

Tier 2 Chapter 3.1 Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	S3.1.2.5, 1 st para.	Deleted “of” after “...designed, fabricated”.
2	S3.1.2.6, 3 rd para., 2 nd sent.	Deleted “essential” after “...provided to monitor”.
3	S3.1.2.7, 2 nd para., 1 st bullet, last sent.	Replaced “control drives” with “control rod drives”.
4	S3.1.2.8, 7 th para., last sent.	Replaced “inverters” with “rectifiers”.
5	S3.1.2.8, 9 th para.	Replaced “loads except for” with “load”.
6	S3.1.2.8, 10 th para., 1 st sent.	Rewritten for clarity.
7	S3.1.2.8, 12 th para.	Rewritten for clarity.
8	S3.1.2.8, 13 th para.	Rewritten for clarity.
9	S3.1.2.9, 2 nd & 3 rd para.	Rewritten for clarity.
10	S3.1.2.10, 5 th para., last sent.	Replaced “Emergency Breathing Air System (EBAS)” with “Control Room Habitability Area HVAC Subsystem (CRHAVS)” and added “through an Emergency Filter Unit (EFU)” at the end of the sentence.
11	S3.1.2.10, last para.	Replaced “18.2” with “18.1.2”.
12	S3.1.3.2, last para.	Deleted “7.4.5 Alternate Rod Insertion”.
13	S3.1.3.3, 3 rd para., 3 rd sent.	Replaced “an essential” with “a safety-related”.
14	S3.1.3.3, last para., Section 3.11 title	Deleted “Safety-Related”.
15	S3.1.3.7, last para.	Deleted “7.4.5 Alternate Rod Insertion”.
16	S3.1.3.10, last para., Section 4.6 title	Replaced “Evaluation” with “Design”.
17	S3.1.4.6, last para.	Replaced “6.3.2” with “6.3.2.7”.
18	S3.1.4.12, last para.	Replaced “6.2.5” with “6.2.5.2”. Replaced “7.7.9” with “7.7.7”. Replaced “9.4.8” with “9.4.9”.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
19	S3.1.6.2, 4 th para., last sent.	Replaced “Subsection 9.1.2.2” with “Subsection 9.1.3.2”.
20	S3.1.6.5, last para., Section 7.5 title	Inserted “and Nonsafety-Related” after “Safety-Related”.

Tier 2 Chapter 3.2 Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3.2	Defined acronym "SSCs" in first paragraph. Deleted "10 CFR 100.11" from third bullet because this CFR section only applies to applications submitted before January 10, 1997.
2.	S3.2.1	Added following new paragraph at end of section: "NS (non-seismic) structures and equipment are designed for seismic requirements in accordance with the International Building Code (IBC) Reference 3.2-6. The building structures are classified as Category IV (Power Generating Stations) with an Occupancy Importance Factor of 1.5. Either of the methods permitted by the IBC, simplified analysis or dynamic analysis, is acceptable for determination of seismic loads on NS structures and equipment including those designated as Regulatory Treatment of Non-Safety Systems (RTNSS). Refer to Appendix 19A, Table 19A-1 for a list of RTNSS SSCs." (Incorporated in response to RAIs 3.2-63 and 3.2-64.)
3.	S3.2.2.2 and 3.2.2.3	Incorporated wording applicable to BWRs from Regulatory Guide 1.26 directly into DCD text. (Incorporated in response to RAI 3.2-3, Supplement 1.)
4.	S3.2.2.2 and 3.2.2.3	Added statement to end of sections indicating that "Quality Group B (or C) may also be assigned to nonsafety-related equipment in some instances." (Incorporated in response to RAI 3.2-1, Supplement 1.)
5.	S3.2.3, third paragraph	Revised first sentence to read: "Minimum classification requirements (i.e., quality group, seismic category, electrical classification and quality assurance) that are applicable to the various safety-related classes are delineated in Table 3.2-2. Table 3.2-3 identifies the applicable industry codes and standards for the various quality groups defined above in Section 3.2.2." (Incorporated as part of clarifications associated with response to RAI 3.2-34, Supplement 1.)

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
6.	S3.2.3.1, last paragraph	Added the following: "All Safety Class 1 SSCs are subject to 10 CFR 50 Appendix B quality assurance requirements. Safety Class 1 SSCs that are pressure-retaining components belong to Quality Group A as defined in Section 3.2.2.1." (Incorporated as part of clarifications associated with response to RAI 3.2-34, Supplement 1.)
7.	S3.2.3.2, last paragraph	Added the following: "All Safety Class 2 SSCs are subject to 10 CFR 50 Appendix B quality assurance requirements. Safety Class 2 SSCs that are pressure-retaining components belong to Quality Group B (as a minimum) as defined in Section 3.2.2.2." (Incorporated as part of clarifications associated with response to RAI 3.2-34, Supplement 1.)
8.	S3.2.3.3, last paragraph	Added the following: "All Safety Class 3 SSCs are subject to 10 CFR 50 Appendix B quality assurance requirements. Safety Class 3 SSCs that are pressure-retaining components belong to Quality Group C (as a minimum) as defined in Section 3.2.2.3." (Incorporated as part of clarifications associated with response to RAI 3.2-34, Supplement 1.)
9.	S3.2.3.4, third paragraph	Changed beginning of first sentence to read: "Where appropriate or required by specific regulations, Seismic Category I ..." (Incorporated as part of clarifications associated with response to RAI 3.2-34, Supplement 1.)
10.	S3.2.5	Added note in front of reference list as follows: "Note: Detailed references for all Regulatory Guides and Industry Codes and Standards referred to in Tables 3.2-1 through 3.2-3 can be found in Tables 1.9-21 and 1.9-22."
11.	S3.2.5	Added new reference "3.2-6 International Building Code – 2003 by International Code Council, Inc. (300-214-4321)." (Incorporated in response to RAIs 3.2-63 and 3.2-64.)
12.	S3.2.5	Added new references "3.2-7 NRC Regulatory Guide 1.3, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Boiling Water Reactors."" and "3.2-8 NRC Regulatory Guide 1.97, "Criteria for Accident Monitoring Instrumentation for Nuclear Power Plants."" (Incorporated as part of response to RAI 3.2-3, Supplement 1, Item 3.2-2a.)

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
13.	Table 3.2-1, System B21, Item 9	Deleted "MSL/FW if needed" from column 1. Deleted "except where a "Leak-Before-Break" evaluation has been approved by the NRC" from Notes column. (Incorporated in response to RAI 3.6-22.)
14.	Table 3.2-1, System B32, Item 5	Added new item 5: "Pneumatic accumulators", Safety Class "3", Location "CV, RB", Quality Group "C", QA Requirement "B", Seismic Category "I". (Incorporated in response to RAI 14.3-91.)
15.	Table 3.2-1, System C62	System name changed to "NonSafety-Related DCIS"
16.	Table 3.2-1, System C63	System name changed to "Safety-Related DCIS"
17.	Table 3.2-1, System E50, Item 4	Changed item description to "Safety-related electrical modules, components and cables". (Incorporated as a result of the review requested by RAI 3.2-48, Supplement 1.)
18.	Table 3.2-1, System E50, Item 5	Added "... and perforated plate" to item description. (Incorporated as a result of the review requested by RAI 3.2-48, Supplement 1.)
19.	Table 3.2-1, System E50, Item 6	New item. Description: "Nonsafety-related electrical modules, components and cables", Safety Class "N", Location "CV, RB, CB", Quality Group "—", QA Requirement "E", Seismic Category "II". This listing is for GDCS components associated with the nonsafety-related deluge function.
20.	Table 3.2-1, System F43	Loose Parts Monitoring System has been deleted in its entirety in accordance with RAIs 4.4-7 through 4.4-9.
21.	Table 3.2-1, System G21, Item 2	Clarification. Added "second" in front of "outboard containment isolation valve. (Incorporated as a result of the review requested by RAI 3.2-48, Supplement 1.)
22.	Table 3.2-1, System G21, Item 5	Changed Seismic Category from "I" to "II". See DCD Tier 2 Section 9.1.3 for discussion of basis. (Incorporated as a result of the review requested by RAI 3.2-48, Supplement 1.)
23.	Table 3.2-1, System G21, Item 12	Added "(containment isolation, LPCI isolation)" at end of item description. (Incorporated as a result of the review requested by RAI 3.2-48, Supplement 1.)

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
24.	Table 3.2-1, System G21, Item 14	Deleted ", LPCI" from item description. This equipment is part of Item 15. (Incorporated as a result of the review requested by RAI 3.2-48, Supplement 1.)
25.	Table 3.2-1, System G31, Item 11	Changed Seismic Category from "I" to "II". See DCD Tier 2 Section 5.4.8 for discussion of basis. (Incorporated as a result of the review requested by RAI 3.2-48, Supplement 1.)
26.	Table 3.2-1, System N11, Item 1	Added ", turbine bypass valves" to list of components for item. (Incorporated in response to RAI 3.2-1 Supplement 1.)
27.	Table 3.2-1, System N25	Changed Quality Group from "—" to "D".
28.	Table 3.2-1, System N32	System name changed to "Turbine Generator Control System (TGCS)".
29.	Table 3.2-1, System N38	Added new system N38 Turbine Hydraulics. Safety Class "N", Location "TB", Quality Group "—", QA Requirement "E", Seismic Category "NS".
30.	Table 3.2-1, System N42	System name changed to "Hydrogen Gas Control System (HGCS)".
31.	Table 3.2-1, System N43	System name changed to "Stator Cooling Water System (SCWS)".
32.	Table 3.2-1, System N44	System name changed to "Generator Lube and Seal Oil System (GLSOS)".
33.	Table 3.2-1, System N45	System name changed to "Hydrogen and Carbon Dioxide Bulk Gas Storage System".
34.	Table 3.2-1, System N51	System name changed to "Generator Excitation System".
35.	Table 3.2-1, System N61	Replaced note and generic system classifications with three separate line items. Condenser air removal system reclassified as Quality Group D. (Incorporated as a result of the review requested by RAI 3.2-48, Supplement 1.)
36.	Table 3.2-1, System P21	Split entry into two line items to show that piping and valves inside Reactor Building are Seismic Category II. (Incorporated in response to RAI 3.4-2.)

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37.	Table 3.2-1, System P25, Items 2 and 3	Replaced note in item 3 by the following changes to item 2. Added "and Reactor Building" to item 2 description. Changed location of item 2 to "CV, RB". (Incorporated in response to RAI 3.4-2.)
38.	Table 3.2-1, System P30	Renumbered items 1 and 2 as items 2 and 3. Changed description of what is now item 2 to read: "Other mechanical modules, ..." and deleted "RB" from its location column. Added new item 1: "Mechanical modules, including piping and valves, in Reactor Building", Safety Class "N", Location "RB", Quality Group "D", QA Requirement "E", Seismic Category "II". (Incorporated in response to RAI 3.4-2.)
39.	Table 3.2-1, System R10, Item 9	Removed Containment Vessel (CV) from location column. (Incorporated as a result of the review requested by RAI 3.2-48, Supplement 1.)
40.	Table 3.2-1, System R13, Item 1	Removed Fuel Building (FB) from location column. (Incorporated as a result of the review requested by RAI 3.2-48, Supplement 1.)
41.	Table 3.2-1, System R31, Item 1	Added Turbine Building (TB) to location column. (Incorporated as a result of the review requested by RAI 3.2-48, Supplement 1.)
42.	Table 3.2-1, System U43, Items 1 and 2	Deleted word "loop" from description because the configuration isn't really a loop.
43.	Table 3.2-1, System U43, Item 2	Added "(includes source of makeup water to IC/PCC and fuel pools)" to description. Changed Quality Group from "C" to "D". (Incorporated in response to RAI 9.1-12, Supplement 1).
44.	Table 3.2-1, System U43, Item 3	Changed description to "Primary fire water storage tanks". Changed Quality Group from "C" to "D". (Incorporated in response to RAI 9.1-12, Supplement 1).
45.	Table 3.2-1, System U43, Item 4	Added new item "Secondary fire water storage", Safety Class "N", Location "OO", Quality Group "D", QA Requirement "E", Seismic Category "NS". (Incorporated in response to RAI 9.1-12, Supplement 1).
46.	Table 3.2-1, System U43, Item 5	Previous item 4 renumbered as item 5. (Incorporated in response to RAI 9.1-12, Supplement 1).

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47.	Table 3.2-1, System U43, Item 6	Previous item 5 description changed to "Primary nuclear island diesel-driven fire pump". Quality Group changed to "D". (Incorporated in response to RAI 9.1-12, Supplement 1).
48.	Table 3.2-1, System U43, Item 7	Previous item 6 description changed to "Primary nuclear island motor-driven fire pump". Safety Class "N", Location "OO", Quality Group "D", QA Requirement "E", Seismic Category "NS". Added note "Same as above". (Incorporated in response to RAI 9.1-12, Supplement 1).
49.	Table 3.2-1, System U43, Item 8	Previous item 7 description changed to "Primary diesel fire pump fuel tank". Location changed to "OO". (Incorporated in response to RAI 9.1-12, Supplement 1).
50.	Table 3.2-1, System U43, Items 9 to 14	Previous items 8 to 13 were renumbered as items 9 to 14. (Incorporated in response to RAI 9.1-12, Supplement 1).
51.	Table 3.2-1, System U50	Split previous item 2 into two separate line entries, one for drains in Seismic Category I buildings and one for drains other buildings. Drains in Seismic Category I buildings assigned to Seismic Category II. (Incorporated in response to RAI 3.4-3)
52.	Table 3.2-1, System U65	Deleted EBAS entry. Collapsed remaining U65 data back into one system level item. (Due to change in control room HVAC design concept that eliminates EBAS).
53.	Table 3.2-1, System U66	Added new system "U66 Access Tunnel Structures", Safety Class "N", Location "OL", Quality Group "—", QA Requirement "E", Seismic Category "II". (Incorporates information from response to RAI 3.7-52, Supplement 1.)
54.	Table 3.2-1, System U67	Added new system "U67 Radwaste Tunnel", Safety Class "N", Location "OL", Quality Group "—", QA Requirement "E", Seismic Category "NS", Note: "Structural acceptance and material criteria for the radwaste tunnel are in accordance with RG 1.143, Safety Classification RW-IIa.". (Incorporates information from response to RAI 3.7-52 Supplement 1)
55.	Table 3.2-1, System U71	Split previous entry into two separate line items, thus eliminating the need for the explanatory note. (Incorporated in response to RAI 3.8-2 Supplement 1)

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56.	Table 3.2-1, System U73	Split previous entry into two separate line items, thus eliminating the need for the explanatory note. (Incorporated in response to RAI 3.8-2 Supplement 1)
57.	Table 3.2-1, System U74	Added ", Category RW-IIa" to note. (Incorporated in response to RAI 3.8-79.)
58.	Table 3.2-1, System U75	Changed Seismic Category from "NS" to "II". (Incorporated in response to RAI 3.8-79.)
59.	Table 3.2-1, System U97	Split previous entry into two separate line items, thus eliminating the need for the explanatory note. (Incorporated in response to RAI 3.8-2 Supplement 1)
60.	Table 3.2-2	Changed table title to "Minimum Safety Class Requirements". Changed multi-column heading to read: "Minimum Design Requirements for Specific Safety Class". Added vertical line between first and second columns to emphasize point that the first column is the controlling point for entering the table. Deleted "C or" from Quality Group for Safety Class "N". Revised "C or D" to "B or C" in Note 3. (Incorporated as part of clarifications associated with response to RAI 3.2-34, Supplement 1. Change also related to RAI 3.2-1, Supplement 1.)
61.	Figure 3.2-1	Figure updated to move classification boundary for turbine bypass valves to upstream side of valve. (Incorporated in response to RAI 3.2-1 Supplement 1)
62.	Figure 3.2-2	Feedwater valve configuration updated to reflect system design change described in DCD Tier 2 Subsection 5.4.9.2.

Tier 2 Chapter 3.3 Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	S3.3.1.1, 1 st para., 1 st sent	Deleted “and recurrence interval as described in DCD Tier 2 Subsection 2.3.1 and 2.3.2 and”.
2	S3.3.1.1, 1 st para.	Added following sentence after the 1 st sentence: “The recurrence interval listed in Table 2.0-1 is equivalent to an importance factor of 1.15 based on Category IV building.”
3	S3.3.1.2, 1 st para., 1 st sent.	Added “with Exposure Category D” at the end of sentence.
4	S3.3.1.2, 1 st para.	Deleted 2 nd sentence.
5	S3.3.1.2, 2 nd para, 1 st sent.	Replaced “established in Subsections 2.3.1 and 2.3.2” with “listed in Table 2.0-1”.
6	S3.3.2.1	Deleted “Subsections 2.3.1 and 2.3.2 and”.

Tier 2 Chapter 3.4 Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S3.4.1, 1 st para., 2 nd sent.	Replaced “Subsections 2.4.2 through 2.4.7” with “Table 2.0-1” per DCD Tier 2 Section 2.0 revision.
2.	S3.4.1, 2 nd para., 2 nd sent.	Replaced “10 CFR Part 100, Appendix A, “Seismic and Geologic Siting Criteria” with “10 CFR Part 50, Appendix S, “Earthquake Engineering Criteria” and replaced “tsunamis and seiches” with “water waves and other design conditions” per RAI 3.9-3.
3.	S3.4.1.1, 1 st para., last sent.	Replaced “Section 2.4 and Table 3.4-1” with “Tables 2.0-1 and 3.4-1” per DCD Tier 2 Section 2.0 revision.
4.	S3.4.1.2, 2 nd para., 1 st sent.	Replaced “Section 2.4” with “Table 2.0-1” per DCD Tier 2 Section 2.0 revision.
5.	S3.4.1.2, 3 rd para., 3 rd bullet	Replaced “Waterproof coating” with “Waterproofing”.
6.	S3.4.1.3, 1 st para., 2 nd sent.	Replaced “non-safety” with “nonsafety-related”.
7.	S3.4.1.3, 2 nd para., 1 st sent.	Replaced “essential” with “safety-related”.
8.	S3.4.1.3, 2 nd para., 3 rd bullet	Added “(Reference 3.4-1)” at the end.
9.	S3.4.1.3, 2 nd para., 4 th bullet	Inserted “the drainage system or” after “...taken for” and “for flooding mitigation” after “...sump pumps” per RAI 9.3-31.
10.	S3.4.1.4, 2 nd para.	Inserted following sentence after 2 nd sentence: “Watertight doors between flood divisions have open/close sensors with status indication and alarms in the main control room.”
11.	S3.4.1.4, 5 th para., 1 st sent.	Replaced “ANS-56.11” with “ANSI/ANS-56.11 (Reference 3.4-1)” at the end of sentence.
12.	S3.4.1.4.1, 1 st para., last sent.	Inserted “see Figure 1.2-2 (rooms 3110, 3120, 3130 and 3140)” after “...room floor elevation”.
13.	S3.4.1.4.2, 1 st para	Replaced “Pool” with “Pools”
14.	S3.4.1.4.2, 6 th para., 2 nd sent.	Inserted “see Figure 1.2-1 (rooms 1100, 1120, 1130, and 1140)” after “...room elevation”.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
15.	S3.4.1.4.3, 4 th bullet, 2 nd para., last sent.	Revised sentence per RAI 3.4-1 to read: “In addition, for further protection, the access doors to the RB and CB are watertight.”
16.	S3.4.2, 1 st para., 4 th sent.	Replaced “Subsection 2.4.2” with “Table 2.0-1” per DCD Tier 2 Section 2.0 revision.
17.	S3.4.2, last para.	Added following at the end of the paragraph: “See Appendix 3G, Design Details and Evaluation Results of Seismic Category I Structures.”
18.	S3.4.3, new reference	Added new Reference 3.4-1.
19.	S3.4.4	Deleted entire Section since it is addressed in DCD Tier 2 Section 2.0.
20.	Table 3.4-2	Deleted table.

Tier 2 Chapter 3.5 Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	S3.5.1, 7 th para., 1 st sent.	Replaced “essential” with “safety-related”.
2	S3.5.1, 8 th para., 4 th bullet	Replaced “nor” with “not”.
3	S3.5.1.1.1.2	Revised section.
4	S3.5.1.1.2.2.1, 1 st para., 1 st sent.	Replaced “psig” with “Pressure Class”.
5	S3.5.1.1.2.2.1, 2 nd para., 1 st sent.	Replaced “psig” with “Pressure Class”.
6	S3.5.1.1.2.2.3, 1 st para., 2 nd sent.	Deleted “the EBAS designed for 11.0 MPaG (1600 psig)” per RAI 3.8-65 S1. Replaced “Mpa” with “MPa”.
7	S3.5.1.4, 3 rd para.	Editorial change.
8	S3.5.2, 3 rd para., last sent.	Revised sentence to read: “Provisions are made to protect the Off-Gas Charcoal Bed Adsorbers, Seismic Category I portions of the Fire Protection System and components of FAPCS system that transport makeup water to Spent Fuel Pool and IC/PCC Pools from the Fire Protection System against tornado missiles.”
9	S3.5.3.3, 1 st para., 2 nd sent.	Editorial change. Revised sentence to read: “Any NS structure (except the Radwaste Building) is located at least a distance of its height above grade from C-I or C-II structures.”
10	S3.5.4	Added “None”.
11	S3.5.4.1 & 3.5.4.2	Deleted section because turbine maintenance is addressed in Section 10.2.
12	S3.5.4.2	Deleted section because COLA action is relocated to Subsection 10.2.5.
13	S3.5.5	Added new item 3.5-9 per RAI 3.8-64 S3.
14	T3.5-1, Item B, 3 rd column	Inserted “returning” after “...Criterion (A) before”.

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15	F3.5-2	Revised figure per Engineering Change.

Tier 2 Chapter 3.6 Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	S3.6	Deleted last paragraph per RAI 3.6-22.
2	S3.6.1.1, 3 rd para., 1 st bullet	Deleted “cold” per RAI 3.6-20.
3	S3.6.2.1.3, 1 st para., 1 st bullet, 2 nd dash	Replaced “6 kJ per meter of 1.25 inch” with “6 kJ per meter (1348.85 ft lbf per foot) of 32 mm (1.25 in.)”.
4	S3.6.3	Deleted entire section per RAI 3.6-22.
5	S3.6.3.1	Deleted entire section per RAI 3.6-22.
6	S3.6.3.2	Deleted entire section per RAI 3.6-22.
7	S3.6.6	Deleted Item 3.6-7 per RAI 3.6-22.
8	T3.6-1	Inserted new item (Standby Liquid Control System) after Item 8 per RAI 3.6-21.
9	T3.6-2	Inserted new items (Control Rod Drive System & Standby Liquid Control System) after Items 2 and 4 per RAI 3.6-21.

Tier 2 Chapter 3.7 Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	S3.7, 4 th para.	Deleted 3 rd & 4 th sentences per RAI 3.8-42 S1.
2	S3.7, 4 th para., last sent.	Replaced “positions C.2 and C.4” with “position C.2” per RAI 3.8-42 S1.
3	S3.7.1, 1 st para., 1 st sent.	Replaced “Appendix A to 10 CFR 100” with “Appendix S to 10 CFR 50” per RAI 3.9-3.
4	S3.7.1, 1 st para.	Deleted last sentence per RAI 3.8-95 S1.
5	S3.7.1.1, 1 st para., 6 th sent.	Replaced “Figures 2.5-1 and 2.5-2” with “Figures 2.0-1 and 2.0-2” per RAI 3.8-95 S1.
6	S3.7.1.1.2, 1 st para., 2 nd sent.	Inserted “62.484 m)” after “EL. 205 ft” and “67.666 m)” after “EL 222 ft”.
7	S3.7.1.1.3, 1 st para., 2 nd sent.	Replaced “Figures 2.5-1 and 2.5-2” with “Figures 2.0-1 and 2.0-2” per RAI 3.8-95 S1.
8	S3.7.1.2, 2 nd para., last sent.	Replaced “or pocket lock construction and is” with “construction, 10% for pocket lock construction and”.
9	S3.7.1.2, 3 rd para., 1 st sent.	Deleted “/ANSI”.
10	S3.7.2, 1 st para., 1 st sent.	Deleted “and EBAS buildings” and inserted “and” after “...FB” per RAI 3.8-65 S1.
11	S3.7.2.1.1; 2 nd para., 3 rd sent.	Replaced “An alternative approach” with “The approach” per RAI 3.12-4 S2.
12	S3.7.2.1.2, Item b, 1 st para.	Added description of “O” for Equation (3.7-6).
13	S3.7.2.7; 4 th para., Step 1, 2 nd sent.	Revised sentence per RAI 3.12-20 S2 to read: “The ZPA cutoff frequency is 100 Hz or f_{ZPA} as defined in Figures 1, 2 and 3 of Regulatory Guide 1.92.”
14	S3.7.2.14, 2 nd para.	Replaced Equation (3.7-21) with following equation per RAI 3.7-48 S2: $ (V_h)_i = (V_x)_i + (V_h)_g $ $ (V_v)_i = (V_z)_i + (V_v)_g $

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
15	S3.7.3.1, 1 st para.	Deleted 5 th sentence, which was erroneously added in DCD Tier 2 Rev. 2. The DCD markup for the response to RAI 3.12-20 S1 did not include this sentence.
16	S3.7.3.3.1, 1 st para.	Deleted 6 th sentence per RAI 3.12-12 S2.
17	S3.7.3.3.1, 1 st para., last sent.	Replaced “actual dynamic tests performed on prototype snubber assemblies or on data” with “certified test results” per RAI 3.9-28.
18	S3.7.3.3.1, 2 nd para., 2 nd sent.	Replaced “For struts;” with “For struts and”.
19	S3.7.3.3.1, 3 rd para., 3 rd sent.	Replaced “1/16 inch” with “1.6 mm (1/16 in.)” and “1/8 inch” with “3.2 mm (1/8 in.)”.
20	S3.7.3.3.3, 1 st para.	Replaced entire paragraph per RAI 3.12-13 S2 with the following: “Special engineered pipe supports shall not be used.”
21	S3.7.3.5, 2 nd sent.	Deleted “/ANSI”.
22	S3.7.3.9, Title	Replaced “Multiply” with “Multiple.”
23	S3.7.3.9, 3 rd para., 4 th sent.	Inserted “(i.e., most unfavorable combination)” after “...in a conservative” per RAI 3.9-33.
24	S3.7.3.16, Item 1	Replaced 4 th , 5 th & 6 th sentence with the following sentences per RAI 3.9-37: “Due to branch decoupling, the thermal displacements at the run pipe are combined with associated pressures and temperatures for the flexibility analyses of the branch pipe. All the stresses must meet the ASME Code requirements. The branch pipe analysis results will insure adequate flexibility and proper design of all the restraints on the branch pipe.”
25	S3.7.3.16, Item 2	Deleted item (2)a and renumbered remaining items.
26	S3.7.3.16, Item 2, 1 st sent.	Inserted “(2 in.)” after “50 mm”.
27	S3.7.3.17	Added new item 3.
28	S3.7.4, 1 st para., 1 st sent	Replaced “10 CFR 100, Appendix A” with “10 CFR 50, Appendix S” per RAI 3.9-3.
29	S3.7.4, 1 st para., last sent.	Replaced “10 CFR 100, Appendix A” with “10 CFR 50, Appendix S” per RAI 3.9-3.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
30	S3.7.4, 1 st para., last sent.	Replaced "...of standardized nuclear plant features important to safety is determined promptly to permit comparison of such response with that used as the design basis" with "nuclear plant features important to safety can be evaluated promptly after an earthquake" to match with 10 CFR 50, Appendix S wording.
31	S3.7.5.1	Deleted entire section per RAI 3.8-95 S1.
32	S3.7.6	Deleted Reference 3.7-1 per RAI 3.7-2 S1.
33	S3.7.6, Reference 3.7-13	Replaced "Fla" with "FL".
34	T3.7-1, for "pocket lock"	Replaced "7.0" with "10.0".
35	T3.7-1, Footnote ¹	Deleted "/ANSI".
36	F3.7-37 Title	Deleted "/ANSI".
37	F3.7-37, Notes (1) to (5)	Rewritten to match DG-1157.

Tier 2 Chapter 3.8 Revision 2 to Revision 3 Change List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	S3.8	Deleted “and the Emergency Breathing Air (EBAS)” and inserted “and” after “...Control Building (CB)” per RAI 3.8-65 S1.
2	S3.8.1.1.1, 6 th para.	Added following sentence at the end of paragraph per RAI 3.8-3 S3: “Figure 3.8-2 shows a sketch of reinforcement in the RCCV wall around equipment hatches and personnel airlocks.”
3	S3.8.1.1.1, new last para.	Added additional details in response to RAI 3.8.3 S3.
4	S3.8.1.1.2, 2 nd para., 2 nd sent.	Replaced “basemat” with “suppression pool slab” per RAI 3.8-40 S3.
5	S3.8.1.1.2, 2 nd para.	Added following sentence after the 2 nd sentence per RAI 3.8-25 S1: “Figure 3.8-5 shows the typical detail for the quencher anchorage.”
6	S3.8.1.1.2, new 3 rd para.	Added additional details in response to RAI 3.8-3 S3.
7	S3.8.1.2.1	Deleted item 2 per RAI 3.9-3.
8	S3.8.1.3.1, Item 2, 2 nd sent.	Inserted “(200 psf)” after “9.6 kPa.
9	S3.8.1.3.2, Item (1)	Added “or Integrated Leak Rate Test (ILRT)” at the end of sentence per RAI 3.8-7 S1.
10	S3.8.1.3.2, Item (2)	Added “or ILRT” at the end of sentence per RAI 3.8-7 S1.
11	S3.8.1.4.1.2, last para., 2 nd sent.	Revised sentence per RAI 3.8-24 S1 to read: “The liner plate anchor design considers deviations in geometry due to fabrication and erection tolerances however; strains associated with construction-related liner deformations are excluded when calculating liner strains for the Service and factored load combinations according to ASME Code Section III, Division 2, Subarticle CC-3720.”
12	S3.8.1.4.1.4	Added (US Customary Units).
13	S3.8.1.4.1.4, 5 th para., 1 st sent.	Replaced “Suppression Pool Cleanup (SPC) system” with “Fuel and Auxiliary Pool Cooling System (FAPCS).

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
14	S3.8.1.4.1.4, 5 th para., 2 nd sent.	Replaced “SPC system” with “FAPCS” and “9.5.9” with “9.1.3.2”.
15	S3.8.1.5, 2 nd para., 1 st sent.	Inserted “(639 psi)” after “4.41 psi”.
16	S3.8.1.6.1	Added (US Customary Units).
17	S3.8.1.7.1	Added (US Customary Units).
18	S3.8.1.7.3.1, 2 nd para., 1 st sent.	Replaced “based on” with “in compliance with” per RAI 3.8-1 S1.
19	S3.8.1.7.3.2, new 1 st para.	Added additional details in response to RAI 3.8-1 S1.
20	S3.8.1.7.3.4, 2 nd para.	Editorial change. Replaced “IWE” with “IWL”.
21	S3.8.1.7.3.6, last sent.	Editorial change. Replaced “IWE” with “IWL”.
22	S3.8.1.7.3.12, 1 st para., 1 st sent.	Deleted “as presented in Subsection 3.8.6.5” per RAI 3.8-80 S1.
23	S3.8.2.1.1	Added (US Customary Units).
24	S3.8.2.1.3	Added following sentence at the end of section per RAI 3.8-28 S1: “Figures 3.8-6, 3.8-7, 3.8-9 3.8-10 and 3.8-11 show the typical details for the containment mechanical and electrical penetrations.”
25	S3.8.2.1.3	Added (US Customary Units).
26	S3.8.2.1.4	Added (US Customary Units).
27	S3.8.2.1.4, 1 st para., 2 nd sent.	Revised sentence per RAI 3.8-30 S1 to read: “This structure is shown in Appendix 3G Figure 3G.1-51.”
28	S3.8.2.1.4, 2 nd para., 2 nd sent.	Revised sentence per RAI 3.8-30 S1 to read: “The stainless steel clad thickness for the drywell head is 2.5 mm and is determined in accordance with NB-3122.3 requirements so that it results in negligible change to the stress in the base metal.”
29	S3.8.2.1.4, new last para.	Added additional details in response to RAI 3.8-3 S3.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
30	S3.8.2.4.1.3, 1 st para.	Added following sentence at the end of paragraph per RAIs 3.8-28, -33, -34 and -35: “The required analysis and associated stress intensity limits are in accordance with Subarticle NE-3200 of ASME Code Section III, Division 1, including fatigue evaluation as required.”
31	S3.8.2.4.1.3, last para.	Replaced paragraph with the following paragraph per RAIs 3.8-28, -33, -34 and -35: Main Steam and Feedwater penetrations are analyzed using the finite element method of analysis for applicable loads and load combinations. The resulting stresses meet the acceptance criteria stipulated in Subarticle NE-3200 of ASME Code Section III, Division 1, including fatigue evaluation as required.”
32	S3.8.3.1.1	Added (US Customary Units).
33	S3.8.3.1.3	Added (US Customary Units).
34	S3.8.3.1.4	Added (US Customary Units).
35	S3.8.3.1.5	Added (US Customary Units).
36	S3.8.3.1.7 (new section)	Added details on “Miscellaneous Commodities” in response to RAI 3.8-52 S1.
37	S3.8.3.4, new last para.	Added additional details in response to RAI 3.8-59 S1.
38	S3.8.3.6.4	Added (US Customary Units).
39	S3.8.3.6.6	Added (US Customary Units).
40	S3.8.3.6.6	Added additional details on “Structural steel and connections”.
41	S3.8.3.7, 2 nd para.	Revised per RAI 3.8-58 S1 to read: “However, during the operating life of the plant, the condition of these other internal structures is monitored per 10 CFR 50.6 as clarified in RG 1.160, in accordance with Section 1.5 of RG 1.160.”
42	S3.8.3.7, 3 rd para.	Inserted “directly related to the functioning of the containment system and are” after “...vent wall are” per RAI 3.8-58 S1.
43	S3.8.3.7, new 4 th para.	Added additional details in response to RAI 3.8-59 S1.
44	S3.8.3.7, new last para.	Added additional details in response to RAI 3.8-59 S1.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
45	S3.8.4, 1 st para., 1 st sent.	Deleted “and Emergency Breathing Air System (EBAS) Building” and inserted “and” after “...Control Building (CB)” per RAI 3.8-65 S1.
46	S3.8.4, 1 st para., 7 th sent.	Inserted “(3-15/16 in.)” after “100 mm”.
47	S3.8.4, 2 nd para.	Added following sentences at the end of paragraph per RAI 3.8-60 S1: “Longitudinal pipe breaks required by BTP EMEB 3-1 of SRP 3.6.2 are postulated inside the main steam tunnel and cause a slight pressurization that is used for environmental qualification. See Subsection 6.2.3.2 for the main steam tunnel functional design.”
48	S3.8.4, new last para.	Added additional details in response to RAI 3.8-61 S1.
49	S3.8.4.1.2, 2 nd para., 1 st sent.	Editorial change.
50	S3.8.4.1.2, 2 nd para., 2 nd sent.	Replaced “Structure below grade in the” with “The” per RAI 3.8-65 S1.
51	S3.8.4.1.2, 2 nd para.	Deleted last sentence per RAI 3.8-65 S1.
52	S3.8.4.1.4	Deleted entire section per RAI 3.8-65 S1.
53	S3.8.4.1.6, 1 st para.	Added following sentence after the 6 th sentence per RAI 3.8-52 S1: “Dynamic Analysis methods are described in Section 3.7.”
54	S3.8.4.1.6, 1 st para.	Added following sentences at the end of paragraph per RAI 3.8-52 S1 and 3.9-27: “Analysis methods follow those presented in Sections 3.7 and 3.8. Design and location requirements for conduit and cable tray supports are also specified in Subsections 3.9.2 and 3.10.3.2.”
55	S3.8.4.1.7, 1 st para.	Added following sentence after the 5 th sentence per RAI 3.8-52 S1: “Dynamic Analysis methods are described in Section 3.7.”

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
56	S3.8.4.1.7, 1 st para.	<p>Added following sentence at the end of paragraph per RAI 3.8-52 S1 and 3.9-27:</p> <p>“Analysis methods follow those presented in Sections 3.7 and 3.8. Design and location requirements for HVAC Ducts and HVAC Duct supports are also specified in Subsections 3.9.2, 9.4.1, 9.4.2 and 9.4.6.”</p>
57	S3.8.4.2.3, 1 st para.	<p>Added following sentence at the end of paragraph per RAI 3.8-69:</p> <p>“Applicable documents for the spent fuel racks and associated structures are specified in Section 9.1.2.”</p>
58	S3.8.4.2.5, 1 st para.	<p>Replaced paragraph with the following paragraph per RAI 3.8-70 S1:</p> <p>“All pool liner welds, including the spent fuel pool liner welds, are visually inspected before starting any other NDE method. The visual weld acceptance criteria are defined in AWS Structural Welding Code, D1.1. In accordance with approved procedures, the welded seams of the liner plate are inspected by:</p> <ul style="list-style-type: none"> • Liquid Penetrant Examinations. To be carried out on all liner plate butt, fillet, corner and tee welds in accordance with ASME, Section V, Article 6 requirements. The acceptance criteria are in accordance with the requirements of ASME Section III, NE 5352. • Helium sniffer test or vacuum box technique in accordance with ASME Section V, Article 10 requirements. Any evidence of leakage is unacceptable. <p>After construction is finished, each isolated pool is leak tested.</p> <p>The liner welds for all pools outside of the RCCV, including the spent fuel pool, are backed by leak chase channels and a leak detection system to monitor any leakage during plant operation. The leak chase channels are grouped according to the different pool areas and direct any leakage to area drains. This allows both leak detection and determination of where leaks originate. The functioning of the leak chase channels are checked prior to completion of the pool liner installation.”</p>

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59	S3.8.4.2.6	Deleted entire section per RAI 3.8-65 S1.
60	S3.8.4.3.1.1	Added “(US Customary Units).
61	S3.8.4.3.1.1, 5 th para., Item E’	Added following at the end of sentence per RAI 3.8-51 S2: “including SSE-induced hydrodynamic pressures in pools. The impulsive and convective pressures may be combined by the SRSS method.”
62	S3.8.4.3.2, 1 st para., 3 rd bullet	Replaced “1.4” with “2.9”.
63	S3.8.4.3.2, 2 nd para.	Added following sentence at the end of paragraph per RAI 3.8-73: “The temperatures during abnormal operating conditions are shown in Tale 3H-10 and are associated with a postulated loss of HVAC function.”
64	S3.8.4.3.2	Added (US Customary Units).
65	S3.8.4.3.3, 1 st para., 3 rd bullet	Replaced “1.4” with “2.9”.
66	S3.8.4.3.3	Added (US Customary Units).
67	S3.8.4.3.5	Deleted entire section per RAI 3.8-65 S1.
68	S3.8.4.4.1, title	Replaced title with “Reactor Building, Control Building and Fuel Building” per RAI 3.8-65 S1.
69	S3.8.4.4.1, 1 st para.	Deleted “and EBAS Building” and inserted “and” after “...Control Building (CB)” per RAI 3.8-65 S1.
70	S3.8.4.4.1, 2 nd para., 2 nd sent.	Replaced “RB and FB” with “RB/FB”.
71	S3.8.4.4.1, 3 rd para., 1 st sent.	Revised sentence to read per RAI 3.8-65 S1: “The FE analysis model of the CB includes the entire structure.”
72	S3.8.4.5.5	Deleted entire section per RAI 3.8-65 S1.
73	New Section 3.8.4.6	Details on “Material, Quality Control and Special construction Techniques” have been added in response to RAI 3.8-76 and RAI 3.8-76 S1.
74	New Section 3.8.4.7	Details on “Testing and In-Service Inspection Requirements” have been added in response to RAI 3.8-81 S2.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
75	S3.8.5.1, 1 st para., last sent.	Replaced “and EBAS are” with “is” and deleted “and each other” per RAI 3.8-65 S1.
76	S3.8.5.1, last para., 1 st sent.	Replaced “Category 1” with “Category I”.
77	S3.8.5.4, 6 th para., 1 st sent.	Editorial change.
78	S3.8.5.4, 6 th para.	<p>Added following sentences at the end of paragraph per RAI 3.8-13 S3:</p> <p>“In order to confirm the appropriateness of this condition, basemat deformation and sectional moment are compared between the soft soil case ($V_s = 300$ m/sec) and the hard rock case ($V_s = 1700$ m/sec). Basemat deformation for the soft soil condition is much larger than that of the hard rock condition. Bending moments for the soft soil are larger than those for the hard rock with few exceptions. The higher bending moments at few locations for the hard rock site has no effect on the design because they are much less than the maximum moments of the soft soil site on which rebar sizing is based.</p> <p>In the global FEM model the soil springs are assumed to be two-way springs capable of withstanding compression and tension. To evaluate the effect of potential uplift of the basemat under seismic loads, the soil springs, once in tension, are removed through an iterative process. This iterative process is continued until there are no more springs in tension. The analysis results confirmed the adequacy of the basemat design. Details are provided in Appendix 3G.1.5.5.1.”</p>
79	S3.8.5.4, 7 th para.	<p>Revised paragraph per RAI 3.8-89 to read:</p> <p>“The selected waterproofing material for the bottom of the basemat is a chemical crystalline powder that is added to the mud mat mixture forming a water proof barrier when cured. No membrane waterproofing is used under the foundations in the ESBWR.”</p>
80	S3.8.5.4, 8 th para.	Deleted entire paragraph per RAI 3.8-95.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
81	S3.8.5.4, 9 th para., 2 nd sent.	Revised sentence per RAI 3.8-95 S1 to read: “The minimum requirements for the physical properties of the site-specific subgrade materials are furnished in Table 2.0-1. COL actions are addressed in Table 2.-2, Subsection 2.5.4”
82	S3.8.5.7, 1 st para.	Replaced paragraph with the following paragraph per RAI 3.8-99 S2: “The foundations of Seismic Category I structures are monitored per NUREG-1801 and 10 CFR 50.65 as clarified in RG 1.160, in accordance with Section 1.5 of RG 1.160.”
83	S3.8.6.1	Deleted entire section and subsection per RAI 3.8-65 S1.
84	T3.8-6	Revised table.
85	T3.8-7, Note *1	Replaced “Subsection 3.8.4.3.1.1” with “Subsection 3.8.3.3” and “Subsection 3.8.4.5.1” with Subsection 3.8.3.5” per RAI 3.8-54 S1.
86	T3.8-9	Revised table.
87	T3.8-13, 3 rd column, 2 nd row	Added additional details for clarification.
88	T3.8-15, Note *1	Added following sentence per RAI 3.8-71 S1: “The effects of SRV and LOCA dynamic loads that originate inside the containment are considered as applicable.”
89	T3.8-16, Note *1	Added following sentence per RAI 3.8-71 S1: “The effects of SRV and LOCA dynamic loads that originate inside the containment are considered as applicable.”
90	New F3.8-2 through F3.8-11	Added new figures in response to RAI 3.8-3 S3, 3.8-28 S1 and 3.8-40 S4.