### Acronym List

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	Acronym List	Acronym list updated for design changes to eliminate EBAS, LPMS, PASS and SEOA. Acronyms for DCIS and turbine support systems updated to match new system names.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	S1.1.1, first paragraph	Deleted reference to Appendix 1D, which has been relocated to Appendix 19A.
2	S1.1.2.1, first paragraph	Editorial change associated with addition of Service Building (see next item). Changed "Six such" to "The following" and deleted ". These are".
3	S1.1.2.1, new seventh bullet	Added new bullet as follows: "Service Building – houses the equipment and control facilities associated with personnel entry into the reactor building and turbine building, eating areas, radiation protection, changing rooms, shops, and offices."
4	S1.1.2.1, last paragraph	Added following sentence at end of paragraph: "Figure 1.1-1 illustrates a conceptual layout showing the approximate relative locations of the main buildings, but an individual COL may be arranged differently."
5	\$1.1.2.3	Changed second sentence to read: "If a multi-unit plant is desired, see Subsection 1.1.3.1".
6	S1.1.2.7	Replaced "(To be confirmed in COL phase)" with "See Subsection 1.1.3.2."
7	S1.1.3	Changed section heading to "COL Unit-Specific Information". Broke text into two separate subsections with headings "1.1.3.1 Number of Plant Units" and "1.1.3.2 Establish Rated Electrical Output".
8	Figure 1.1-1	Figure updated to reflect engineering changes and design details.

	Location	
Item	(e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	S1.2.1	Added one new building to list as follows:
		• Service Building – houses the equipment and control facilities associated with personnel entry into the reactor building and turbine building, eating areas, radiation protection, changing rooms, shops, and offices.
2	S1.2.1.2, tenth bullet	Changed "IEEE 279" to "IEEE 603", because IEEE 279 has been superceded by IEEE 603.
3	S1.2.2.1.2, Feedwater lines, first paragraph	Text updated for new feedwater valve design configuration. Changed "positive acting" to "process-medium type piston" in second sentence. Changed "an additional check valve, a remote manual motor-operated (MO)" to "a process- medium" in fourth sentence. Changed "MO" to "process- medium" in last sentence.
4	S1.2.2.1.2, Feedwater lines, first paragraph	Changed first sentence to read: "The feedwater piping is Quality Group A from the RPV out to and including the outboard isolation valve, and Quality Group B from the outboard isolation valve to the last stage feedwater heaters." Added ", and Seismic Category II from the seismic interface to the last stage feedwater heaters" to end of paragraph.
5	S1.2.2.1.2, Depressurization Valves, second paragraph	Replaced next to last sentence with "The initiators will be fired by a voltage source appropriate to the necessary current. The voltage source shall be at least as reliable as the redundant sources powering the Safety-Related Distributed Control and Information System (Q-DCIS)."
6	\$1.2.2.2.1	Changed "Non-Essential" to "Nonsafety-Related" in third bullet for DCIS name change. Changed "non-safety" to "nonsafety-related" in first paragraph after bullets.
7	S1.2.2.2.1, RC&IS Multiplexing Network, second paragraph	Changed "Essential" to "Safety-Related" and "Non- Essential" to "Nonsafety-Related" for DCIS name change. Changed acronyms "E-DCIS" and "NE-DCIS" to "Q-DCIS" and "N-DCIS", respectively.

	Location	
Item	(e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
8	S1.2.2.2.3, third paragraph after Function/Modes table	Changed "Non-Essential" to "Nonsafety-Related" and "NE-DCIS" to "N-DCIS" for DCIS name change.
9	S1.2.2.2.5, second paragraph	Changed "NE-DCIS" to "N-DCIS" for DCIS name change.
10	S1.2.2.2.7, second paragraph	Changed "safety" to "safety-related".
11	\$1.2.2.2.8	Changed "NE-DCIS" to "N-DCIS" in several locations for DCIS name change.
12	S1.2.2.2.9, first paragraph	Changed "Turbine Control System (TCS)" to "Turbine Generator Control System (TGCS)". Changed "turbine control" to "main turbine control".
13	S1.2.2.2.9, second paragraph	Changed "TCS" to "TGCS" in two locations.
14	S1.2.2.2.10 and its subsections	Generic change throughout. Changed "Essential" to "Safety-Related" and "Non-Essential" to "Nonsafety- Related" for DCIS name change. Changed acronyms "E-DCIS" and "NE-DCIS" to "Q-DCIS" and "N-DCIS", respectively.
15	\$1.2.2.2.11	Changed "safety" to "safety-related" in first paragraph. Changed "NE-DCIS" to "N-DCIS" in last paragraph.
16	S1.2.2.2.12	Changed "E-DCIS" to "Q-DCIS" in last paragraph.
17	S1.2.2.4.1	Changed "loops" to "trains" in first paragraph.
18	S1.2.2.4.1, paragraphs 6 and 8	Inserted "expansion" in front of "pool" or "pools".
19	S1.2.2.4.1, last paragraph	Changed "essential" to "safety-related".
20	S1.2.2.4.2, last paragraph	Changed "essential" to "safety-related".

	Location	
Item	(e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
21	S1.2.2.6.2, first paragraph	Replaced "redundant" with "physically separated", and added "100% capacity during normal operation". Split first sentence into two sentences for clarity.
22	S1.2.2.6.2, sixth paragraph	Replaced "10 years" with "20 years" (design change).
23	S1.2.2.6.2, eighth paragraph	Inserted statement "except for containment isolation valves on the", in order to clarify that some valves are fail as-is.
24	S1.2.2.6.2, tenth paragraph	Added a third category of safety-related components for the high pressure LPCI interface. Restructured paragraph into bullets. Added phrase "the Fire Protection System or another onsite or" to clarify the sources of FAPCS makeup water.
25	S1.2.2.6.2, eleventh paragraph	Added "or II" to indicate some non-safety FAPCS components can be classified as Seismic II. Inserted reference to 9.1.3 for more details.
26	S1.2.2.7.1	Changed "safety" to "safety-related" in two locations
27	S1.2.2.8.1, first paragraph	Changed "address" to "addressed".
28	S1.2.2.8.1, bullets	Bulleted descriptions replaced in their entirety.
29	S1.2.2.8.2, bullets	Bulleted descriptions replaced in their entirety.
30	S1.2.2.10.3, fifth paragraph	Replaced "absorbers" with "adsorbers".
31	S1.2.2.11.1, first paragraph	Corrected spelling of "Moisture".
32	S1.2.2.11.1, fourth bullet	Changed first sentence to read: "Closes the steam auxiliary isolation valve(s) on branch lines between the main steamline isolation valves (MSIVs) and main turbine stop valves (excluding the fission product leakage path to the condenser) on an MSIV isolation signal."

Section	1.2

	Location	
Item	(e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
33	S1.2.2.11.1, next to last paragraph	Added following sentence to end of paragraph: "The MSIV fission product leakage path to the main condenser is also analyzed to demonstrate structural integrity under SSE loading conditions."
34	S1.2.2.11.2, first paragraph	Revised last sentence to read: "The C&FS extends from the main condenser outlet up to but not including the seismic interface restraint outside of containment."
35	S1.2.2.11.2, second paragraph	Added "the offgas condenser, " to second sentence.
36	S1.2.2.11.2, fifth paragraph	Changed last sentence to read: "The feedwater system piping is designed such that waterhammer loads that could potentially result from anticipated flow transients are below the reactor pressure vessel design limits."
37	S1.2.2.11.6, third paragraph	Changed "by the COL applicant" to "during detailed design". Item being discussed is a design detail not requiring a formal COL applicant action.
38	S1.2.2.12.1, first paragraph	Changed "non-safety" to "nonsafety-related".
39	S1.2.2.12.7, first paragraph	Deleted "open" from first sentence. Changed "cooling tower makeup pumps" to "Normal Power Heat Sink (NPHS)" and added "and Auxiliary Heat Sink (AHS)" to last sentence.
40	S1.2.2.12.7, second paragraph	Changed "cooling tower makeup pumps are" to "NPHS is".
41	S1.2.2.13.4, first paragraph	Deleted "A minimum of" at start of first sentence. Deleted second sentence with COL action. ESBWR Standard Plant has decided to go with two diesel arrangement.
42	\$1.2.2.13.5	Changed "safety" to "safety-related" in first paragraph. Changed "NE-DCIS" to "N-DCIS" in fourth paragraph.
43	S1.2.2.15.1, tenth paragraph	Paragraph rewritten in accordance with RAI 3.6-22 to eliminate reference to credit for leak-before-break. The contents of Subsection 3.6.3 and Appendix 3E have been deleted from the DCD.

	Location	
Item	(e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
44	S1.2.2.15.4	Replaced "loops" with "trains" in four locations. Deleted "totally" in second paragraph. Changed "essential" to "safety-related" in last paragraph. Changed "IC/PCC pool" to "IC/PCC expansion pool" in two locations in last paragraph.
45	S1.2.2.15.7, Post- Accident Sampling Subsystem (PASS)	Discussion of PASS deleted in its entirety. Design change based on GE Licensing Topical Report NEDO-32991A
46	\$1.2.2.16.2	General update to reflect design changes to Control Building HVAC System.
47	S1.2.2.16.3, third paragraph	Changed first two sentences to read: "The water supply system includes two motor-driven pumps and two backup diesel-engine-driven pumps. Fire water is supplied to all buildings."
48	S1.2.2.16.5	Changed "essential" to "safety-related".
49	S1.2.2.16.6	Changed "essential" to "safety-related". Revised next to last sentence to read: "The CB is a Seismic Category I structure that houses control equipment and operation personnel." Deleted last sentence.
50	S1.2.2.16.10	Deleted "nonessential" in first paragraph because it is redundant with "nonsafety-related". Deleted third paragraph that discussed EBAS, which has been removed from the standard plant design.
51	\$1.2.3	Editorial change. Revised section heading to "COL Unit- Specific Information"
52	Figures 1.2-1 through 1.2-14, 1.2-19 through 1.2-23, 1.2-25, 1.2-26 and 1.2-33.	Figures updated to reflect engineering changes and design details.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	S1.3.1	Added new section titled "COL Unit-Specific Information"
2	S1.3.1.1	New section with title "Update Table 1.3-1". Section text: "The COL applicant shall update the ESBWR design charactistic values identified in Table 1.3-1 based on the COLA FSAR Chapter 10 turbine heat balance and associated Chapter 1 reactor heat balance; the COLA FSAR Chapter 4 initial core design and analysis; and the Chapter 15 safety analysis as required."
3	Table 1.3-1, Nuclear (first core)	Deleted footnote (3) from items "Initial average U <sup>235</sup> enrichment" and "Initial cycle exposure"
4	Table 1.3-1, Notes	Revised note (2) to read: "ESBWR fuel and core design data in this table is representative and may be modified consistent with fuel licensing acceptance criteria described in Appendix 4B. See Subsection 1.3.1.1." Revised note (3) to read: "Not used."
5	Table 1.3-2, Automatic Depressurization System	Revised SRV capacities to provide a range of values. Additional capacity is needed for mitigation of ATWS events. Capacity now listed as "4.5 to 4.97 x $10^6$ kg/hr (9.8 to 10.95 x $10^6$ lbm/hr)"
6	Table 1.3-4, Reactor Building	Design in-leakage adjusted to "50% free volume/day" due to revised analysis assumption in Chapter 15.

### Sections 1.4 and 1.5 have no changes.

#### Section 1.6

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	Table 1.6-1	General Table Update to reflect contents of Revision 3 of the individual DCD Chapters.

Section 1.7 has no changes.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	S1.8.2.6	Changed "nonsafety-related Non-Essential" to "Nonsafety- Related" and "NE-DCIS" to "N-DCIS" due to system name change.
2	S1.8.2.7	Added new paragraph for "Station Water System" with the following text: "The Station Water System is described in Subsection 9.2.10."
3	Table 1.8-1	Changed "Essential DCIS" to "Safety-Related DCIS".
4	Table 1.8-2, Plant Service Water System	Removed "X" from Intake Structure column. The PSWS receives water from the intake structure only via the Station Water System.
5	Table 1.8-2	Changed "Non-Essential DCIS" to "Nonsafety-Related DCIS".
6	Table 1.8-2, Station Water System	Added new line item for Station Water System with interface to Intake Structure and reference to Subsection 9.2.10.

	Location	
Item	(e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	\$1.9.1 and \$1.9.3	Deleted "for COL information" from parenthesis. COL item still remains in referenced section.
2	S1.9.4.1 and S1.9.4.2	Eliminated references back to S1.9.1 and S1.9.3, respectively.
3	Table 1.9-3, SRP 3.6.1 and 3.6.2	Replaced previous text with "None" in Summary Description column. (Incorporated in response to RAI 3.6-22)
4	Table 1.9-7	Generic editorial changes throughout table. Subsection 7.1.2.2 changed to 7.1.6 and all references to Subsections of 7.9 have been deleted for consistency with restructuring of Chapter 7 for Revision 3.
5	Table 1.9-7, SRP 7.7, 7.9	Changed NE-DCIS to N-DCIS due to system name change.
6	Table 1.9-9, SRP 9.1.3	New table entry. Specific SRP Acceptance Criterion "II.1.a – Acceptance criterion for designing cooling and makeup system to Quality Group C", Summary Description "Deviation to this criterion is made from Quality Group C to D for design of RTNSS-classified fire protection system components used to provide makeup water to IC/PCC and fuel pools after 72 hours." Subsection where Discussed "9.5.1". (Incorporated in response to RAI 9.1-12, Supplement 1)
7	Table 1.9-9, SRP 9.2.4	Revised Summary Description to read: "See Subsection 9.2.4 for conceptual design requirements requirements of Potable and Sanitary Water Systems." Subsection where Discussed "9.2.4, 1.8.2.5". COL action still exists in Subsection 9.2.4. (Clarification about conceptual nature of the design of this system for certification)

	Location	
Item	(e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
8	Table 1.9-9, SRP 9.2.5	Revised Summary Description to read: "Requirement to provide 30 day water makeup capability during accident as applied to passive plants. An offsite external water source after seven days is acceptable." Revised Subsection where Discussed to "9.2.5" for consistency with current version of Chapter 9.
9	Table 1.9-9, SRP 9.3.2	Revised Summary Description to read: "Post Accident Sampling System (PASS) is not included in the ESBWR design in accordance with NEDO-32991A." Revised Subsection where Discussed to "See Table 1.6-1 for details on NEDO-32991A" (Accommodates design change to eliminate PASS).
10	Table 1.9-9, SRP 9.5.1, Item related to Section C.8.1.8.b of BTP SPLB 9.5-1	Changed Summary Description to read: "ESBWR design includes day tanks with a larger capacity than 4164 L (1100 gallons)."
11	Table 1.9-10, SRP 10.2.3	New table entry. Specific SRP Acceptance Criterion "II.4.a – Turbine design overspeed", Summary Description "Design overspeed is less than 5% above the highest anticipated speed from a loss of load" Subsection where Discussed "10.2.3".
12	Table 1.9-10, SRP 10.2.3	Deleted table entries stating no deviations to SRP references. They did not represent SRP acceptance criteria differences.
13	Table 1.9-16, SRP 16.0	Deleted reference to NUREG-1433. Added Revision 3.1.
14	Table 1.9-20, SRP 3.6.3	Deleted "Option available for possible future use during COL" from Comments column. (Incorporated in response to RAI 3.6-22)
15	Table 1.9-20, SRPs 9.5.4 to 9.5.8	Changed "non-safety" to "nonsafety-related" in Comments column.
16	Table 1.9-21, RG 1.94	Added "COL." to beginning of Comments column for consistency with Table 1.9-21b and Table 17.0-1.
17	Table 1.9-21, RG 1.101	Updated to Revision 5, issued 06/2005.

	Location	
Item	(e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
18	Table 1.9-21, RG 1.152	Updated to Revision 2, issued 01/2006. Deleted reference to DG-1130 in comments column.
19	Table 1.9-21, RG 1.188	Updated to Revision 1, issued 09/2005.
20	Table 1.9-21, RG 1.193	Updated to Revision 1, issued 08/2005.
21	Table 1.9-21, RG 1.200	Updated to Revision 1, issued 01/2007.
22	Table 1.9-21, RG 7.10	New table entry. Title "Establishing Quality Assurance Programs for Packaging Used in Transport of Radioactive Material", Revision 2, issued 03/2005, ESBWR Applicable "Yes". Added for consistency with Table 17.0-1.
23	Table 1.9-21, RG 8.38	Updated to Revision 1, issued 05/2006.
24	Table 1.9-21a, RG 1.92	Replaced "the rigid frequency" with " $f_{ZPA}$ ". Changed "Figures 2 and 3" to "Figures 1, 2 and 3". (Incorporated in response to RAI 3.12-20, Supplement 2)
25	Table 1.9-21b, RG 1.8	Changed "No exceptions." to "COL Holder scope" for consistency with Table 17.0-1.
26	Table 1.9-21b, RG 1.28	Changed "Exception. *" to "Except for NRC accepted alternate positions as documented in Table 2-1 of Reference 1.9-2." for consistency with Table 17.0-1.
27	Table 1.9-21b, RG 1.33	New table entry for consistency with Table 17.0-1. Revision 2, Comments "COL Holder scope."
28	Table 1.9-21b, RG 1.37	Changed "Exception. *" to "Except for NRC accepted alternate positions as documented in Table 2-1 of Reference 1.9-2." for consistency with Table 17.0-1.
29	Table 1.9-21b, RG 1.38	Changed "Exception. *" to "Except for NRC accepted alternate positions as documented in Table 2-1 of Reference 1.9-2." for consistency with Table 17.0-1.
30	Table 1.9-21b, RG 1.58	Deleted ", exception *" for consistency with Table 17.0-1.
31	Table 1.9-21b, RG 1.64	Changed "exception. *" to "except for NRC accepted alternate positions as documented in Table 2-1 of Reference 1.9-2." for consistency with Table 17.0-1.
32	Table 1.9-21b, RG 1.88	Deleted ", exception *" for consistency with Table 17.0-1.

	Location	
Item	(e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
33	Table 1.9-21b, RG 1.94	Changed "No exceptions." to "COL Holder scope" for consistency with Table 17.0-1.
34	Table 1.9-21b, RG 1.97	New table entry for consistency with Table 17.0-1. Revision 4, Comments "No exceptions."
35	Table 1.9-21b, RG 1.116	Changed "Exception *" to "No exceptions" for consistency with Table 17.0-1.
36	Table 1.9-21b, RG 1.123	Deleted ", exception *" for consistency with Table 17.0-1.
37	Table 1.9-21b, RG 1.143	New table entry for consistency with Table 17.0-1. Revision 2, Comments "No exceptions."
38	Table 1.9-21b, RG 1.146	Deleted ", exception *" for consistency with Table 17.0-1.
39	Table 1.9-21b, RG 1.152	New table entry for consistency with Table 17.0-1. Revision 2, Comments "No exceptions."
40	Table 1.9-21b, RG 1.155	New table entry for "RG 1.155, Regulatory Position 3.5 and Appendix A" for consistency with Table 17.0-1. Revision 0, Comments "No exceptions."
41	Table 1.9-21b, RG 1.168	New table entry for consistency with Table 17.0-1. Revision 1, Comments "No exceptions."
42	Table 1.9-21b, RG 1.169	New table entry for consistency with Table 17.0-1. Revision 0, Comments "No exceptions."
43	Table 1.9-21b, RG 1.170	New table entry for consistency with Table 17.0-1. Revision 0, Comments "No exceptions."
44	Table 1.9-21b, RG 1.171	New table entry for consistency with Table 17.0-1. Revision 0, Comments "No exceptions."
45	Table 1.9-21b, RG 1.172	New table entry for consistency with Table 17.0-1. Revision 0, Comments "No exceptions."
46	Table 1.9-21b, RG 1.173	New table entry for consistency with Table 17.0-1. Revision 0, Comments "No exceptions."
47	Table 1.9-21b, RG 1.176	New table entry for consistency with Table 17.0-1. Revision 0, Comments "COL Holder scope."

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
48	Table 1.9-21b, RG 1.189	New table entry for "RG 1.189, Regulatory Position 1.7" for consistency with Table 17.0-1. Revision 0, Comments "No exceptions."
49	Table 1.9-21b, RG 4.15	New table entry for consistency with Table 17.0-1. Revision 1, Comments "No exceptions."
50	Table 1.9-21b, RG 7.10	New table entry for consistency with Table 17.0-1. Revision 2, Comments "No exceptions."
51	Table 1.9-22	General table update to include Industry Codes and Standards referenced throughout DCD Revision 3.
52	Table 1.9-23	General table update to latest NUREG references throughout DCD Revision 3.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	Table 1.10-1	General Table Update to reflect contents of Revision 3 of the individual DCD Chapters.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1	Table 1.11-1 Note (2)	Changed to read: "Combined Operating License applicant/holder shall complete activities required by this action plan item"
2	Table 1.11-1, Action Item / Issue A-25	Editorial change. Changed Subsection 7.1.2.2 to 7.1.6 in three locations for consistency with restructuring of Chapter 7 for Revision 3.
3	Table 1.11-1, Action Item / Issue B-66	Revised second paragraph to read: "The control room ventilation system has redundant equipment and includes radiation and smoke detectors with appropriate alarms and interlocks. If any hazards exist at the normal control room ventilation intake, habitability is assured by an Emergency Filter Unit (EFU), which upon isolation of the control room habitability area provides a positive filtered air purge." (Associated with design change to Control Room HVAC system.)
4	Table 1.11-1, Action Item / Issue 78	Deleted reference to NUREG-1433.
5	Table 1.11-1, Action Item / Issue 156.4.1	Editorial change. Changed Subsection 7.1.2.2 to 7.1.6 for consistency with restructuring of Chapter 7 for Revision 3.
6	Table 1.11-1, Action Item / Issue 156.6.1	Changed Technical Resolution column to read: "(4) The ESBWR design considers the potential effects of pipe breaks on systems and components. See Sections 3.5, 3.6, 3.8, 3.9 for details. Section 3.5 addresses the protection of ESBWR components against the effects of missiles. Section 3.6 addresses the protection of ESBWR components against dynamic effects such as pipe whip and jet impingement that are associated with postulated piping ruptures. Section 3.8 addresses the seismic design requirements for structures that contain safety-related components. Section 3.9 addresses the analysis methods used to evaluate Seismic Category I components and supports." (Incorporated in response to RAI 20.0-4)