RAI 14.3-209 S01 from: “...plant areas containing safety-related equipment, including those that have automatic fire suppression systems, excluding the containment vessel.” To: “...plant areas containing safe shutdown equipment.” (note that a response to this RAI has not been previously submitted).
836.	S2.16.3 2 nd para. Item (4) a.	Revised sentence as values are specified in the ITAAC table and for consistency with Tier 2 and from: “The Primary storage tanks contain a combined minimum usable firewater storage capacity of $\geq 3900 \text{ m}^3$ (1,030,000 gallons) of water.” To: “The Primary storage tanks contain the required combined minimum usable fire water storage capacity. ”
837.	S2.16.3, 2 nd para., Item (4) b.	Revised Design Commitment to be consistent with current design requirements and moved the current design value of $\geq 2082 \text{ m}^3$ (550,000) gallons” to the Acceptance Criteria
838.	S2.16.3, 2 nd para., Item (5)	Revised sentence for consistency with Tier 2 from: “Each fire pump provides at least $454.2 \text{ m}^3/\text{hr}$ (2000 gpm) discharge flow with adequate pressure.” To: “Each fire pump provides the required minimum discharge flow with adequate pressure.”

Item	Location	Description of Change
839.	S2.16.3, 2 nd para., Item (7) b.	Revised Item to clarify specific functional requirements from: “...fire pump contains adequate fuel oil capacity for 96 hours of fire pump operation.” To: “...fire pump contains adequate fuel oil capacity to support the RTNSS function of providing make up water from 72 hours to 7 days after an accident.”
840.	T2.16.3-1	Revised entire table to reflect Tier 2 Table 3.2-1.
841.	T2.16.3-2, ITAAC 3.	Revised entire ITAAC in response to RAI 14.3-209 S01 (note that a response to this RAI has not been previously submitted).
842.	T2.16.3-2, ITAAC 4a.	Revised Design Commitment for clarification and moved the value “a combined minimum usable firewater storage capacity of $\geq 3900 \text{ m}^3$ (1,030,000 gallons)” into the Acceptance Criteria.
843.	T2.16.3-2, ITAAC 4b.	Revised Design Commitment to be consistent with current design requirements and moved the value “ $\geq 2082 \text{ m}^3$ (550,000) gallons”. to the Acceptance Criteria.
844.	T2.16.3-2, ITAAC 5.	Revised Design Commitment to be consistent with new flow requirements and moved the value “at least 454.2 m^3/hr (2000 gpm)” to the Inspections and Acceptance Criteria “484 m^3/hr (2130 gpm)”.
845.	T2.16.3-2, ITAAC 7a.	Revised “total” to “minimum” in Inspections, Test, and Analysis and Acceptance Criteria to clarify.
846.	T2.16.3-2, ITAAC 7b.	Revised in both Design Commitment and Acceptance Criteria for clarification from: “...for 96 hours of fire pump operation.” To: “...to support the RTNSS function of providing make up water from 72 hours to 7 days after an accident.”
847.	T2.16.3-2, ITAAC 8	ITA and AC revised to reference Section 3.3 to be consistent with other similar ITAAC.
848.	F2.16.3-1	Revised figure to reflect design development and for consistency with Tier 2. Entire figure revised.

Item	Location	Description of Change
849.	S2.16.3.1, 1 st para., Item (4)	Added new requirement for verification of fire coating of structural steel in response to RAI 14.3-393. (Note that a response to this RAI has not been previously submitted). “Exposed structural steel protecting areas containing safe shutdown equipment is fireproofed with material with a fire rating of up to 3 hours as determined from the FHA.”
850.	T2.16.3.1-1 ITAAC 2, Inspections, Tests, Analysis	Revised sentence in response to RAI 14.3-208 from: “Inspections will be performed to confirm that penetrations through fire barriers are sealed or closed” To: “Inspections will confirm that as-built penetrations through fire barriers are sealed or closed to provide fire resistance ratings at least equal to that required of the barriers.”
851.	T2.16.3.1-1 ITAAC 2, Acceptance criteria	Revised sentence in response to RAI 14.3-208 from “Inspection report(s) document that the as-built fire penetrations in the fire areas listed in Table 2.16.3.1-1 are sealed or closed.” To: “Inspection report(s) document that as-built penetrations through fire barriers provide fire resistance ratings at least equal to that required of the barriers.”
852.	T2.16.3.1-1, ITAAC 4,	Added new ITAAC requirement for verification of fire coating of structural steel in response to RAI 14.3-393. (Note that a response to this RAI has not been previously submitted).
853.	S2.16.4, 3 rd para., Item (2)	Revised item to be consistent with Tier 2 information of S9.3.3.2 from: “...liquid wastes from the equipment and floor drainage...” To: “...liquid wastes from floor drainage...”
854.	S2.16.4, 3 rd para., Item (3)	Revised item to be consistent with Tier 2 information of S9.3.3.2 from: “...emanating from the large process valves’ stem packing seals in the drywell and ...” To: “...emanating from equipment in the drywell and ...”
855.	T2.16.4-1, ITAAC 2, DC, and ITA	Deleted “the equipment and” to be consistent with Tier 2 information of S9.3.3.2.
856.	T2.16.4-1, ITAAC 3, Design Commitment and Inspections, Tests, Analyses	Revised item to be consistent with Tier 2 information of S9.3.3.2.

Item	Location	Description of Change
857.	S2.16.5(4)	Revised the wording to be consistent with the response to RAI 14.3-179.
858.	S2.16.5, Item (10)	Added item to verify the RB volume that is an important factor in accident analysis dose calculations.
859.	T2.16.5-1	Revised table due to reanalysis and design changes.
860.	T2.16.5-2, Item 3	Deleted “and as-built” and replaced “for” with “using” to clarify the ITA requirements.
861.	T2.16.5-2, Item 4	Reworded DC to suit the change to S2.16.5, Item (4).
862.	T2.16.5-2, Item 4	Revised testing conditions in ITA to specify leak rate testing pressure requirements.
863.	T2.16.5-2, Item 4	Revised AC requirements to replace “50 wt% per day” with 141.61’s (300 cfm) due to change in requirements in DCD Tier 2 Section 6.2.3.
864.	T2.16.5-2, Item 9	Added overpressure protection.
865.	T2.16.5-2, Item 10	Added ITAAC requirements to suit added S2.16.5, Item (10).
866.	T2.16.5-1 through T2.16.5-11	Replaced figures due to reanalysis and design changes and for clarity of information.
867.	S2.16.6, Item (1)	Deleted “and missiles” from the list of internal events since there are no internal missiles postulated for the CB.
868.	T2.16.6-1	Revised table due to analysis and design changes.
869.	T2.16.6-2, Item (1), DC and AC	Deleted “and missiles” to suit change to S2.16.6 Item (1)
870.	F2.16.6-1 through F2.16.6-5	Replaced figures due to reanalysis and design changes and for clarity of information.
871.	S2.16.7, Item (1)	Deleted “and missiles” from the list of internal events since there are no internal missiles postulated for the FB.
872.	T2.16.7-1	Replaced table due to reanalysis and design changes.
873.	T2.16.7-2, Item (1)	Delete “and missiles” from the DC and AC columns to suite change S2.16.7, Item (1)
874.	F2.16.7-1 through F2.16.7-6	Replaced figures due to reanalysis and design changes and for clarity of information.

Item	Location	Description of Change
875.	S2.19	Section 2.19 has been revised in its entirety to reflect additional interactions with the NRC through the Nuclear Energy Institute security working group/task force. The Items in the Design Description and the ITAAC in Table 2.19-1 have been revised, renumbered, and reordered, and three new ITAAC have been added to be generally consistent with the NRC Standard Review Plan, Section 14.3.12, "Physical Security Hardware - Inspections, Tests, Analyses, and Acceptance Criteria."
876.	S3.1	Response to RAI 14.3-131 S02. Each of the design descriptions and ITAAC have been rewritten since DCD Revision 4. Select ITAAC have been deleted and relocated into Section 2 of the Tier 1 material based on RAI response and interactions with the NRC staff.
877.	S3.2	Response to RAI 14.3-170. Each of the design descriptions and ITAAC have been rewritten since DCD Revision 4. The software ITAAC have been revised based on RAI regarding the Tier 1 material and meetings with the NRC staff.
878.	S3.3	Response to RAI 14.3-171, RAI 14.3-271, RAI 14.3-211, and RAI 14.3-389. Each of the design descriptions and ITAAC have been rewritten since DCD Revision 4. The HFE ITAAC have been revised based on RAI regarding the Tier 1 material and meetings with the NRC staff.
879.	T3.4-1, Item 1	The ITAAC was revised to include additional criteria for confirmation of the Design Commitment.
880.	T3.6-1, Item (1) AC	Revised AC wording in response to RAI 14.3-392 (Note that a response to this RAI has not been previously submitted).
881.	S3.7 para 2	Revised to match information on page 7.5-7 and 7.5-8 of DCD R5 Tier 2.

Item	Location	Description of Change
882.	S3.7, 4 th para.	<p>Revised the paragraph to refer to the Human Factors Engineering as the process for determining the scope of instrumentation that will be used for performing post-accident monitoring, and to refer to Section 3.3 of Tier 1:</p> <p>There is a <u>Human Factors Engineering</u> defined process to determine the appropriate variables and types (A, B, C, D, or E). <u>That is, the determination of the scope of instrumentation relied upon to fulfill the post accident monitoring function is determined through the Human Factors Engineering process (see Section 3.3).</u></p>
883.	S3.7, Page 2	Response to RAI 14.3-241. Added design description regarding software development plan. Revised RAI response to change “PAMS software” to “PAM Instrumentation software.”
884.	T3.7-1	Response to RAI 14.3-241. Added design description and ITAAC regarding software development plan. Revised RAI response to change “PAMS software” to “PAM Instrumentation software.”
885.	T3.7-1, ITAAC 1	<p>The “Design Commitment” for ITAAC 1 is changed to refer to the installed instrumentation and to refer to the Human Factors Engineering process to define the scope of the instrumentation that will be used for performing post-accident monitoring. Also, “is designed” is changed to “conforms” to reflect that the ITAAC is focused on verification of the installed instrumentation.).</p> <p>1. The installed post accident monitoring instrumentation (scope as determined by the Human Factor Engineering process in Section 3.3) is designed conforms with the requirements (variables, types, performance criteria, design criteria, qualification criteria, display criteria, and quality assurance) as described in Section 3.7.</p>
886.	T3.7-1, ITAAC 1	The “Inspections, Tests, and Analyses” and the “Acceptance Criteria” have been revised to add “installed” and to change “is designed” to “conforms” to reflect that the ITAAC is focused on verification of the installed instrumentation. . The reference to {{DAC}} is removed because the Design Acceptance Criteria elements are in Section 3.3 and the ITAAC now is verification that the <i>installed</i> equipment meets the design requirements.
887.	S3.8	Tier 1 rewritten based on changes to Tier 2 material in Section 3.11.

Item	Location	Description of Change
888.	S3.8 para 1	Added description of scope of 10CFR50.59 to include all safety related equipment in a harsh environment covered by (b)1,(b)2 and (b)3 in response to RAI 14.3-206 and 14.3-206 supplement 1 (note that RAI 14.3-206 has not been responded to).
889.	S3.8	Design Description (1) Replaced “Safety-related” electrical equipment with “EQ” in response to RAI 14.3-206 and 14.3-206 supplement 1 (Note that a response to this RAI has not been previously submitted.).
890.	S3.8	Design Description (2) Replaced “Safety-related” electrical equipment with “EQ” in response to RAI 14.3-206 and 14.3-206 supplement 1 (Note that a response to this RAI has not been previously submitted.).
891.	S3.8	Design Description (3) Replaced “Safety-related” electrical equipment with “EQ” and added the parenthetical statement (including digital components in the safety-related electrical distribution system) in response to RAI 14.3-206 and 14.3-206 supplement 1 (note that RAI 14.3-206 has not been responded to)
892.	T3.8-1	Design Commitment. Revised Design Commitment 1 to address 10CFR50.49(b)(1),(b)(2) and (b)(3) in response to RAI 14.3-206 and 14.3-206 supplement 1 (Note that a response to this RAI has not been previously submitted.)
893.	T3.8-1	Inspections, Tests, Analyses item i. Replaced “Safety-related” electrical equipment with “EQ” and included reference to 10CFR50.49(b)(1),(b)(2) and (b)(3) in response to RAI 14.3-206 and 14.3-206 supplement 1 (Note that a response to this RAI has not been previously submitted.)
894.	T3.8-1	Inspections, Tests, Analyses item ii. Included reference to 10CFR50.49(b)(1),(b)(2) and (b)(3) in response to RAI 14.3-206 and 14.3-206 supplement 1 (Note that a response to this RAI has not been previously submitted.).
895.	T3.8-1	Acceptance Criteria items i and ii. Included reference to 10CFR50.49(b)(1),(b)(2) and (b)(3). in response to RAI 14.3-206 and 14.3-206 supplement 1 (Note that a response to this RAI has not been previously submitted.)

Item	Location	Description of Change																		
896.	S3.8 para 3	Replaced “environmental qualification” with equipment qualification and replaced “safety-related mechanical” with “EQ mechanical” in response to RAI 14.3-206 and 14.3-206 supplement 1 (Note that a response to this RAI has not been previously submitted.)																		
897.	S5.1 para. 3 1 st sentence	Changed the sentence In the case of seismic design parameters...” to read “In the case of seismic and soil design parameters...”																		
898.	Table 5.1-1, Ambient Design Temperature	Changed "Exceedance Values" to "Annual Exceedance Values" for 1% and 2% exceedances. Changed "wet bulb (coincident)" to "wet bulb (mean coincident)" for all three exceedance levels. (per response to RAI 2.3-3 S02)																		
899.	Table 5.1-1 Title	Editorial. Deleted "Design" from title.																		
900.	Table 5.1-1, Meteorological Dispersion	Under Control Room X/Q heading, deleted “– Diffuse Source” from Reactor Building and Fuel Building sub-headings. (per markup provided in response to RAI 2.3-9 S01)																		
901.	Table 5.1-1, Meteorological Dispersion	<p>Under Control Room X/Q heading, added the following new listing (per markup provided in response to RAI 2.3-9 S01):</p> <table border="0" data-bbox="678 1100 1338 1308"> <tr> <td colspan="3">Blowout Panels / Reactor Building Roof</td> </tr> <tr> <td>0-2 hours:</td> <td>7.00E-03 s/m³</td> <td>5.90E-03 s/m³</td> </tr> <tr> <td>2-8 hours:</td> <td>5.00E-03 s/m³</td> <td>4.70E-03 s/m³</td> </tr> <tr> <td>8-24 hours:</td> <td>2.10E-03 s/m³</td> <td>1.50E-03 s/m³</td> </tr> <tr> <td>1-4 days:</td> <td>1.70E-03 s/m³</td> <td>1.10E-03 s/m³</td> </tr> <tr> <td>4-30 days:</td> <td>1.50E-03 s/m³</td> <td>1.00E-03 s/m³</td> </tr> </table>	Blowout Panels / Reactor Building Roof			0-2 hours:	7.00E-03 s/m ³	5.90E-03 s/m ³	2-8 hours:	5.00E-03 s/m ³	4.70E-03 s/m ³	8-24 hours:	2.10E-03 s/m ³	1.50E-03 s/m ³	1-4 days:	1.70E-03 s/m ³	1.10E-03 s/m ³	4-30 days:	1.50E-03 s/m ³	1.00E-03 s/m ³
Blowout Panels / Reactor Building Roof																				
0-2 hours:	7.00E-03 s/m ³	5.90E-03 s/m ³																		
2-8 hours:	5.00E-03 s/m ³	4.70E-03 s/m ³																		
8-24 hours:	2.10E-03 s/m ³	1.50E-03 s/m ³																		
1-4 days:	1.70E-03 s/m ³	1.10E-03 s/m ³																		
4-30 days:	1.50E-03 s/m ³	1.00E-03 s/m ³																		
902.	Table 5.1-1, Meteorological Dispersion	Deleted note ** and all references to it. (per response to RAI 2.3-9 S01 and per markup provided in response to RAI 2.3-9 S01)																		
903.	Table 5.1-1, Meteorological Dispersion	<p>Under Control Room X/Q heading, changed Fuel Building values to read as follows (per markup provided in response to RAI 2.3-9 S01):</p> <table border="0" data-bbox="678 1566 1338 1743"> <tr> <td>0-2 hours:</td> <td>2.80E-03 s/m³</td> <td>2.80E-03 s/m³</td> </tr> <tr> <td>2-8 hours:</td> <td>2.50E-03 s/m³</td> <td>2.50E-03 s/m³</td> </tr> <tr> <td>8-24 hours:</td> <td>1.25E-03 s/m³</td> <td>1.25E-03 s/m³</td> </tr> <tr> <td>1-4 days:</td> <td>1.10E-03 s/m³</td> <td>1.10E-03 s/m³</td> </tr> <tr> <td>4-30 days:</td> <td>1.00E-03 s/m³</td> <td>1.00E-03 s/m³</td> </tr> </table>	0-2 hours:	2.80E-03 s/m ³	2.80E-03 s/m ³	2-8 hours:	2.50E-03 s/m ³	2.50E-03 s/m ³	8-24 hours:	1.25E-03 s/m ³	1.25E-03 s/m ³	1-4 days:	1.10E-03 s/m ³	1.10E-03 s/m ³	4-30 days:	1.00E-03 s/m ³	1.00E-03 s/m ³			
0-2 hours:	2.80E-03 s/m ³	2.80E-03 s/m ³																		
2-8 hours:	2.50E-03 s/m ³	2.50E-03 s/m ³																		
8-24 hours:	1.25E-03 s/m ³	1.25E-03 s/m ³																		
1-4 days:	1.10E-03 s/m ³	1.10E-03 s/m ³																		
4-30 days:	1.00E-03 s/m ³	1.00E-03 s/m ³																		
904.	Table 5.1-1, Meteorological Dispersion	Under Control Room X/Q heading, deleted Fuel Building Cask Doors information. (per markup provided in response to RAI 2.3-9 S01)																		

Item	Location	Description of Change																																													
905.	Table 5.1-1, Meteorological Dispersion	Under Control Room X/Q heading, deleted Radwaste Building information and note for "NA". This information is no longer used in any radiological analysis.																																													
906.	Table 5.1-1, Meteorological Dispersion	<p>Added new section for Technical Support Center X/Q as follows (per markup provided in response to RAI 2.3-9 S01):</p> <p>Technical Support Center X/Q:*</p> <p>Reactor Building</p> <table border="0" data-bbox="730 630 1339 808"> <tr> <td>0-2 hours:</td> <td>1.00E-03 s/m³</td> <td>1.00E-03 s/m³</td> </tr> <tr> <td>2-8 hours:</td> <td>6.00E-04 s/m³</td> <td>6.00E-04 s/m³</td> </tr> <tr> <td>8-24 hours:</td> <td>3.00E-04 s/m³</td> <td>3.00E-04 s/m³</td> </tr> <tr> <td>1-4 days:</td> <td>2.00E-04 s/m³</td> <td>2.00E-04 s/m³</td> </tr> <tr> <td>4-30 days:</td> <td>1.00E-04 s/m³</td> <td>1.00E-04 s/m³</td> </tr> </table> <p>Turbine Building</p> <table border="0" data-bbox="730 840 1339 1018"> <tr> <td>0-2 hours:</td> <td>2.00E-03 s/m³</td> <td>2.00E-03 s/m³</td> </tr> <tr> <td>2-8 hours:</td> <td>1.50E-03 s/m³</td> <td>1.50E-03 s/m³</td> </tr> <tr> <td>8-24 hours:</td> <td>8.00E-04 s/m³</td> <td>8.00E-04 s/m³</td> </tr> <tr> <td>1-4 days:</td> <td>6.00E-04 s/m³</td> <td>6.00E-04 s/m³</td> </tr> <tr> <td>4-30 days:</td> <td>5.00E-04 s/m³</td> <td>5.00E-04 s/m³</td> </tr> </table> <p>Passive Containment Cooling System / Reactor Building Roof</p> <table border="0" data-bbox="730 1050 1339 1228"> <tr> <td>0-2 hours:</td> <td>2.00E-03 s/m³</td> <td>2.00E-03 s/m³</td> </tr> <tr> <td>2-8 hours:</td> <td>1.10E-03 s/m³</td> <td>1.10E-03 s/m³</td> </tr> <tr> <td>8-24 hours:</td> <td>5.00E-04 s/m³</td> <td>5.00E-04 s/m³</td> </tr> <tr> <td>1-4 days:</td> <td>4.00E-04 s/m³</td> <td>4.00E-04 s/m³</td> </tr> <tr> <td>4-30 days:</td> <td>3.00E-04 s/m³</td> <td>3.00E-04 s/m³</td> </tr> </table>	0-2 hours:	1.00E-03 s/m ³	1.00E-03 s/m ³	2-8 hours:	6.00E-04 s/m ³	6.00E-04 s/m ³	8-24 hours:	3.00E-04 s/m ³	3.00E-04 s/m ³	1-4 days:	2.00E-04 s/m ³	2.00E-04 s/m ³	4-30 days:	1.00E-04 s/m ³	1.00E-04 s/m ³	0-2 hours:	2.00E-03 s/m ³	2.00E-03 s/m ³	2-8 hours:	1.50E-03 s/m ³	1.50E-03 s/m ³	8-24 hours:	8.00E-04 s/m ³	8.00E-04 s/m ³	1-4 days:	6.00E-04 s/m ³	6.00E-04 s/m ³	4-30 days:	5.00E-04 s/m ³	5.00E-04 s/m ³	0-2 hours:	2.00E-03 s/m ³	2.00E-03 s/m ³	2-8 hours:	1.10E-03 s/m ³	1.10E-03 s/m ³	8-24 hours:	5.00E-04 s/m ³	5.00E-04 s/m ³	1-4 days:	4.00E-04 s/m ³	4.00E-04 s/m ³	4-30 days:	3.00E-04 s/m ³	3.00E-04 s/m ³
0-2 hours:	1.00E-03 s/m ³	1.00E-03 s/m ³																																													
2-8 hours:	6.00E-04 s/m ³	6.00E-04 s/m ³																																													
8-24 hours:	3.00E-04 s/m ³	3.00E-04 s/m ³																																													
1-4 days:	2.00E-04 s/m ³	2.00E-04 s/m ³																																													
4-30 days:	1.00E-04 s/m ³	1.00E-04 s/m ³																																													
0-2 hours:	2.00E-03 s/m ³	2.00E-03 s/m ³																																													
2-8 hours:	1.50E-03 s/m ³	1.50E-03 s/m ³																																													
8-24 hours:	8.00E-04 s/m ³	8.00E-04 s/m ³																																													
1-4 days:	6.00E-04 s/m ³	6.00E-04 s/m ³																																													
4-30 days:	5.00E-04 s/m ³	5.00E-04 s/m ³																																													
0-2 hours:	2.00E-03 s/m ³	2.00E-03 s/m ³																																													
2-8 hours:	1.10E-03 s/m ³	1.10E-03 s/m ³																																													
8-24 hours:	5.00E-04 s/m ³	5.00E-04 s/m ³																																													
1-4 days:	4.00E-04 s/m ³	4.00E-04 s/m ³																																													
4-30 days:	3.00E-04 s/m ³	3.00E-04 s/m ³																																													
907.	Table 5.1-1, Note (1)	Added the following note: "for all parameters except as follows: (1) Tornado: Winds Speeds, Radius, Pressure Drop, and Rate of Pressure Drop; (2) Seismology: Horizontal and Vertical Ground Spectra: See Figures 2.0-1 and 2.0-2". (per markup provided in response to RAI 3.3-3 S02)																																													
908.	Table 5.1-1, Notes (2,3,4)	Added note 2,3 and 4 per markup provided in response to RAI 3.3-3 S02																																													
909.	Table 5.1-1, Note (5)	<p>Added new note (5) as follows to provide additional clarification for soil sites:</p> <p>"(5) Settlement values are long-term (post-construction) values except for differential settlement within the foundation mat. The design of the foundation mat accommodate immediate and long-term (post-construction) differential settlements after the installation of the basemat."</p>																																													

