

DCD Chapter 12 Changes From Revision 4 to Revision 5

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
1.	S12.1.1.3	Reworded in response to RAI 12.2-23, and miscellaneous editorial changes made.
2.	S12.1.1.3.1	Miscellaneous editorial changes made.
3.	S12.1.1.3.2	Deleted first sentence, as it added no value.
4.	S12.1.1.3.3	Deleted first sentence, as it added no value.
5.	S12.1.2.2.2	Miscellaneous editorial changes made.
6.	S12.1.2.2.3	Miscellaneous editorial changes made.
7.	S12.1.2.3.2, 4 th bullet	Changed “essential” to “safety-related”
8.	S12.1.3	Reference to RG 1.206 added in response to RAI 12.2-24, and deleted first sentence, as it added no value.
9.	S12.1.4	Reference to RG 1.206 added in response to RAI 12.2-24.
10.	S12.1.5	Reference to RG 1.206 added in response to RAI 12.2-24.
11.	S12.2.1.2.1, 7 th para.	Revised wording to clarify release from the Reactor Building / Fuel Building ventilation stack to reflect the three-stack design change.
12.	S12.2.1.4, 1 st para.	Clarified Radwaste building source term in response to RAI 12.3-13, and removed steel liner tank cubicle discussion from subsection.
13.	S12.2.1.5	Section added in response to RAIs 12.6-2 and 12.3-9 S01.
14.	S12.2.2.1, 1 st para.	Second sentence deleted for clarification. No ratio to an expected release rate is provided in the Chapter 12 tables.
15.	S12.2.2.1, 3 rd para.	Replaced wording with revised X/Q and D/Q for three-stack design change discussion in response to RAIs 2.3-10 S02 and 12.2-25.
16.	S12.2.2.1, 5 th para.	Added reference to Appendix 12B in response to RAI 12.2-9 S02.
17.	S12.2.2.3, 2 nd para.	Changed “BWR-GALE” to “GALE 86” in response to RAI 12.2-15 S01.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
18.	S12.2.4	Added COL item 12.2-4-A in response to RAIs 12.6-2 and 12.3-9 S01.
19.	S12.2.5	Added Reference 12.2-5 in response to RAIs 2.3-10 S02 and 12.2-25. Added Reference 12.2-10 in response to RAI 12.2-15 S01.
20.	T12.2-5	Changes made to table in response to RAI 12.3-8 S01.
21.	T12.2-15, 1 st row	Added reference to Appendix 12B in response to RAI 12.2-9 S02.
22.	T12.2-15, 4 th through 12 th rows	Added meteorology boundary, revised X/Q, and D/Q values for three-stack design change in response to RAIs 2.3-10 S02 and 12.2-25, and amended this table as a result of an error in the calculation methodology.
23.	T12.2-15, 17 th and 19 th rows	Revised K_d values in response to RAI 12.2-9 S03.
24.	T12.2-15, last row	Changed “I-131” to “I-133” in response to RAI 12.2-26
25.	T12.2-16	Revised most values in table in response to RAI 12.2-9 S03. Added footnote clarifying which streams are attributed to each of the three building stacks. Supersedes the values provided in response to RAI 12.2-9 S02 C-N.
26.	T12.2-17	Replaced values in second column in response to RAI 12.2-9 S03. Replaced values in third column using the information from the responses to RAIs 12.2-9 S03, 2.3-10 S02, and 12.2-25, and amended the table as a result of X/Q and D/Q error in calculation methodology. Deleted values for Kr-90 and Xe-139 in response to RAI 12.2-9 S02.
27.	T12.2-18a	Deleted third row in response to RAI 12.2-9 S02.
28.	T12.2-18b	Revised all values in response to RAI 12.2-9 S04, and amended table as result of X/Q error in calculation methodology.
29.	S12.3.1.1.8	Changed “plant” vent stack to “RB/FB” vent stack to reflect three-stack design change. Clarified the design make of the CONAVS system, and added fourth paragraph to reflect Subsection 9.4.2.
30.	S12.3.1.2.3	Deleted “ALARA” in response to RAI 12.1-1, MFN 08-125.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
31.	S12.3.1.2.4	Provided concrete shielding thickness to minimize electrical equipment exposure during waste transfer operations in response to RAI 12.4-16 S01, MFN 07-686.
32.	S12.3.1.2.6, 2 nd para.	Revised HVAC discussion for consistency with Section 9.4, and to address three-stack design change.
33.	S12.3.1.2.6, 5 th para.	Added steel liner tank cubicle discussion in response to RAI 12.3-13, MFN 08-125. Edited spent fuel cask decontamination.
34.	S12.3.1.3, last para.	Changed COL item numbering to reflect that COL Holder will establish radiation zones based on their radiation protection program implementation.
35.	S12.3.1.4	Added “and systems located in the Radwaste Building Structure” in response to RAI 12.4-24 S01, MFN 07-048.
36.	S12.3.1.4.1	Clarified that the resin transfer pump can be operated remotely.
37.	S12.3.1.4.2	Established personnel exposure level in shielded system rooms in RB to < 1 mrem/hr.
38.	S12.3.1.4.5	Added subsection in response to RAI 12.4-24 S01, MFN 07-048.
39.	S12.3.3.1, 2 nd bullet	Made editorial change in response to RAI 12.1-1, MFN 08-125.
40.	S12.3.3.2.1	Made changes in response to RAIs 6.4-5, 6.4-10, and 9.4-31, MFN 08-219 and MFN 08-343. Edited that face masks are appropriately termed respiratory protection equipment.
41.	S12.3.3.2.3	Changed “plant” vent stack to “RB/FB” vent stack to reflect three-stack design change.
42.	S12.3.3.2.4	Changed “reactor building” stack to “radwaste stack” to reflect three-stack design change.
43.	S12.3.3.2.5	Changed “plant” vent stack to “RB/FB” vent stack to reflect three-stack design change.
44.	S12.3.3.3	Made changes in response to RAI 12.4-23 S01, MFN 08-429.
45.	S12.3.4, 3 rd and 4 th bullet	Added text to reflect three-stack design change and in response to RAI 14.3-174, MFN 08-086 S21.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
46.	S12.3.4.3	Clarified that Area Radiation Monitors are located in Tables 12.3-2 and 12.3-3 and added reference to RG 8.8.
47.	S12.3.5	Made changes in response to RAI 12.4-31, MFN 08-227.
48.	S12.3.6	Made changes in response to RAI 12.4-31, MFN 08-227. Added mission time for RWCUC cross-tie to FAPCS as described in Subsection 5.4.8.
49.	S12.3.7	Changed COL item 12.3-3 to a holder “H” item to be consistent with the text in Subsection 12.3.1.3.
50.	T12.3-2 through T12.3-6	Revised tables in response to RAI 14.3-175, MFN 08-086.
51.	T12.3-2	Revised description of ARMs to be consistent with the ARM figures.
52.	T12.3-3	Changed second ARM #10 to #10a, since there were two ARMs labeled as #10. Revised description of ARMs to be consistent with the ARM figures.
53.	T12.3-4	Revised description of ARMs to be consistent with the ARM figures.
54.	T12.3-5	Revised Item 18 of table in response to RAI 12.1-1, MFN 08-125. Revised description of ARMs to be consistent with the ARM figures.
55.	T12.3-7	Converted dose rates from Gy and R to Sv and rem for consistency with the radiation zone designations.
56.	T12.3-8	Changed “RWCS” to “RWCUC” as an editorial change.
57.	T12.3-9	Revised table values in response to RAI 12.4-23 S01, MFN 08-429.
58.	T12.3-10a	Changed table number from Table 12.3-10 and revised values in response to RAI 12.4-23 S01, MFN 08-429.
59.	T12.3-10b	Added table in response to RAI 12.4-23 S01, MFN 08-429.
60.	T12.3-11 through T12.3-17	Added tables in response to RAI 12.4-31, MFN 08-227. Several doses and dose rates were modified after the submittal of the RAI response when the supporting figures were revised to reflect the current general arrangement drawings.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
61.	F12.3-1 through F12.3-11	Revised radiation zone figures in response to RAIs 12.4-19 S01 and S02, MFN 06-499 S01. Figures were revised after submittal of RAI response to reflect the current general arrangement drawings.
62.	F12.3-12 through F12.3-18	Radiation zone figures were revised to reflect the current general arrangement drawings.
63.	F12.3-19 through F12.3-22	Radiation zone figures were revised to reflect the current general arrangement drawings.
64.	F12.3-20	Revised radiation zone figure in response to RAI 12.4-17 S01, MFN 08-007.
65.	F12.3-21	Revised radiation zone figure in response to RAI 12.4-24 S01, MFN 07-048.
66.	F12.3-22a and F12.3-22b	Radiation zone figures were revised to reflect the current general arrangement drawings.
67.	F12.3-23 through F12.3-31	Area radiation monitor figures were revised to reflect the current general arrangement drawings.
68.	F12.3-26	Changed ARM #10 to #10a, since Figure 12.3-23 also has an ARM #10.
69.	F12.3-32 through F12.3-38	Area radiation monitor figures were revised to reflect the current general arrangement drawings.
70.	F12.3-39 through F12.3-43	Area radiation monitor figures were revised to reflect the current general arrangement drawings.
71.	F12.3-43 through F12.3-51	Revised post-accident zone figures in response to RAI 12.4-31, MFN 08-227. Figures were revised after submittal of RAI response to reflect the current general arrangement drawings.
72.	F12.3-51a through F12.3-51i	Added post-accident zone figures in response to RAI 12.4-31, MFN 08-227. Figures were revised after submittal of RAI response to reflect the current general arrangement drawings. As a result, figure numbering has been reduced to F12.3-51a through F12.3-51f.
73.	F12.3-52 through F12.3-60	Personnel egress route figures were revised to reflect the current general arrangement drawings.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
74.	F12.3-61 through F12.3-64	Personnel egress route figures were revised to reflect the current general arrangement drawings.
75.	F12.3-65 through F12.3-70a	Personnel egress route figures were revised to reflect the current general arrangement drawings.
76.	F12.3-71 through F12.3-73	Figures were revised to reflect the current general arrangement drawings.
77.	F12.3-74 through F12.3-90	Added post-accident access figures in response to RAI 12.4-31, MFN 08-227. Figures were revised after submittal of RAI response to reflect the current general arrangement drawings. As a result, figure numbering has been reduced to F12.3-74 through F12.3-86.
78.	S12.4	Section 12.4 has been completely rewritten in response to RAIs 12.5-1 and 12.5-6.
79.	T12.4-1 through T12.4-7	Table 12.4-1 has been replaced in its entirety, and Tables 12.4-2 through 12.4-7 have been added in response to RAIs 12.5-1 and 12.5-6.
80.	S12.4, 4 th para.	Added references for dose assessment applicability from ABWR and fleet; see RAI 12.5-1S01, item 2.
81.	S12.4.1, 4 th para.	Added reference to DCD section that discusses the two percent RWCU capacity in response to RAI 12.5-9.
82.	S12.4.2, 2 nd para.	Added first four sentences in response to RAI 12.5-1 S01, item 1.d). Added ninth through twelfth sentences in response to RAI 12.5-1 S01, item 1.e).
83.	S12.4.3, 3 rd para.	Added first sentence in response to RAI 12.5-1 S01, item 1.g).
84.	S12.4.3, 4 th para.	Added “for four hours” in fourth sentence in response to RAI 12.5-1 S01, item 17.
85.	S12.4.4, 2 nd para.	Added “access” in the last sentence in response to RAI 12.5-1 S01, item E1.
86.	S12.4.4, 3 rd para.	Deleted second sentence from RAI 12.5-1 response DCD markup in response to RAI 12.5-1 S01, item E2. Deleted beginning of fourth sentence from RAI 12.5-1 response DCD markup in response to RAI 12.5-1 S01, item E2.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
87.	S12.4.5, 2 nd para.	Added second sentence and bullets in response to RAI 12.5-1 S01, item 1.c).
88.	S12.4.6, 2 nd para.	Added first two sentences in response to RAI 12.5-1 S01, item 1.a).
89.	S12.4.6, 6 th para.	Added first sentence in response to RAI 12.5-1 S01, item 1.a). Added seventh sentence in response to RAI 12.5-1 S01, item 1.b). Added space between “titanium” and “or” in eighth sentence in response to RAI 12.5-1 S01, item E3.
90.	S12.4.6, 8 th para.	Deleted “required” in response to RAI 12.5-1 S01, item E4.
91.	S12.4.6, 9 th para.	Revised discussion of removal of LPRM assemblies in response to RAI 12.5-1 S01, item 6.
92.	S12.4.6, 22 nd para.	Added “approximately” in response to RAI 12.5-1 S01, item E5.
93.	S12.4.6, 23 rd para.	Added first two sentences in response to RAI 12.5-1 S01, item 1.f).
94.	S12.4.9	Added References 12.4-3 through 12.4-8 in response to RAI 12.5-1 S01, item 2.
95.	T12.4-2 through T12.4-8	Added footnote to tables in response to RAI 12.5-1 S01, item 11.
96.	S12.5.2, 1 st para.	Added sentence to refer to Figures 12.5-1 and 12.5-2.
97.	S12.5.2, 4 th para.	Added reference to RG 1.206 and changed citation to 10 CFR 50.34 subsection in response to RAIs 12.6-3 through 12.6-5.
98.	S12.5.3	Added reference to RG 1.206 and discussed special shielding features in response to RAIs 12.6-2, 12.3-9 S01, and 12.4-6 S02.
99.	S12.5.4 (COL item 12.5-1-A)	Added reference to RG 1.206 in response to RAIs 12.6-3 through 12.6-5.
100.	S12.5.4 (COL item 12.5-2-A)	Changed citation to 10 CFR 50.34 subsection in response to RAIs 12.6-3 through 12.6-5.
101.	S12.5.4 (COL item 12.5-3-A)	Added reference to RG 1.206 and discussed special shielding features in response to RAIs 12.6-2, 12.3-9 S01, and 12.4-6 S02.

Item	Location (e.g., subsection with paragraph/sentence/item, table with column/row, or figure)	Description of Change
102.	S12.5.5	Added reference to RG 1.206 in response to RAIs 12.6-3 through 12.6-5.
103.	F12.5-1 and F12.5-2	Added figures in response to RAI 12.6-1.
104.	S12.6	Deleted “procedures for operation” to be consistent with the first sentence in DCD Sections 12.6.1 and 12.6.2.
105.	S12.6.1, 6 th bullet	Added “floors around” in response to RAI 12.1-1.
106.	S12.6.1, 7 th bullet	Added wording regarding epoxy-type coatings in response to RAI 12.7-4.
107.	S12.6.1, 9 th bullet	Added 9 th bullet in response to RAI 12.3-13.
108.	S12.6.1, 15 th bullet	Deleted “mobile” and added “process” for clarity and consistency with Chapter 11.
109.	S12A	Miscellaneous editorial changes made.
110.	S12A.1	Miscellaneous editorial changes made.
111.	S12A.1, 4 th para.	Changed “ci” to “C _i ” to be consistent with definition of liquid concentration.
112.	S12A.2	Miscellaneous editorial changes made.
113.	S12A.2, 2 nd bullet	Added superscripts in five places.
114.	S12B	Appendix 12B added to DCD Chapter 12 in response to RAI 12.2-9 S02