Chapter 12 From Revision 1 to Revision 2 Change List

Item	Location	Description of Change
1.	S12, entire section	Changed "class 1E" to "safety-related." Changed "non-safety related" to "nonsafety-related."
2.	S12.1, 1st para	Editorial changes.
3.	S12.1, 2nd para	Modified to reflect the new scope for revision 2 of ESBWR fire PRA model.
4.	S12.2, entire section	The methodology section is updated to reflect the new methodology used for revision 2 of ESBWR fire PRA. Assumptions are listed in sub-sections 12.2.1 through 12.2.5.
5.	S12.2.3, (9)	In response to RAI 19.1-150, assumption (9) is added for clarification.
6.	S12.2.4, (17)	In response to RAI 19.1-79 (F), assumption (17) is added for hard-wires in MCR.
7.	S12.2.5, (34)	In response to RAI 19.1-126 and 19.1-127, assumption (34) is added for shutdown fire barrier effectiveness using the fire watch.
8.	S12.3, 2nd and 3rd para	In response to RAI 19.1-74, details are added.
9.	S12.3.1, 2nd para, 3rd bullet	Editorial changes.
10	S12.3.1, 3rd para	Added for clarity.
11	S12.3.1, 5th para, 4th bullet	Editorial changes.
12	S12.3.1, last 2 para	Editorial changes.
13	S12.3.2, entire section	Fire areas are updated with the fire hazard analysis fire area definitions.
14	S12.3.3, entire section	In response to RAI 19.1-78, added a new sub-section to describe the fire propagation cases.
15	T12.3-1 and T12.3-2	New tables for fire area definitions and fire propagation scenarios.
16	S12.4, entire section	In response to RAI 19.1-74, details are added. Added a new sub-section to describe the component selection task per NUREG/CR-6850.
17	S12.5, entire section	In response to RAI 19.1-74, details are added. Added a new sub-section to describe the cable selection task per NUREG/CR-6850.
18	S12.6, entire section	Added a new sub-section to describe the qualitative screening task per NUREG/CR-6850.
19	S12.6.1.1, entire section	In response to RAI 19.1-77, added discussion on fire-induced spurious actuations causing LOCA or incorrect valve alignment.
20	S12.6.1.2, entire	In response to RAI 19.1-77, added discussion on fire-

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	section	induced spurious actuations causing LOCA or incorrect valve alignment.
21	S12.6.1.3, entire section	In response to RAI 19.1-80, added discussion on SRV spurious actuation.
22	S12.6.1.4, entire section	In response to RAI 19.1-75, added discussion on smoke damage in the qualitative screening section.
23	S12.6.2, entire section	Added a new sub-section to describe the qualitative screening task per NUREG/CR-6850.
24	S12.6.2, 3rd para	In response to RAI 19.1-124, the shutdown initiating events are defined.
25	S12.6.2, 5th para	In response to RAI 19.1-125, the IORV initiating event is no longer applicable to shutdown fire analysis.
26	T12.6-1 through T12.6-3	New tables added for qualitative screening.
27	S12.7, 1st para and 2nd para	Updated with new sub-section numbers
28	S12.7.1, entire section	Modified to reflect the new methodology used for fire ignition frequency calculations.
29	S12.7.2, entire section	Updated the frequency calculations associated with the new shutdown fire initiating events.
30	S12.7.2, last two para	In response to RAI 19.1-128, the units are updated for clarity.
31	T12.7-1 through T12.7-3	New tables added for full-power fire ignition frequency calculations. In response to RAI 19.1-128, the units are updated for clarity.
32	T12.7-4 through T12.7-8	New tables added for shutdown fire ignition frequency calculations.
33	S12.8, heading and 1st para	Updated to add the scope for large release frequency calculation.
34	S12.8, 3rd para	Updated the quantification truncation limit.
35	S12.8.1, entire section	New section for modifications to the internal event PRA models.
36	S12.8.2, entire section	New section for development of the fire-induced risk model.
37	S12.8.3, entire section	New section replacing section 12.5.1 in revision 1. Revised for new methodology.
38	S12.8.3.3, 1st para	In response to RAI 19.1-151, credit for operator action is minimized for a MCR fire.
39	S12.8.3.3, entire section	In response to RAI 19.1-79, added MCR fire scenario considerations.

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Item	Location	Description of Change
40	S12.8.4, entire section	New section replacing section 12.5.2 in revision 1. Revised for new methodology.
41	S12.8.4.5, entire section	In response to RAI 19.1-129, discussion added for clarity.
42	S12.8.5, entire section	New section added for large release frequency.
43	T12.8-1 through T12.8-2	New tables added for damage states of all unscreened fire scenarios.
44	S12.9, entire section	New section replacing section 12.6 in revision 1. All paragraphs are updated to reflect the new scope and new results.
45	S12.9.2, entire section	In response to RAI 19.1-130, new section added to link to section 11 for sensitivity studies including the focused fire sensitivity cases that credit only safety-related equipment.
46	S12.9.2, last para	In response to RAI 19.1-76, statement added for the link to section 11 on importance of nonsafety systems.
47	T12.9-1 through T12.9-7	New tables for fire PRA results, which replace tables 12-15 through 12-20 in revision 1. Revised for new results.
48	S12.10, entire section	New section replacing section 12.7 in revision 1. Updated to include new insights.
49	S12.11, 1st para	Updated for new conclusions.
50	S12.12, 1st, 4th and 5th bullets	Updated for new references.
51	T12-1 through T12-20	Deleted all tables in revision 1 because these tables are no longer applicable.
52	S12A, entire appendix	New appendix for full-power fire ignition frequency calculations.