

DCD Tier 2 Chapter 3 Revision 4 to Revision 5 Change List
(Sections 3.1 to 3.8)

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	Global	Made editorial changes in numerous locations to remove excessive spacing, correct punctuation, delete repeated words, correct misspelling, and correct grammar.
2.	Global	Made changes related to standardization of acronym list.

Tier 2 Section 3.1 Revision 4 to Revision 5 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3.1.2.4, Evaluation Against Criterion 13, 4 th para.	Deleted “RPS and” because this was never part of the ESBWR design. It was hold over from the ABWR.
2.	S3.1.2.8, Evaluation Against Criterion 17, 3 rd para., 1 st sent.	Deleted “or when the unit is shut down” for clarification.
3.	S3.1.2.8, Evaluation Against Criterion 17, new 4 th para.	Added additional information in regards to ancillary diesels due to design change.
4.	S3.1.2.8, Evaluation Against Criterion 17, new 14 th para.	Added additional information to clarify design basis and the applicability of RG 1.93.
5.	S3.1.2.10, Criterion 19 Statement, new 3 rd para.	Added GDC 19 text for clarification.
6.	S3.1.4.8, Evaluation Against 37, 1 st & 2 nd para., 1 st sent.	Added ICS and SLC to the systems that are part of the ECC.
7.	S3.1.4.9, Evaluation Against Criterion 38, 2 nd para.	Added additional details in response to RAI 6.2-139.
8.	S3.1.4.9, Evaluation Against Criterion 38, 3 rd para., 3 rd sent.	Added “in the first 72 hours after a LOCA” in response to RAI 6.2-139.
9.	S3.1.4.11, Evaluation Against Criterion 40, 2 nd para., 1 st sent.	Inserted “...of the PCCS...” after “operability testing and added “needed in the first 72 hours after a LOCA” at the end of the sentence in response to RAI 6.2-139.
10.	S3.1.4.11, Evaluation Against Criterion 40, 2 nd para.	Added new sentence “Long term effectiveness of the PCCS requires that the vent fans are manually actuated by operator action.” in response to RAI 6.2-139.
11.	S3.1.4.12, Evaluation Against Criterion 41, 1 st para., 2 nd sent.	Replaced “10 CFR 50.34 (a) and 10 CFR 100” with “10 CFR 52.47” for clarification. The correct reference for a Design Certification application is 10 CFR 52.47.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
12.	S3.1.4.15, Evaluation Against Criterion 44, 1 st para., 5 th sent.	Replaced “Dryer/Separator Pool” with “Equipment Storage Pool” due to the removal of chimney partitions for refueling.
13.	S3.1.4.17, Evaluation Against Criterion 46, 1 st para., 2 nd sent.	Replaced “Dryer/Separator Pool” with “Equipment Storage Pool” due to the removal of chimney partitions for refueling.
14.	S3.1.6.1, Evaluation Against Criterion 60, 1 st para., 4 th sent.	Replaced “the plant stack” with “multiple plant stacks” due to design change replacing a single plant stack with local stacks mounted on the top of the buildings.
15.	S3.1.6.1, Evaluation Against Criterion 60, 1 st para., 5 th sent.	Replaced “plant stack” with “TB, RB/FB and RW stacks” (1 st instance) and “plant stack” with “plant stacks” (2 nd instance) due to design change replacing a single plant stack with local stacks mounted on the top of the buildings.
16.	S3.1.6.2, Evaluation Against Criterion 61, 4 th para.	Added “(See Subsection 9.1.4)” at the end of the paragraph. Change was made to link the section to another DCD section that was revised in response to RAI 9.1-43. The change was not part of the actual RAI response.
17.	S3.1.6.2, Evaluation Against Criterion 61, cross reference	Added a cross reference to Subsection 9.1.4. Change was made to link the section to another DCD section that was revised in response to RAI 9.1-43. The change was not part of the actual RAI response.
18.	S3.1.6.2, Evaluation Against Criterion 61, cross references	Added cross references to Subsection 9.4.2.

Tier 2 Section 3.2 Revision 4 to Revision 5 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3.2.3.4	Added new paragraph as follows: “Nonsafety-related SSCs that are classified Seismic Category I or II and Quality Group B or C are subject to ASME Section III requirements (including N stamping) and ASME Section XI inspection requirements.” (per responses to RAI 3.2-34 S02 and 3.2-34 S03)
2.	T3.2-1, System B21, Item 6	Deleted “and FW from outermost isolation valve to and including the shutoff valve”. Information duplicates contents of B21 Item 8, as modified below.
3.	T3.2-1, System B21, Item 8	Revised item to read: “Piping and valves (including supports) for FW from outermost isolation valve to the seismic interface restraint” due to FW shutoff valve having been reclassified as an isolation valve that is covered under B21 Item 5.
4.	T3.2-1, System D11	Editorial clarification. Split Item 1 into two separate items (1 and 3) then renumbered original items 3 and 4 as items 4 and 5. Change was made to clarify that radiation monitors and sensors are not located inside containment. New items read as follows: 1. Radiation monitors and sensors with safety-related function 3. Electrical modules and cable with safety-related function Classifications and locations are the same as for the original item 1, but with the “CV” location being removed for the new item 1.
5.	T3.2-1, System F11, Item 1	Revised QA Req. from “E” to “B” and revised Seismic Category from “II” to “I” due to change in design requirements.
6.	T3.2-1, System F11, Items 2 and 3	Added new item 2 for “New Fuel Inspection Stand” due to a design requirements change in its Seismic Category from “NS” to “II”. This item was previously included in what is now renumbered as item 3.
7.	T3.2-1, System F15, Items 1 and 2	Revised QA Req. from “E” to “B” and revised Seismic Category from “II” to “I” due to change in design requirements.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
8.	T3.2-1, System F42, Item 1	Revised QA Req. from “E” to “B” due to change in design requirements.
9.	T3.2-1, System F42, Item 2	Changed Quality Group from “—” “ to “D/—”, changed Seismic Category from “NS” to “II/NS” and added note “See Figure 9.1-2 for clarification of seismic classification boundaries.” for consistency with changes in DCD T2 Subsection 9.1.4.12 and responses to RAIs 9.1-35 and 9.1-36.
10.	T3.2-1, System G21 Items 14 and 15	<p>Editorial. Recategorized these items by whether or not the controls and instrumentation support safety-related vs nonsafety-related functions. Descriptions now read as follows:</p> <p>14. Control and instrumentation required for safety-related functions.</p> <p>15. Control and instrumentation required for nonsafety-related functions.</p> <p>The Location for item 14 was revised to eliminate “FB”. Safety class of Item 14 changed to “3”.</p>
11.	T3.2-1, System G31, New Items 13 and 14	<p>Added two new items for design change to RWCU/SDC that is described in response to RAI 6.2-140 S01.</p> <p>Component “13. Cross-tie piping including supports and valves to/from FAPCS for post-accident containment heat removal”, Safety Class “N”, Location “RB”, Quality Group “C”, QA Req. “E”, Seismic Category “II”.</p> <p>Component “14. Cross-tie piping including supports and valves for post-accident return flow to mid vessel suction line”, Safety Class “N”, Location “RB”, Quality Group “C”, QA Req. “E”, Seismic Category “II”.</p>

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
12.	T3.2-1, System N31	<p>Entry split into two line items as follows due to change in interpretation of boundary point between systems N31 and N32:</p> <ol style="list-style-type: none"> 1. Turbine stop valves (TSVs), turbine control valves (TCVs) and main steam leads from the TSVs to the turbine casing, Safety Class “N”, Location “TB”, Quality Group “D”, QA Requirement “E”, Seismic Category “NS”, Notes “(9)”. 2. All other system components, Safety Class “N”, Location “TB”, Quality Group “—”, QA Requirement “E”, Seismic Category “NS”. <p>(per response to RAI 10.2-27)</p>
13.	T3.2-1, System N32	<p>Changed Quality Group from “D” to “—” due to turbine control valves and turbine stop valves now being considered part of System N31. Reference to Note (9) deleted (and relocated to System N31 listing).</p> <p>(per response to RAI 10.2-27)</p>
14.	T3.2-1, System P21	<p>Added “FB, EB” to Location column for consistency with description of system functions as described in DCD T2 Subsection 9.2.2</p>
15.	T3.2-1, System P41	<p>Replaced “RB” with “TB” in Location column for consistency with description of system functions as described in DCD T2 Subsection 9.2.1</p>
16.	T3.2-1, System R12	<p>Due to design change that added ancillary diesel generators, portions of this system are now Seismic Category II. Single line item replaced with the following two items:</p> <ol style="list-style-type: none"> 1. Components supporting distribution of power from Ancillary Diesel Generators, Safety Class “N”, Location “OO, RB, EB”, Quality Group “—”, QA Requirement “E”, Seismic Category “II”. 2. All other components, Safety Class “N”, Location “ALL”, Quality Group “—”, QA Requirement “E”, Seismic Category “NS”.
17.	T3.2-1, System R14	<p>System deleted. Functions it performed have been transferred to System R13.</p>

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
18.	T3.2-1, System R21	<p>Due to design change that added ancillary diesel generators, portions of this system are now Seismic Category II. Single line item replaced with the following two items:</p> <ol style="list-style-type: none"> 1. Ancillary diesel generators and their support equipment, Safety Class “N”, Location “OO”, Quality Group “—”, QA Requirement “E”, Seismic Category “II”. 2. Other system equipment, Safety Class “N”, Location “EB”, Quality Group “—”, QA Requirement “E”, Seismic Category “NS”.
19.	T3.2-1, System T10	<p>Changed Item 4 to Safety Class “3”, QA Requirement “B”, Seismic Category “I”.</p> <p>Added new Item 7, Vacuum Breaker/Isolation Valve Temperature Sensor Instrumentation, Safety Class “3”, Location “CV”, Quality Group “—”, QA Requirement “B”, Seismic Category “I”.</p> <p>(both changes per response to RAI 6.2-148)</p>
20.	T3.2-1, System T10, Items 8 and 9	<p>Added following new items to table:</p> <p>Component “8. BiMAC device”, Safety Class “N”, Location “CV”, Quality Group “—”, QA Req. “E”, Seismic Category “NS”.</p> <p>Component “9. GDCS pool spillover pipes”, Safety Class “N”, Location “CV”, Quality Group “—”, QA Req. “E”, Seismic Category “II”.</p> <p>Addition of item 8 reflects it now being assigned to System T10. Item 9 reflects a design change that is described in DCD T2 Subsection 6.2.1.1.10.2.</p>
21.	T3.2-1, System T15	<p>Due to design change that added PCCS vent fans in response to RAI 6.2-140 S01, portions of this system are now nonsafety-related. Single line item replaced with the following two items:</p> <ol style="list-style-type: none"> 1. All components other than vent fans, Safety Class “2”, Location “CV”, Quality Group “B”, QA Requirement “B”, Seismic Category “I”. 2. Vent fans, Safety Class “N”, Location “CV”, Quality Group “B”, QA Requirement “E”, Seismic Category “II”.
22.	T3.2-1, System U31, Item 1	<p>Revised QA Req. from “E” to “B” and revised Seismic Category from “II” to “I” due to change in design requirements.</p>

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
23.	T3.2-1, System U40	<p>Added new item 3 then renumbered original item 3 as item 4 due to design change that added a hardened containment vent.</p> <p>3. Hardened containment vent line to RB/FB stack, Safety Class “N”, Location “RB”, Quality Group “—”, QA Requirement “E”, Seismic Category “NS”.</p>
24.	T3.2-1, System U43	<p>The following changes were implemented for System U43 in response to RAI 9.5-66:</p> <p>Item 1 – Added “(includes Buildings supplied by yard piping)” to description. Added “TB, EB, RW, SB” to location.</p> <p>Item 2 – Editorial change. Removed parenthesis and changed “includes” to “providing”.</p> <p>Item 2 – Deleted “RB, CB, FB” from location. Piping in those buildings that supports this function does not belong to U43.</p> <p>Items 3 through 14 renumbered as 4 through 15. New item numbers used for remainder of this listing.</p> <p>Item 3 – New item for Seismic Category II portions of system. “Seismic Category II piping and valves including supports (includes balance of primary piping and valves)”, Safety Class “N”, Location “OO, RB, CB, FB”, Quality Group “D”, QA Req. “E”, Seismic Category “II”, Note “Same as above”.</p> <p>Item 7 – Deleted “nuclear island” from description due to no clear definition of term in DCD.</p> <p>Item 8 – Deleted “nuclear island” from description and added “and other primary pumps” at end of description.</p>
25.	T3.2-1, System U65	<p>Due to design change that added ancillary diesel generator building, portions of this system are now Seismic Category II. Single line item replaced with the following two items:</p> <p>1. Ancillary diesel generator building, Safety Class “N”, Location “OO”, Quality Group “—”, QA Requirement “E”, Seismic Category “II”.</p> <p>2. Other buildings, Safety Class “N”, Location “OO, OL”, Quality Group “—”, QA Requirement “E”, Seismic Category “NS”.</p>

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
26.	T3.2-1, System U72	Added “NS structure with special seismic and tornado design considerations. See Subsections 3.3.2.3, 3.5.3.3 and 3.7.2.8.” in Notes column. (per response to RAI 3.2-66)
27.	T3.2-1, System U77, Item 4	Replaced “(deleted)” with new item due to its RTNSS B classification: Control room air handling units and the air conditioning for their coils, Safety Class “N”, Location “CB”, Quality Group “—”, QA Requirement “E”, Seismic Category “II”.
28.	T3.2-1, System U77, Item 6	Added new item 6, Emergency Filter Units, Safety Class “3”, Location “CB”, Quality Group “—”, QA Requirement “B”, Seismic Category “I”. (per response to RAI 6.4-6).
29.	T3.2-1, System U77, Item 7	Added new item due to its RTNSS B classification: Q-DCIS room coolers, Safety Class “N”, Location “CB”, Quality Group “—”, QA Requirement “E”, Seismic Category “II”.
30.	T3.2-1, System U99	System deleted. Plant stack has been replaced with three separate stacks for the RB/FB, TB and RW, which belong to the corresponding building HVAC systems.
31.	T3.2-1, System Y52	Due to design change that added ancillary diesel generator fuel tanks, portions of this system are now Seismic Category II. Single line item replaced with the following two items: 1. System components supporting operation of ancillary diesel generators, Safety Class “N”, Location “OO”, Quality Group “—”, QA Requirement “E”, Seismic Category “II”. 2. All other system components, Safety Class “N”, Location “OO”, Quality Group “—”, QA Requirement “E”, Seismic Category “NS”.
32.	T3.2-1, Note (5)	Added “See Subsection 17.1.22 for further details.” to end of note. (per response to RAI 3.2-6 S01)

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
33.	T3.2-1, Note (9)	For consistency with above changes to N31 and N32 system boundary, changed first sentence of this note to read as follows: “Main Turbine – Turbine steam leads from the stop valves to the inlet nozzles, including stop and control valves, are Quality Group D and designed to withstand the SSE and maintain its pressure-retaining integrity.” (per response to RAI 10.2-27)
34.	T3.2-2, Note (4)	Changed “quality assurance program. Elements of 10 CFR 50, Appendix B, are generally applied to Nonsafety-Related equipment commensurate with...” to “quality assurance program that are commensurate with ...”. Added “See Subsection 17.1.22 for further details.” to end of note. (per response to RAI 3.2-6 S01)
35.	F3.2-1	Figure updated to show a cross-tie valve between main steamlines and the main steamline drains as normally closed (per response to RAI 3.2-19 S03) and to adjust classification boundary for turbine bypass line to upstream of turbine bypass valves (per response to RAI 10.2-27).
36.	F3.2-2	Valve configuration in feedwater line updated due to design changes related to feedwater line isolation capability. Arrangement is now consistent with DCD T2 Figure 5.1-2.

Tier 2 Section 3.3 Revision 3 to Revision 4 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3.3.2.2, new para.	Added additional information in response to RAI 6.4-13.
2.	S3.3.2.3, 3 rd sent.	Deleted “(except the Radwaste Building)” for clarity.
3.	S3.3.2.3	Added “The Radwaste Building is designed for extreme and tornado wind loads.” in response to RAI 3.3-3 S02.
4.	S3.3.2.3	Added “The Turbine Building is designed for extreme and tornado wind loads (excluding missiles).” in response to RAI 3.2-66.

Tier 2 Section 3.4 Revision 4 to Revision 5 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	Generic	Deleted reference to Hot Water System due to design change.
2.	S3.4.1.2, 2 nd para., 2 nd sent.	Replaced “310 mm” with “300 mm” to be consistent with Table 2.0-1.
3.	S3.4.1.2, 3 rd para.	Replaced “This approach provides” with “These provisions include” in response to RAI 3.4-12.
4.	S3.4.1.2, 3 rd para., 1 st bullet	Replaced “Wall thicknesses” with “Walls” in response to RAI 3.4-12.
5.	S3.4.1.2, 3 rd para.	Added new last bullet “No exterior access openings below grade” in response to RAI 3.4-12.
6.	S3.4.1.2, last para., 1 st sent.	Deleted 1 st sentence in response to RAI 3.4-12.
7.	S3.4.1.2, last para.	Added “Thus, no emergency actions are required due to flooding to ensure the safe operation of the ESBWR plant.” in response to RAI 3.4-12.
8.	S3.4.1.4.1, 2 nd para.,	Revised paragraph in response to RAI 3.4-9.
9.	S3.4.1.4.1, last para.	Added “...because the potential flood water from chilled water portion inside CRHA envelope is detected and isolated” in response to RAI 3.4-9.
10.	S3.4.1.4.2, 6 th para., 2 nd sent.	Replaced “1100” with “1110” for correction of typo.
11.	S3.4.2, Item (2)	Deleted “at least 160 mm (6.3 in)” for clarity; this information can be obtained from Table 3.4-1.
12.	S3.4.2, Item (3)	Deleted “160 mm (6.3 in.)” for clarity; this information can be obtained from Table 3.4-1.
13.	T3.4-1, Design Flood Level	Changed “EL. 4340 (14.2)” to “EL. 4350 (14.3)” to be consistent with Table 2.0-1.

Tier 2 Section 3.5 Revision 4 to Revision 5 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3.5.1.1.1.2, last para., last sent.	Deleted "...generation and..." and added "turbine inspection, test and maintenance program, and turbine missile probability calculations" to clarify discussion of turbine missile analysis and programs to be consistent with Section 10.2.
2.	S3.5.1.2.3, last para., last bullet	Added "This is ensured by plant procedures as described in Section 13.5." in response to RAI 3.5-18.
3.	S3.5.3.2, 2 nd para., last sent.	Replaced "similar to that" with "provided" in response to RAI 3.5-19.
4.	S3.5.3.2, new para.	Added "The maximum allowable ductility ratios for steel and reinforced concrete given in ANSI/AISC N690-1994 including Supplement 2 (Reference Number 15 of Table 3.8-6) and Regulatory Guide 1.142 respectively are met." in response to RAI 3.8-64 S05.
5.	S3.5.3.3, 1 st sent.	Deleted 1 st sentence in response to RAI 3.2-66.
6.	S3.5.3.3, 2 nd sent.	Replaced "(except the Radwaste Building)" with "postulated to fail under tornado wind loads" in response to RAI 3.2-66.

Tier 2 Section 3.6 Revision 4 to Revision 5 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	Generic	Replaced “BTP EMEB 3-1” with the current criteria “BTP 3-4”.
2.	S3.6.2.1.1, For ASME Code, Section III, Class 2 Piping, 1 st dash, 1 st sent.	Replaced “...including an Operating Basis Earthquake (OBE)...” with “...excluding an earthquake...” because the OBE is not applicable to the ESBWR design based on Table 3.9-2.
3.	S3.6.2.1.1, ASME Code Section III class 2 & 3 Piping in Areas Other Than Containment Penetration	Added additional details in response to RAI 3.6-04 S01.
4.	S3.6.2.3.1, 2 nd para., last bullet	Revised to read “Potential targets, or portion of a large target, which are close enough to the jet boundary of the model assumed such that with reasonable variations in the jet geometry or pipe movement parameters they could be impinged upon, are assumed to be impinged upon.” In response to RAI 3.6-18.
5.	S3.6.2.3.1, 3 rd para., 4 th bullet	Revised to read “The jet impingement force on the target is calculated according to Appendix D of ANSI/ANS 58.2.” in response to RAI 3.6-13.
6.	S3.6.2.3.1, 5 th para., new 3 rd sent.	Added additional information in response to RAI 3.6-19 S01 (MFN TBD).
7.	S3.6.2.3.2, Pipe Displacement Effects on Components in the Same Piping Run, 2 nd bullet	Added additional information in response to RAI 3.6-8 S02.
8.	S3.6.2.5, 1 st para.	Replaced “item 3” with “related to pipe break analysis report” for clarity.
9.	S3.6.5, COL item 3.6.5-1-A	Deleted in response to RAI 14.3-131 S01.
10.	T3.6-3	Added subtitle “High Energy Piping Inside Containment” for clarity.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
11.	T3.6-4	Added subtitle “High Energy Piping Outside Containment” for clarity.

Tier 2 Section 3.7 Revision 4 to Revision 5 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3.7, 1 st para.	Deleted last two sentences in response to RAI 3.7-61.
2.	S3.7.2.1.1, 2 nd para.	Deleted 3 rd sentence in response to RAI 3.7-61.
3.	S3.7.2.1.1	Added “The adequacy of the selected time step (Δt) is checked by ensuring that use of $\frac{1}{2}$ of Δt does not change the response by more than 10%.” after the 4 th sentence in response to RAI 3.7-61.
4.	S3.7.2.6, 3 rd para.	Deleted 3 rd paragraph in response to RAI 3.7-41 S01.
5.	S3.7.2.7, 9 th para., Step 1	Revised Step 1 in response to RAI 3.7-61.
6.	S3.7.2.8, Item 1, 3 rd sent.	Deleted “(except the Radwaste Building)” for clarity.
7.	S3.7.2.8, Item 3, last sent.	Added “except the Radwaste Building and the Turbine Building (TB)” in response to RAI 3.2-66.
8.	S3.7.2.8, new last para.	Added additional details in response to RAI 3.2-66.
9.	S3.7.2.9, 1 st para.	Deleted last two sentences in response to RAI 3.7-61.
10.	S3.7.2.9, new para.	Added additional information in response to RAI 3.7-61.
11.	S3.7.2.9, last para.	Replaced “...of peak broadening described above...” with “...described above to account for the effect of parameter variation” in response to RAI 3.7-61.
12.	S3.7.3.9, new 3 rd para.	Added additional details in response to RAI 3.12-3 S03.
13.	S3.7.3.12, new 4 th & 5 th para.	Added additional details in response to RAI 3.12-27 S01 (R).
14.	S3.7.3.13	Revised entire subsection in response to RAI 3.7-52 S2.
15.	S3.7.3.17, new last para.	Added additional details in response to RAI 3.12-15 S03.
16.	S3.7.4.2, 2 nd para.	Added “The seismic instrumentation and equipment has sufficient battery capacity to sense and record 25 minutes of seismic motion over a 24-hour period. The associated battery charger is connected to a nonsafety-related DCIS (N-DCIS), uninterruptible power supply (see Subsection 7.1.4) in accordance with Regulatory Guide 1.12.” in response to RAI 7.9-6 S01.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
17.	S3.7.4.2.1, 1 st para., last sent	Deleted “or an equivalent demonstrated range to be adequate by computational techniques applied to the resultant accelerogram” in response to RAI 7.9-6 S01.
18.	S3.7.5	Replaced with Site-Specific Information in response to RAI 3.7-61 and provided additional clarification for sites not meeting the soil properties requirements.
19.	T3.7-1, Cable Trays	Replaced percent of critical damping to “7.0” in response to RAI 3.7-13 S02.
20.	T3.7-1, Conduits	Replaced percent of critical damping to “5.0” in response to RAI 3.7-13 S02.
21.	T3.7-1	Deleted Footnote 2 in response to RAI 3.7-13 S02.
22.	T3.7-2	Added footnote to provide a consistent approach for determining scale factors for various embedment depths less than 14.9 m (49 ft.).

Tier 2 Section 3.8 Revision 4 to Revision 5 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3.8.1.1.1, 2 nd para., 4 th sent.	Rewritten for clarity and due to the removal of chimney partitions for refueling.
2.	S3.8.1.1.1, 3 rd para., new 2 nd & 3 rd sent.	Added additional information in response to RAI 3.8-4 S03.
3.	S3.8.1.3.6, last para.	Replaced “100/40/40” with “SRSS” and deleted “in accordance with ASCE 4-98” in response to RAI 3.7-41 S01.
4.	S3.8.4.1.5, 3 rd para.	Deleted “mobile” to be consistent with GEH response to RAI 11.2-16.
5.	S3.8.1.5, 2 nd para., 1 st sent.	Replaced “4.41 MPa (639 psi)” with “4.88 MPa (708 psi)” in response to RAI 3.8-5 S03.
6.	S3.8.1.6.4, 2 nd para., Carbon Steel	Added “or ASTM A-709 HPS 70W*” in response to RAI 5.2-50 S02.
7.	S3.8.1.6.4, 2 nd para., Carbon Steel w/ Stainless Clad	Replaced “tp” with “Type” and added “or ASTM A-709 HPS 70W* + SA-240 Type 304L” in response to RAI 5.2-50 S02.
8.	S3.8.1.6.4, 2 nd para.	Added note “*ASME Code Case N-763” in response to RAI 5.2-50 S02.
9.	S3.8.1.6.6	Revised the entire paragraph in response to RAI 20.0-5 S01.
10.	S3.8.1.7.1, 1 st para.	Replaced “310.2 kPag” with “310 kPag” to be consistent with the design value provided in other sections and replaced “52 psig” with “51.8 psig” for proper rounding off in unit conversion.
11.	S3.8.1.7.1, 2 nd para., 1 st sent.	Replaced “cavity” with “well” to be consistent with Figure 1.2-8.
12.	S3.8.1.7.1, 2 nd para., 1 st sent.	Replaced “Dryer/Separator Pool” with “Equipment Storage Pool” due to the removal of chimney partitions for refueling.
13.	S3.8.2.1.5, last sent.	Added “and their structural evaluation is documented in Appendix 3G” in response to RAI 3.8-117.
14.	S3.8.2.2, Title	Replaced “and Specifications” with “Specifications and Regulatory Guides” in response to RAI 3.8-110 S01.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
15.	S3.8.2.2.1, Title	Replaced “and Standards” with “Standards and Regulatory Guides” in response to RAI 3.8-110 S01.
16.	S3.8.2.2.1, 1 st sent.	Replaced “codes and standards” with “documents” and “codes and standards” with “code, standard and regulatory guide” in response to RAI 3.8-110 S01.
17.	S3.8.2.2.1	Added new item 3 in response to RAI 3.8-110 S01.
18.	S3.8.2.4.1.5, 1 st para., 5 th sent.	Replaced “...penetrate...” with “...pass through...” in response to RAI 3.8-117.
19.	S3.8.2.4.1.5, 2 nd para.	Replaced “...the IC/PCC pool walls” with “...a 3D steel frame structure that transmits the horizontal dynamic forces to the RCCV Top Slab. Figures 3G.1-71a and 3G.1-71b show the PCCS condenser and supports” in response to RAI 3.8-117.
20.	S3.8.2.4.1.5, last para., new 1 st sent.	Added “A finite-element analysis model supplemented with hand calculation is used to determine the stresses in the different components of the PCCS condenser and supports.” In response to RAI 3.8-117.
21.	S3.8.2.6	Revised subsection in response to RAI 3.8-110 S01 & RAI 3.8-118.
22.	S3.8.3.4.2	Deleted the RPV support detail description and added reference to Subsection 5.3.3.2.2 due to design change.
23.	S3.8.3.6.1, Top and bottom plate	Deleted “A-572 or” in response to RAI 3.8-120.
24.	S3.8.3.6.1, Support beam	Deleted “A-572 or” in response to RAI 3.8-120.
25.	S3.8.3.6.1, Internal stiffeners	Replaced “A-572” with “A-36” in response to RAI 3.8-120.
26.	S3.8.3.6.1	Added note “*ASME Code Case N-763” in response to RAI 5.2-50 S02.
27.	S3.8.3.6.2, 1 st sent.	Replaced “A-516” with “A-516 Gr. 70” in response to RAI 3.8-120.
28.	S3.8.3.6.2, 1 st sent.	Added “(ASME Code Case N-763)” in response to RAI 5.2-50 S02.
29.	S3.8.3.6.3	Replaced “A-516” with “A-516 Gr. 70” and “A-668” with “A-668 Gr. F or Gr. G” in response to RAI 3.8-120.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
30.	S3.8.3.6.3	Added “(ASME Code Case N-763)” after “HPS 70W” in response to RAI 5.2-50 S02.
31.	S3.8.3.6.4, Inner and outer cylinders	Deleted “A-572 or” in response to RAI 3.8-120.
32.	S3.8.3.6.4, Internal stiffeners	Replaced “A-572” with “A-36” in response to RAI 3.8-120.
33.	S3.8.3.6.4, Outer shell submerged in the suppression pool	Deleted “A-572 or” in response to RAI 3.8-120.
34.	S3.8.3.6.4	Added Note “*ASME Code Case N-763” in response to RAI 5.2-50 S02.
35.	S3.8.3.6.5, Pool wall plate	Deleted “A-572 or” in response to RAI 3.8-120.
36.	S3.8.3.6.5, Structural support beam	Deleted “A-572 or” in response to RAI 3.8-120.
37.	S3.8.3.6.5	Added “Stiffeners ASTM A-36” in response to RAI 3.8-120.
38.	S3.8.3.6.5	Added Note “*ASME Code Case N-763” in response to RAI 5.2-50 S02.
39.	S3.8.3.6.5	Deleted last sentence in response to RAI 3.8-120.
40.	S3.8.3.6.6, High strength structural steel plates	Added “Gr. 50 or Gr. 65” in response to RAI 3.8-120 and “(ASME Code Case N-632)” in response to RAI 5.2-50 S02.
41.	S3.8.4.1.1, 2 nd para., 2 nd sent.	Rewritten for clarity and due to the removal of chimney partitions for refueling.
42.	S3.8.4.3.1.1, last para., “H” definition	Added “and water in soil” in response to RAI 3.4-11.
43.	S3.8.4.3.1.2, 2 nd para., new 2 nd sent.	Added additional information in response to RAI 3.8-4 S03.
44.	S3.8.4.3.1.2, 2 nd para., last sent.	Replaced “100/40/40” with “SRSS” in response to RAI 3.7-41 S01.
45.	S3.8.4.3.1.3, 1 st para., last sent.	Replaced “100/40/40” with “SRSS” in response to RAI 3.7-41 S01.

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46.	S3.8.4.3.2, 1 st para., new 2 nd sent.	Added additional information in response to RAI 3.8-4 S03.
47.	S3.8.4.3.3, 1 st para.	Added “The accident thermal load, Ta, includes the thermal effects in the spent fuel pool which may occur due to loss of FAPCS cooling function.” In response to RAI 3.8-113.
48.	S3.8.4.3.5, 1 st para., new 2 nd sent.	Added additional information in response to RAI 3.8-4 S03.
49.	S3.8.4.5.1, 1 st para., new last sent.	Added additional information in response to RAI 3.8-4 S03.
50.	S3.8.4.5.1, new 2 nd para.	Added additional information in response to RAI 3.8-4 S03.
51.	S3.8.4.5.2	Revised entire subsection in response to RAI 3.8-4 S03.
52.	S3.8.4.5.5	Replaced “same as the Reactor Building in Subsection 3.8.4.5.1” with “the same as the Control Building, which is discussed in Subsection 3.8.4.5.2” in response to RAI 3.8-4 S03.
53.	S3.8.4.6.1	Added “The specified compressive strength of concrete at 28 days, or earlier, is 4000 psi for the foundation mat and 5000 psi for other structures.” In response to RAI 3.8-122.
54.	S3.8.5.2, new 1 st & last para.	Added additional information in response to RAI 3.8-101 S03.
55.	S3.8.5.3, new 1 st para.	Added additional information in response to RAI 3.8-102 S03.
56.	S3.8.5.5, new 1 st para.	Added additional information in response to RAI 3.8-103 S03.
57.	S3.8.5.6, 2 nd sent.	Added “...for the containment foundation mat and Subsection 3.8.4.6 for the foundations of the other Seismic Category I structures” in response to RAI 3.8-122.
58.	S3.8.6, Title	Replaced title with “Special Topics” in response to RAI 3.7-61.
59.	S3.8.6.1, new	Added details on “Foundation Waterproofing” in response to RAI 3.7-61.

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60.	S3.8.6.2, new	Added details on “Site-Specific Physical Properties and Foundation Settlement” in response to RAI 3.7-61 & 3.8-116. Also provided additional clarification for sites not meeting the soil properties requirement.
61.	S3.8.6.3, new	Added details on “Structural Integrity Pressure Result” in response to RAI 3.7-61.
62.	S3.8.6.4, new	Added details on “Identification of Seismic Category I Structures” in response to RAI 3.7-61.
63.	T3.8-2, Severe Environmental	Replaced SRV value “1.0” with “1.3” in response to RAI 3.8-115.
64.	T3.8-2, Abnormal	Replaced SRV value “1.0” with “1.25” in response to RAI 3.8-115.
65.	T3.8-2, Note *7	Deleted “NOT” in the 2 nd sentence and deleted the last sentence in response to RAI 3.8-115.
66.	T3.8-3, Service Load Combination, Tangential Shear, Item (2)	Replaced “1.2” with “0.415”; “1.97” with “2.18” and “2.21” with “2.44” in response to RAI 3.8-5 S03.
67.	T3.8-3, Factor Load Combination, Tangential Shear, Item 2	Replaced “2.4” with “0.830”; “3.95” with 4.36 and “4.41” with “4.88” in response to RAI 3.8-5 S03.
68.	T3.8-3, Note *	Replaced “kgf/cm ² ” with “MPa” in response to RAI 3.8-5 S03.
69.	T3.8-4	Revised No. 5, 9 and 10 & added No. 11 in response to RAI 3.8-110 S01.
70.	T3.8-5	Revised entire table in response to RAI 20.0-5 S01.
71.	T3.8-6, Item 21	Replaced title with “Design Limits, Loading Combinations, Materials, Construction, and Testing of Concrete Containments, Rev. 3, March 2007” in response to RAI 3.8-5 S03.
72.	T3.8-9, Item 18	Added ASME Section II 2004 edition to provide consistency in material selection for ASME Section III 2004 edition requirements.

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73.	T3.8-9, Item 30	Replaced title with “Design Limits, Loading combinations, Materials, Construction, and Testing of Concrete Containments, Rev. 3, March 2007” in response to RAI 3.8-5 S03.
74.	T3.8-10	Replaced “IC/PCCS pool/Expansion pool” with “IC/PCCS pools (including expansion pools)” and “Cavity pool” with “Well” for consistency.
75.	T3.8-10	Replaced “Dryer/Separator Storage Pool” with “Equipment Storage Pool” due to the removal of chimney partitions for refueling.
76.	T3.8-10	Added footnote “* steady state; 47.2°C allowed for short duration” for consistency with Table 2.0-1.
77.	T3.8-11	Added footnote “* steady state; 47.2°C allowed for short duration” for consistency with Table 2.0-1.
78.	T3.8-12, Spent fuel pool	Replaced “60” with “48.9” and “40” with “48.9” in response to RAI 3.8-113.
79.	T3.8-12	Added footnote “* steady state; 47.2°C allowed for short duration” for consistency with Table 2.0-1.
80.	F3.8-1	Revised figure in response to RAI 3.8-4 S03.
81.	F3.8-6 thru 3.8-11	Replaced figures to reflect updated welds between the penetration flange and containment liner in response to RAI 20.0-5 S01.
82.	F3.8-7, Title	Added “and PCCS Passages” in response to RAI 3.8-117.