GallMasterID	Chapter	Item	PreviousItem	NewLink	NewRelated	StructureAndOrComponent
570	II	C-07		II.A1.C-07	II.A1-8(C-07)	Concrete: foundation; subfoundation
571	II	C-07		II.A2.C-07	II.A2-8(C-07)	Concrete: foundation; subfoundation
572	II	C-07		II.B1.2.C-07	II.B1.2-7(C-07)	Concrete: foundation; subfoundation
573	II	C-07		II.B2.2.C-07	II.B2.2-7(C-07)	Concrete: foundation; subfoundation
574	II	C-07		II.B3.1.C-07	II.B3.1-7(C-07)	Concrete: foundation; subfoundation
575	II	C-07		II.B3.2.C-07	II.B3.2-8(C-07)	Concrete: foundation; subfoundation

462	II	C-10		II.A1.C-10	II.A1-10(C-10)	Prestressing system: tendons; anchorage components
463	II	C-10		II.B2.2.C-10	II.B2.2-9(C-10)	Prestressing system: tendons; anchorage components
464	II	C-11		II.A1.C-11	II.A1-9(C-11)	Prestressing system: tendons
465	II	C-11		II.B2.2.C-11	II.B2.2-8(C-11)	Prestressing system: tendons
468	II	C-13		II.A3.C-13	II.A3-4(C-13)	Penetration sleeves; penetration bellows
469	II	C-13		II.B4.C-13	II.B4-4(C-13)	Penetration sleeves; penetration bellows
282	II	C-16		II.A3.C-16	II.A3-6(C-16)	Personnel airlock, equipment hatch, CRD hatch

283	II	C-16		II.B4.C-16	II.B4-6(C-16)	Personnel airlock, equipment hatch, CRD hatch
124	II	C-21		II.B1.1.C-21	II.B1.1-4(C-21)	Steel elements: torus; vent line; vent header; vent line bellows; downcomers
126	II	C-23		II.B1.1.C-23	II.B1.1-1(C-23)	Steel elements: drywell head; downcomers
127	II	C-23		II.B1.2.C-23	II.B1.2-9(C-23)	Steel elements: drywell head; downcomers
128	II	C-23		II.B2.1.C-23	II.B2.1-2(C-23)	Steel elements: drywell head; downcomers
129	II	C-23		II.B2.2.C-23	II.B2.2-11(C-23)	Steel elements: drywell head; downcomers
130	II	C-24		II.B3.1.C-24	II.B3.1-9(C-24)	Steel elements: suppression chamber shell (interior surface)
131	II	C-24		II.B3.2.C-24	II.B3.2-10(C-24)	Steel elements: suppression chamber shell (interior surface)
670	II	C-45		II.B2.1.C-45	II.B2.1-4(C-45)	Suppression pool shell; unbraced downcomers
675	II	C-48		II.B2.2.C-48	II.B2.2-14(C-48)	Steel elements: vent header; downcomers
676	II	C-49		II.B1.2.C-49	II.B1.2-10(C-49)	Steel elements: suppression chamber (torus) liner (interior surface)

677	II	C-49		II.B2.2.C-49	II.B2.2-12(C-49)	Steel elements: suppression chamber (torus) liner (interior surface)
1989	II	CP-100	C-03	II.A1.CP-100	II.A1-4(C-03)	#M#Concrete (inaccessible areas): dome; wall; basemat; ring girders; buttresses#M#
1990	II	CP-101	C-37	II.A1.CP-101	II.A1-5(C-37)	Concrete: dome; wall; basemat; ring girders; buttresses
1991	II	CP-102	C-02	II.A1.CP-102	II.A1-6(C-02)	#M#Concrete (inaccessible areas): dome; wall; basemat; ring girders; buttresses#M#

1993	II	CP-104	C-38	II.A2.CP-104	II.A2-3(C-38)	#M#Concrete (inaccessible areas): basemat#M#
1994	II	CP-105	C-06	II.B1.2.CP-105	II.B1.2-1(C-06)	Concrete elements, all
1995	II	CP-105	C-06	II.B2.2.CP-105	II.B2.2-1(C-06)	Concrete elements, all
1996	II	CP-105	C-06	II.B3.2.CP-105	II.B3.2-1(C-06)	Concrete elements, all

1997	II	CP-106	C-26	II.B1.2.CP-106	II.B1.2-5(C-26)	Concrete: containment; wall; basemat
1998	II	CP-106	C-26	II.B2.2.CP-106	II.B2.2-5(C-26)	Concrete: containment; wall; basemat
1999	II	CP-107	C-44	II.B2.1.CP-107	II.B2.1-3(C-44)	#M#Suppression pool shell#M#
2000	II	CP-108	C-33	II.B3.2.CP-108	II.B3.2-2(C-33)	Concrete: dome; wall; basemat

2010	II	CP-109	C-19	II.B1.1.CP-109	II.B1.1-2(C-19)	#M#Steel elements: torus ring girders; downcomers;#M#
2011	II	CP-110	C-31	II.B1.2.CP-110	II.B1.2-6(C-31)	#M#Concrete (inaccessible areas): containment; wall; basemat#M#
2116	II	CP-110	C-31	II.B2.2.CP-110	II.B2.2-6(C-31)	#M#Concrete (inaccessible areas): containment; wall; basemat#M#

2109	II	CP-113	C-19	II.B3.1.CP-113	II.B3.1-8(C-19)	#M#Steel elements (inaccessible areas): drywell shell; drywell head; and drywell shell#M#
2015	II	CP-114	New Record	II.B1.2.CP-114		Steel elements (inaccessible areas): support skirt
2126	II	CP-114	New Record	II.B2.1.CP-114		Steel elements (inaccessible areas): support skirt
2134	II	CP-114	New Record	II.B2.2.CP-114		Steel elements (inaccessible areas): support skirt
2125	II	CP-117	C-46	II.B1.2.CP-117	II.B1.2-8(C-46)	#M#Steel elements: downcomer pipes#M#
2017	II	CP-117	C-46	II.B2.1.CP-117	II.B2.1-1(C-46)	#M#Steel elements: downcomer pipes#M#
2018	II	CP-117	C-46	II.B2.2.CP-117	II.B2.2-10(C-46)	#M#Steel elements: downcomer pipes#M#
2022	II	CP-121	C-40	II.B3.2.CP-121	II.B3.2-4(C-40)	#M#Concrete (inaccessible areas): dome; wall; basemat#M#

2098	II	CP-122	C-32	II.B3.2.CP-122	II.B3.2-6(C-32)	#M#Concrete (inaccessible areas): dome; wall; basemat#M#
2115	II	CP-135	C-29	II.B3.2.CP-135	II.B3.2-3(C-29)	Concrete (inaccessible areas): dome; wall; basemat
2122	II	CP-142	C-44	II.B2.1.CP-142	II.B2.1-3(C-44)	#M#Unbraced downcomers#M#

2127	II	CP-147	C-01	II.A1.CP-147	II.A1-2(C-01)	#M#Concrete (inaccessible areas): dome; wall; basemat; ring girders; buttresses#M#
2128	II	CP-148	New Record	II.A3.CP-148		Pressure-retaining bolting
2129	II	CP-148	New Record	II.B4.CP-148		Pressure-retaining bolting
2130	II	CP-150	New Record	II.A3.CP-150		Pressure-retaining bolting
2131	II	CP-150	New Record	II.B4.CP-150		Pressure-retaining bolting
2132	II	CP-152	New Record	II.A3.CP-152		Service Level I coatings
2133	II	CP-152	New Record	II.B4.CP-152		Service Level I coatings

2349	II	CP-155	C-30	II.A2.CP-155	II.A2-6(C-30)	#M#Concrete (accessible areas): basemat#M#
2350	II	CP-156	C-30	II.B3.1.CP-156	II.B3.1-3(C-30)	#M#Concrete (accessible areas): basemat#M#
2111	II	CP-158	C-19	II.B3.1.CP-158	II.B3.1-8(C-19)	Steel elements: suppression chamber shell (interior surface)
1648	II	CP-31	C-01	II.A1.CP-31	II.A1-2(C-01)	#M#Concrete (accessible areas): dome; wall; basemat; ring girders; buttresses#M#
1649	II	CP-32	C-02	II.A1.CP-32	II.A1-6(C-02)	#M#Concrete (accessible areas): dome; wall; basemat; ring girders; buttresses#M#
1650	II	CP-33	C-04	II.A1.CP-33	II.A1-3(C-04)	#M#Concrete (accessible areas): dome; wall; basemat; ring girders; buttresses#M#

1651	II	CP-34	C-08	II.A1.CP-34	II.A1-1(C-08)	Concrete: dome; wall; basemat; ring girders; buttresses
1652	II	CP-35	C-09	II.A1.CP-35	II.A1-11(C-09)	#M#Steel elements (accessible areas): liner; liner anchors; integral attachments#M#
1653	II	CP-35	C-09	II.A2.CP-35	II.A2-9(C-09)	#M#Steel elements (accessible areas): liner; liner anchors; integral attachments#M#
1654	II	CP-35	C-09	II.B3.2.CP-35	II.B3.2-9(C-09)	#M#Steel elements (accessible areas): liner; liner anchors; integral attachments#M#
1655	II	CP-36	C-12	II.A3.CP-36	II.A3-1(C-12)	Penetration sleeves
1656	II	CP-36	C-12	II.B4.CP-36	II.B4-1(C-12)	Penetration sleeves

1657	II	CP-37	C-14	II.A3.CP-37	II.A3-3(C-14)	penetration sleeves; penetration bellows
1658	II	CP-37	C-14	II.B4.CP-37	II.B4-3(C-14)	penetration sleeves; penetration bellows
1659	II	CP-38	C-15	II.A3.CP-38	II.A3-2(C-15)	Penetration sleeves; penetration bellows
1660	II	CP-38	C-15	II.B4.CP-38	II.B4-2(C-15)	Penetration sleeves; penetration bellows
1661	II	CP-39	C-17	II.A3.CP-39	II.A3-5(C-17)	Personnel airlock, equipment hatch, CRD hatch: locks, hinges, and closure mechanisms
1662	II	CP-39	C-17	II.B4.CP-39	II.B4-5(C-17)	Personnel airlock, equipment hatch, CRD hatch: locks, hinges, and closure mechanisms
1663	II	CP-40	C-18	II.A3.CP-40	II.A3-7(C-18)	Moisture barriers (caulking, flashing, and other sealants)
1664	II	CP-40	C-18	II.B4.CP-40	II.B4-7(C-18)	Moisture barriers (caulking, flashing, and other sealants)
1665	II	CP-41	C-18	II.A3.CP-41	II.A3-7(C-18)	Seals and gaskets
2108	II	CP-41	C-18	II.B4.CP-41	II.B4-7(C-18)	Seals and gaskets
1667	II	CP-43	C-19	II.B1.1.CP-43	II.B1.1-2(C-19)	#M#Steel elements (accessible areas): drywell shell; drywell head; drywell shell in sand pocket regions;#M#

1668	II	CP-43	C-19	II.B3.1.CP-43	II.B3.1-8(C-19)	#M#Steel elements (accessible areas): drywell shell; drywell head#M#
1669	II	CP-44	New Record	II.B1.1.CP-44		Steel elements: drywell support skirt
2013	II	CP-46	C-46	II.B1.2.CP-46	II.B1.2-8(C-46)	#M#Steel elements (accessible areas): suppression chamber; drywell; drywell head; embedded shell; region shielded by diaphragm floor (as applicable)#M#
2124	II	CP-46	C-46	II.B2.1.CP-46	II.B2.1-1(C-46)	#M#Steel elements (accessible areas): suppression chamber; drywell; drywell head; embedded shell; region shielded by diaphragm floor (as applicable)#M#
2123	II	CP-46	C-46	II.B2.2.CP-46	II.B2.2-10(C-46)	#M#Steel elements (accessible areas): suppression chamber; drywell; drywell head; embedded shell; region shielded by diaphragm floor (as applicable)#M#
2110	II	CP-48	C-19	II.B1.1.CP-48	II.B1.1-2(C-19)	#M#Steel elements: torus shell#M#
1674	II	CP-49	C-20	II.B1.1.CP-49	II.B1.1-3(C-20)	Steel elements: torus; vent line; vent header; vent line bellows; downcomers

1675	II	CP-50	C-22	II.B1.1.CP-50	II.B1.1-5(C-22)	Steel elements: vent line bellows
1676	II	CP-51	C-28	II.A2.CP-51	II.A2-2(C-28)	#M#Concrete (accessible areas): basemat#M#
1677	II	CP-52	C-29	II.B3.2.CP-52	II.B3.2-3(C-29)	#M#Concrete (accessible areas): dome; wall; basemat#M#
1678	II	CP-53	C-30	II.A2.CP-53	II.A2-6(C-30)	#M#Concrete (inaccessible areas): basemat#M#
1679	II	CP-53	C-30	II.B3.1.CP-53	II.B3.1-3(C-30)	#M#Concrete (inaccessible areas): basemat#M#

1680	II	CP-54	C-31	II.B1.2.CP-54	II.B1.2-6(C-31)	#M#Concrete (accessible areas): containment; wall; basemat#M#
1681	II	CP-54	C-31	II.B2.2.CP-54	II.B2.2-6(C-31)	#M#Concrete (accessible areas): containment; wall; basemat#M#
1682	II	CP-55	C-32	II.B3.2.CP-55	II.B3.2-6(C-32)	#M#Concrete (accessible areas): dome; wall; basemat#M#

1684	II	CP-57	C-35	II.B1.2.CP-57	II.B1.2-3(C-35)	Concrete: containment; wall; basemat

1685	II	CP-57	C-35	II.B2.2.CP-57	II.B2.2-3(C-35)	Concrete: containment; wall; basemat
1686	II	CP-58	C-38	II.A2.CP-58	II.A2-3(C-38)	#M#Concrete (accessible areas): basemat#M#
1687	II	CP-59	C-39	II.B1.2.CP-59	II.B1.2-4(C-39)	#M#Concrete (accessible areas): containment; wall; basemat#M#
1688	II	CP-59	C-39	II.B2.2.CP-59	II.B2.2-4(C-39)	#M#Concrete (accessible areas): containment; wall; basemat#M#
1689	II	CP-60	C-40	II.B3.2.CP-60	II.B3.2-4(C-40)	#M#Concrete (accessible areas): dome; wall; basemat#M#

1692	II	CP-63	C-46	II.B1.2.CP-63	II.B1.2-8(C-46)	#M#Steel elements (inaccessible areas): suppression chamber; drywell; drywell head; embedded shell; region shielded by diaphragm floor (as applicable)#M#

1693	II	CP-63	C-46	II.B2.1.CP-63	II.B2.1-1(C-46)	Steel elements (inaccessible areas): suppression chamber; drywell; drywell head; embedded shell; region shielded by diaphragm floor (as applicable)

1694	II	CP-63	C-46	II.B2.2.CP-63	II.B2.2-10(C-46)	#M#Steel elements (inaccessible areas): suppression chamber; drywell; drywell head; embedded shell; region shielded by diaphragm floor (as applicable)#M#
1695	II	CP-64	C-47	II.B2.2.CP-64	II.B2.2-13(C-47)	Steel elements: vent header; downcomers

1696	II	CP-65	C-50	II.B3.1.CP-65	II.B3.1-4(C-50)	Concrete: basemat, concrete fill-in annulus
1697	II	CP-66	C-51	II.B3.1.CP-66	II.B3.1-5(C-51)	#M#Concrete (accessible areas): basemat, concrete fill-in annulus#M#

1895	II	CP-67	C-04	II.A1.CP-67	II.A1-3(C-04)	#M#Concrete (inaccessible areas): dome; wall; basemat; ring girders; buttresses#M#
1896	II	CP-68	C-05	II.A1.CP-68	II.A1-7(C-05)	Concrete (accessible areas): dome; wall; basemat; ring girders; buttresses; reinforcing steel
1897	II	CP-69	C-36	II.A2.CP-69	II.A2-5(C-36)	Concrete: basemat
1898	II	CP-69	C-36	II.B3.1.CP-69	II.B3.1-2(C-36)	Concrete: basemat

1899	II	CP-70	C-28	II.A2.CP-70	II.A2-2(C-28)	#M#Concrete (inaccessible areas): basemat#M#
1900	II	CP-71	C-25	II.A2.CP-71	II.A2-4(C-25)	#M#Concrete (inaccessible areas): basemat#M#
1901	II	CP-71	C-25	II.B3.1.CP-71	II.B3.1-1(C-25)	#M#Concrete (inaccessible areas): basemat#M#
1902	II	CP-72	C-25	II.A2.CP-72	II.A2-4(C-25)	#M#Concrete (accessible areas): basemat#M#

2113	II	CP-72	C-25	II.B3.1.CP-72	II.B3.1-1(C-25)	#M#Concrete (accessible areas): basemat#M#
1903	II	CP-73	C-27	II.B3.2.CP-73	II.B3.2-5(C-27)	#M#Concrete (inaccessible areas): dome; wall; basemat#M#
2120	II	CP-74	C-43	II.A2.CP-74	II.A2-7(C-43)	#M#Concrete (accessible areas): basemat; reinforcing steel#M#
1905	II	CP-74	C-43	II.B3.1.CP-74	II.B3.1-6(C-43)	#M#Concrete (accessible areas): basemat; reinforcing steel#M#
1906	II	CP-75	C-43	II.A2.CP-75	II.A2-7(C-43)	#M#Concrete (inaccessible areas): basemat; reinforcing steel#M#
2121	II	CP-75	C-43	II.B3.1.CP-75	II.B3.1-6(C-43)	#M#Concrete (inaccessible areas): basemat; reinforcing steel#M#
1910	II	CP-79	C-41	II.B1.2.CP-79	II.B1.2-2(C-41)	#M#Concrete (accessible areas): basemat; reinforcing steel#M#
2118	II	CP-79	C-41	II.B2.2.CP-79	II.B2.2-2(C-41)	#M#Concrete (accessible areas): basemat; reinforcing steel#M#
2119	II	CP-80	C-41	II.B1.2.CP-80	II.B1.2(C-41)	#M#Concrete (inaccessible areas): basemat; reinforcing steel#M#

1911	II	CP-80	C-41	II.B2.2.CP-80	II.B2.2-2(C-41)	#M#Concrete (inaccessible areas): basemat; reinforcing steel#M#
1914	II	CP-83	C-51	II.B3.1.CP-83	II.B3.1-5(C-51)	#M#Concrete (inaccessible areas): basemat, concrete fill-in annulus#M#
1915	II	CP-84	C-27	II.B3.2.CP-84	II.B3.2-5(C-27)	#M#Concrete (accessible areas): dome; wall; basemat#M#
1916	II	CP-87	C-03	II.A1.CP-87	II.A1-4(C-03)	#M#Concrete (accessible areas): dome; wall; basemat; ring girders; buttresses#M#
1917	II	CP-88	C-42	II.B3.2.CP-88	II.B3.2-7(C-42)	#M#Concrete (accessible areas): dome; wall; basemat; reinforcing steel#M#
1918	II	CP-89	C-42	II.B3.2.CP-89	II.B3.2-7(C-42)	#M#Concrete (inaccessible areas): dome; wall; basemat; reinforcing steel#M#

1984	II	CP-97	C-05	II.A1.CP-97	II.A1-7(C-05)	#M#Concrete (inaccessible areas): dome; wall; basemat; ring girders; buttresses; reinforcing steel#M#
2107	II	CP-98	C-09	II.A1.CP-98	II.A1-11(C-09)	#M#Steel elements (inaccessible areas): liner; liner anchors; integral attachments#M#

2106	II	CP-98	C-09	II.A2.CP-98	II.A2-9(C-09)	#M#Steel elements (inaccessible areas): liner; liner anchors; integral attachments#M#

1987	II	CP-98	C-09	II.B3.2.CP-98	II.B3.2-9(C-09)	#M#Steel elements (inaccessible areas): liner; liner anchors; integral attachments#M#

1988	II	CP-99	C-39	II.B1.2.CP-99	II.B1.2-4(C-39)	#M#Concrete (inaccessible areas): containment; wall; basemat#M#
2117	II	CP-99	C-39	II.B2.2.CP-99	II.B2.2-4(C-39)	#M#Concrete (inaccessible areas): containment; wall; basemat#M#
1150	III	T-12		III.A1.T-12	III.A1-11(T-12)	Masonry walls: all
1151	III	T-12		III.A2.T-12	III.A2-11(T-12)	Masonry walls: all

1152	III	T-12		III.A3.T-12	III.A3-11(T-12)	Masonry walls: all
1153	III	T-12		III.A5.T-12	III.A5-11(T-12)	Masonry walls: all
1154	III	T-12		III.A6.T-12	III.A6-10(T-12)	Masonry walls: all
1156	III	T-14		III.A5.T-14	III.A5-13(T-14)	Steel components: fuel pool liner
1162	III	T-20		III.A6.T-20	III.A6-7(T-20)	Concrete: exterior above- and below-grade; foundation; interior slab
1164	III	T-22		III.A6.T-22	III.A6-9(T-22)	Earthen water-control structures: dams; embankments; reservoirs; channels; canals and ponds
1165	III	T-23		III.A7.T-23	III.A7-11(T-23)	Steel components: tank liner
1166	III	T-23		III.A8.T-23	III.A8-9(T-23)	Steel components: tank liner
1167	III	T-24		III.B1.1.T-24	III.B1.1-13(T-24)	Support members; welds; bolted connections; support anchorage to building structure

1168	III	T-24		III.B1.2.T-24	III.B1.2-10(T-24)	Support members; welds; bolted connections; support anchorage to building structure
1169	III	T-24		III.B1.3.T-24	III.B1.3-10(T-24)	Support members; welds; bolted connections; support anchorage to building structure
1170	III	T-25		III.B1.1.T-25	III.B1.1-14(T-25)	Support members; welds; bolted connections; support anchorage to building structure
1171	III	T-25		III.B1.2.T-25	III.B1.2-11(T-25)	Support members; welds; bolted connections; support anchorage to building structure
1172	III	T-25		III.B2.T-25	III.B2-11(T-25)	Support members; welds; bolted connections; support anchorage to building structure
1173	III	T-25		III.B3.T-25	III.B3-8(T-25)	Support members; welds; bolted connections; support anchorage to building structure
1174	III	T-25		III.B4.T-25	III.B4-11(T-25)	Support members; welds; bolted connections; support anchorage to building structure
1175	III	T-25		III.B5.T-25	III.B5-8(T-25)	Support members; welds; bolted connections; support anchorage to building structure
1176	III	T-26		III.B1.1.T-26	III.B1.1-12(T-26)	Support members; welds; bolted connections; support anchorage to building structure

1177	III	T-26		III.B1.2.T-26	III.B1.2-9(T-26)	Support members; welds; bolted connections; support anchorage to building structure
1178	III	T-26		III.B1.3.T-26	III.B1.3-9(T-26)	Support members; welds; bolted connections; support anchorage to building structure
1180	III	T-28		III.B1.1.T-28	III.B1.1-2(T-28)	Constant and variable load spring hangers; guides; stops
1181	III	T-28		III.B1.2.T-28	III.B1.2-2(T-28)	Constant and variable load spring hangers; guides; stops
1182	III	T-28		III.B1.3.T-28	III.B1.3-2(T-28)	Constant and variable load spring hangers; guides; stops
399	III	T-33		III.B1.1.T-33	III.B1.1-15(T-33)	Vibration isolation elements
400	III	T-33		III.B1.2.T-33	III.B1.2-12(T-33)	Vibration isolation elements

401	III	T-33		III.B1.3.T-33	III.B1.3-11(T-33)	Vibration isolation elements
404	III	TP-10		III.B1.1.TP-10	III.B1.1-11(TP-10)	Support members; welds; bolted connections; support anchorage to building structure
1976	III	TP-104	T-18	III.A6.TP-104	III.A6-1(T-18)	#M#Concrete (inaccessible areas): all#M#
1979	III	TP-107	T-19	III.A6.TP-107	III.A6-3(T-19)	#M#Concrete (inaccessible areas): all#M#
1980	III	TP-108	T-01	III.A1.TP-108	III.A1-6(T-01)	#M#Concrete (inaccessible areas): foundation#M#

2136	III	TP-108	T-01	III.A2.TP-108	III.A2-6(T-01)	#M#Concrete (inaccessible areas): foundation#M#

2137	III	TP-108	T-01	III.A3.TP-108	III.A3-6(T-01)	#M#Concrete (inaccessible areas): foundation#M#

2141	III	TP-108	T-01	III.A5.TP-108	III.A5-6(T-01)	#M#Concrete (inaccessible areas): foundation#M#

2138	III	TP-108	T-01	III.A7.TP-108	III.A7-5(T-01)	#M#Concrete (inaccessible areas): foundation#M#

2142	III	TP-108	T-01	III.A8.TP-108	III.A8-5(T-01)	#M#Concrete (inaccessible areas): foundation#M#

2143	III	TP-108	T-01	III.A9.TP-108	III.A9-5(T-01)	#M#Concrete (inaccessible areas): foundation#M#
1981	III	TP-109	T-16	III.A6.TP-109	III.A6-6(T-16)	#M#Concrete (inaccessible areas): exterior above- and below-grade; foundation; interior slab#M#

1982	III	TP-110	T-15	III.A6.TP-110	III.A6-5(T-15)	#M#Concrete (inaccessible areas): exterior above- and below-grade; foundation; interior slab#M#
2001	III	TP-114	T-10	III.A1.TP-114	III.A1-1(T-10)	Concrete: all

2002	III	TP-114	T-10	III.A2.TP-114	III.A2-1(T-10)	Concrete: all
2003	III	TP-114	T-10	III.A3.TP-114	III.A3-1(T-10)	Concrete: all

2004	III	TP-114	T-10	III.A4.TP-114	III.A4-1(T-10)	Concrete: all
2005	III	TP-114	T-10	III.A5.TP-114	III.A5-1(T-10)	Concrete: all

2169	III	TP-204	T-03	III.A1.TP-204	III.A1-2(T-03)	#M#Concrete (inaccessible areas): all#M#
2170	III	TP-204	T-03	III.A2.TP-204	III.A2-2(T-03)	#M#Concrete (inaccessible areas): all#M#

2171	III	TP-204	T-03	III.A3.TP-204	III.A3-2(T-03)	#M#Concrete (inaccessible areas): all#M#
2172	III	TP-204	T-03	III.A4.TP-204	III.A4-2(T-03)	#M#Concrete (inaccessible areas): all#M#

2173	III	TP-204	T-03	III.A5.TP-204	III.A5-2(T-03)	#M#Concrete (inaccessible areas): all#M#
2174	III	TP-204	T-03	III.A7.TP-204	III.A7-1(T-03)	#M#Concrete (inaccessible areas): all#M#

2175	III	TP-204	T-03	III.A8.TP-204	III.A8-1(T-03)	#M#Concrete (inaccessible areas): all#M#
2176	III	TP-204	T-03	III.A9.TP-204	III.A9-1(T-03)	#M#Concrete (inaccessible areas): all#M#
2177	III	TP-212	T-05	III.A1.TP-212	III.A1-4(T-05)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#

2178	III	TP-212	T-05	III.A2.TP-212	III.A2-4(T-05)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
2179	III	TP-212	T-05	III.A3.TP-212	III.A3-4(T-05)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
2180	III	TP-212	T-05	III.A5.TP-212	III.A5-4(T-05)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
2181	III	TP-212	T-05	III.A7.TP-212	III.A7-3(T-05)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
2182	III	TP-212	T-05	III.A8.TP-212	III.A8-3(T-05)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
2183	III	TP-212	T-05	III.A9.TP-212	III.A9-3(T-05)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
2184	III	TP-219	New Record	III.A3.TP-219		Steel components: piles

2185	III	TP-220	T-17	III.A6.TP-220	III.A6-2(T-17)	#M#Concrete (inaccessible areas): all#M#
2186	III	TP-221	New Record	III.A6.TP-221		Structural bolting
2188	III	TP-223	New Record	III.A6.TP-223		Group 6: Wooden Piles; sheeting
2195	III	TP-226	New Record	III.B1.1.TP-226		Structural Bolting
2196	III	TP-226	New Record	III.B1.2.TP-226		Structural Bolting
2197	III	TP-226	New Record	III.B1.3.TP-226		Structural bolting
2198	III	TP-229	New Record	III.B1.1.TP-229		Structural bolting

2199	III	TP-229	New Record	III.B1.2.TP-229		Structural bolting
2200	III	TP-229	New Record	III.B1.3.TP-229		Structural bolting
1698	III	TP-23	T-01	III.A1.TP-23	III.A1-6(T-01)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1699	III	TP-23	T-01	III.A2.TP-23	III.A2-6(T-01)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1700	III	TP-23	T-01	III.A3.TP-23	III.A3-6(T-01)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1701	III	TP-23	T-01	III.A5.TP-23	III.A5-6(T-01)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1702	III	TP-23	T-01	III.A7.TP-23	III.A7-5(T-01)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1703	III	TP-23	T-01	III.A8.TP-23	III.A8-5(T-01)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1704	III	TP-23	T-01	III.A9.TP-23	III.A9-5(T-01)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
2201	III	TP-232	New Record	III.B1.1.TP-232		Structural bolting
2202	III	TP-232	New Record	III.B1.2.TP-232		Structural bolting
2203	III	TP-232	New Record	III.B1.3.TP-232		Structural bolting

2204	III	TP-235	New Record	III.B1.1.TP-235		Structural bolting
2205	III	TP-235	New Record	III.B1.2.TP-235		Structural bolting
2206	III	TP-235	New Record	III.B1.3.TP-235		Structural bolting
1705	III	TP-24	T-02	III.A1.TP-24	III.A1-7(T-02)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1706	III	TP-24	T-02	III.A2.TP-24	III.A2-7(T-02)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1707	III	TP-24	T-02	III.A3.TP-24	III.A3-7(T-02)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1708	III	TP-24	T-02	III.A5.TP-24	III.A5-7(T-02)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1709	III	TP-24	T-02	III.A7.TP-24	III.A7-6(T-02)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1710	III	TP-24	T-02	III.A8.TP-24	III.A8-6(T-02)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1711	III	TP-24	T-02	III.A9.TP-24	III.A9-6(T-02)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#

2207	III	TP-248	New Record	III.A1.TP-248		Structural bolting
2208	III	TP-248	New Record	III.A2.TP-248		Structural bolting
2209	III	TP-248	New Record	III.A3.TP-248		Structural bolting
2210	III	TP-248	New Record	III.A4.TP-248		Structural bolting
2211	III	TP-248	New Record	III.A5.TP-248		Structural bolting
2212	III	TP-248	New Record	III.A6.TP-248		Structural bolting
2213	III	TP-248	New Record	III.A7.TP-248		Structural bolting
2214	III	TP-248	New Record	III.A8.TP-248		Structural bolting
2215	III	TP-248	New Record	III.A9.TP-248		Structural bolting
2216	III	TP-248	New Record	III.B2.TP-248		Structural bolting
2217	III	TP-248	New Record	III.B3.TP-248		Structural bolting
2218	III	TP-248	New Record	III.B4.TP-248		Structural bolting
2219	III	TP-248	New Record	III.B5.TP-248		Structural bolting

1712	III	TP-25	T-03	III.A1.TP-25	III.A1-2(T-03)	#M#Concrete (accessible areas): all#M#
1713	III	TP-25	T-03	III.A2.TP-25	III.A2-2(T-03)	#M#Concrete (accessible areas): all#M#
1714	III	TP-25	T-03	III.A3.TP-25	III.A3-2(T-03)	#M#Concrete (accessible areas): all#M#
1715	III	TP-25	T-03	III.A4.TP-25	III.A4-2(T-03)	#M#Concrete (accessible areas): all#M#
1716	III	TP-25	T-03	III.A5.TP-25	III.A5-2(T-03)	#M#Concrete (accessible areas): all#M#
1717	III	TP-25	T-03	III.A7.TP-25	III.A7-1(T-03)	#M#Concrete (accessible areas): all#M#
1718	III	TP-25	T-03	III.A8.TP-25	III.A8-1(T-03)	#M#Concrete (accessible areas): all#M#
1719	III	TP-25	T-03	III.A9.TP-25	III.A9-1(T-03)	#M#Concrete (accessible areas): all#M#
1720	III	TP-26	T-04	III.A1.TP-26	III.A1-9(T-04)	#M#Concrete (accessible areas): interior and above-grade exterior#M#
1721	III	TP-26	T-04	III.A2.TP-26	III.A2-9(T-04)	#M#Concrete (accessible areas): interior and above-grade exterior#M#
1722	III	TP-26	T-04	III.A3.TP-26	III.A3-9(T-04)	#M#Concrete (accessible areas): interior and above-grade exterior#M#
1723	III	TP-26	T-04	III.A4.TP-26	III.A4-3(T-04)	#M#Concrete (accessible areas): interior and above-grade exterior#M#

1724	III	TP-26	T-04	III.A5.TP-26	III.A5-9(T-04)	#M#Concrete (accessible areas): interior and above-grade exterior#M#
1725	III	TP-26	T-04	III.A7.TP-26	III.A7-8(T-04)	#M#Concrete (accessible areas): interior and above-grade exterior#M#
1726	III	TP-26	T-04	III.A9.TP-26	III.A9-8(T-04)	#M#Concrete (accessible areas): interior and above-grade exterior#M#
2220	III	TP-261	New Record	III.A1.TP-261		Structural bolting
2221	III	TP-261	New Record	III.A2.TP-261		Structural bolting
2222	III	TP-261	New Record	III.A3.TP-261		Structural bolting
2223	III	TP-261	New Record	III.A4.TP-261		Structural bolting
2224	III	TP-261	New Record	III.A5.TP-261		Structural bolting
2225	III	TP-261	New Record	III.A6.TP-261		Structural bolting
2226	III	TP-261	New Record	III.A7.TP-261		Structural bolting
2227	III	TP-261	New Record	III.A8.TP-261		Structural bolting
2228	III	TP-261	New Record	III.A9.TP-261		Structural bolting
2229	III	TP-261	New Record	III.B2.TP-261		Structural bolting
2230	III	TP-261	New Record	III.B3.TP-261		Structural bolting
2231	III	TP-261	New Record	III.B4.TP-261		Structural bolting

2232	III	TP-261	New Record	III.B5.TP-261		Structural bolting
1727	III	TP-27	T-05	III.A1.TP-27	III.A1-4(T-05)	#M#Concrete (accessible areas): below-grade exterior; foundation#M#
1728	III	TP-27	T-05	III.A2.TP-27	III.A2-4(T-05)	#M#Concrete (accessible areas): below-grade exterior; foundation#M#
1729	III	TP-27	T-05	III.A3.TP-27	III.A3-4(T-05)	#M#Concrete (accessible areas): below-grade exterior; foundation#M#
1730	III	TP-27	T-05	III.A5.TP-27	III.A5-4(T-05)	#M#Concrete (accessible areas): below-grade exterior; foundation#M#
1731	III	TP-27	T-05	III.A7.TP-27	III.A7-3(T-05)	#M#Concrete (accessible areas): below-grade exterior; foundation#M#
1732	III	TP-27	T-05	III.A8.TP-27	III.A8-3(T-05)	#M#Concrete (accessible areas): below-grade exterior; foundation#M#
1733	III	TP-27	T-05	III.A9.TP-27	III.A9-3(T-05)	#M#Concrete (accessible areas): below-grade exterior; foundation#M#
2233	III	TP-274	New Record	III.A1.TP-274		Structural bolting
2234	III	TP-274	New Record	III.A2.TP-274		Structural bolting
2235	III	TP-274	New Record	III.A3.TP-274		Structural bolting

2236	III	TP-274	New Record	III.A4.TP-274		Structural bolting
2237	III	TP-274	New Record	III.A5.TP-274		Structural bolting
2239	III	TP-274	New Record	III.A7.TP-274		Structural bolting
2240	III	TP-274	New Record	III.A8.TP-274		Structural bolting
2241	III	TP-274	New Record	III.A9.TP-274		Structural bolting
2242	III	TP-274	New Record	III.B2.TP-274		Structural bolting
2243	III	TP-274	New Record	III.B3.TP-274		Structural bolting
2244	III	TP-274	New Record	III.B4.TP-274		Structural bolting
2245	III	TP-274	New Record	III.B5.TP-274		Structural bolting
1734	III	TP-28	T-06	III.A1.TP-28	III.A1-10(T-06)	Concrete: interior; above-grade exterior
1735	III	TP-28	T-06	III.A2.TP-28	III.A2-10(T-06)	Concrete: interior; above-grade exterior

1736	III	TP-28	T-06	III.A3.TP-28	III.A3-10(T-06)	Concrete: interior; above-grade exterior
1737	III	TP-28	T-06	III.A4.TP-28	III.A4-4(T-06)	Concrete: interior; above-grade exterior
1738	III	TP-28	T-06	III.A5.TP-28	III.A5-10(T-06)	Concrete: interior; above-grade exterior
1739	III	TP-28	T-06	III.A7.TP-28	III.A7-9(T-06)	Concrete: interior; above-grade exterior
1740	III	TP-28	T-06	III.A9.TP-28	III.A9-9(T-06)	Concrete: interior; above-grade exterior
1741	III	TP-29	T-07	III.A1.TP-29	III.A1-5(T-07)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
1742	III	TP-29	T-07	III.A2.TP-29	III.A2-5(T-07)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#

1743	III	TP-29	T-07	III.A3.TP-29	III.A3-5(T-07)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
1744	III	TP-29	T-07	III.A5.TP-29	III.A5-5(T-07)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
1745	III	TP-29	T-07	III.A7.TP-29	III.A7-4(T-07)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
1746	III	TP-29	T-07	III.A8.TP-29	III.A8-4(T-07)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
1747	III	TP-29	T-07	III.A9.TP-29	III.A9-4(T-07)	#M#Concrete (inaccessible areas): below-grade exterior; foundation#M#
515	III	TP-3		III.B1.1.TP-3	III.B1.1-8(TP-3)	Support members; welds; bolted connections; support anchorage to building structure
517	III	TP-3		III.B1.3.TP-3	III.B1.3-6(TP-3)	Support members; welds; bolted connections; support anchorage to building structure
516	III	TP-3		III.B1-2.TP-3	III.B1.2-6(TP-3)	Support members; welds; bolted connections; support anchorage to building structure

518	III	TP-3		III.B2.TP-3	III.B2-6(TP-3)	Support members; welds; bolted connections; support anchorage to building structure
519	III	TP-3		III.B3.TP-3	III.B3-4(TP-3)	Support members; welds; bolted connections; support anchorage to building structure
327	III	TP-3		III.B4.TP-3	III.B4-6(TP-3)	Support members; welds; bolted connections; support anchorage to building structure
328	III	TP-3		III.B5.TP-3	III.B5-4(TP-3)	Support members; welds; bolted connections; support anchorage to building structure
1748	III	TP-30	T-08	III.A1.TP-30	III.A1-3(T-08)	Concrete: all
1749	III	TP-30	T-08	III.A2.TP-30	III.A2-3(T-08)	Concrete: all
1750	III	TP-30	T-08	III.A3.TP-30	III.A3-3(T-08)	Concrete: all
1751	III	TP-30	T-08	III.A5.TP-30	III.A5-3(T-08)	Concrete: all

1752	III	TP-30	T-08	III.A6.TP-30	III.A6-4(T-08)	Concrete: all
1753	III	TP-30	T-08	III.A7.TP-30	III.A7-2(T-08)	Concrete: all
1754	III	TP-30	T-08	III.A8.TP-30	III.A8-2(T-08)	Concrete: all
1755	III	TP-30	T-08	III.A9.TP-30	III.A9-2(T-08)	Concrete: all
2259	III	TP-300	New Record	III.A1.TP-300		High-strength structural bolting
2260	III	TP-300	New Record	III.A2.TP-300		High-strength structural bolting
2261	III	TP-300	New Record	III.A3.TP-300		High-strength structural bolting

2262	III	TP-300	New Record	III.A4.TP-300		High-strength structural bolting
2263	III	TP-300	New Record	III.A5.TP-300		High-strength structural bolting
2265	III	TP-300	New Record	III.A7.TP-300		High-strength structural bolting
2266	III	TP-300	New Record	III.A8.TP-300		High-strength structural bolting
2267	III	TP-300	New Record	III.A9.TP-300		High-strength structural bolting
2268	III	TP-300	New Record	III.B2.TP-300		High-strength structural bolting
2269	III	TP-300	New Record	III.B3.TP-300		High-strength structural bolting

2270	III	TP-300	New Record	III.B4.TP-300		High-strength structural bolting
2271	III	TP-300	New Record	III.B5.TP-300		High-strength structural bolting
2272	III	TP-301	New Record	III.A4.TP-301		Service Level I coatings
2294	III	TP-302	T-11	III.A1.TP-302	III.A1-12(T-11)	Steel components: all structural steel
2295	III	TP-302	T-11	III.A2.TP-302	III.A2-12(T-11)	Steel components: all structural steel
2296	III	TP-302	T-11	III.A3.TP-302	III.A3-12(T-11)	Steel components: all structural steel
2297	III	TP-302	T-11	III.A4.TP-302	III.A4-5(T-11)	Steel components: all structural steel

2298	III	TP-302	T-11	III.A5.TP-302	III.A5-12(T-11)	Steel components: all structural steel
2299	III	TP-302	T-11	III.A7.TP-302	III.A7-10(T-11)	Steel components: all structural steel
2300	III	TP-302	T-11	III.A8.TP-302	III.A8-8(T-11)	Steel components: all structural steel
2729	III	TP-304	New Record	III.A4.TP-304		Concrete: all
2730	III	TP-305	New Record	III.A4.TP-305		Concrete (inaccessible areas): exterior above- and below-grade; foundation

1756	III	TP-31	T-09	III.A1.TP-31	III.A1-8(T-09)	Concrete: foundation; subfoundation
1757	III	TP-31	T-09	III.A2.TP-31	III.A2-8(T-09)	Concrete: foundation; subfoundation
1758	III	TP-31	T-09	III.A3.TP-31	III.A3-8(T-09)	Concrete: foundation; subfoundation
1759	III	TP-31	T-09	III.A5.TP-31	III.A5-8(T-09)	Concrete: foundation; subfoundation
1760	III	TP-31	T-09	III.A6.TP-31	III.A6-8(T-09)	Concrete: foundation; subfoundation
1761	III	TP-31	T-09	III.A7.TP-31	III.A7-7(T-09)	Concrete: foundation; subfoundation
1762	III	TP-31	T-09	III.A8.TP-31	III.A8-7(T-09)	Concrete: foundation; subfoundation

1763	III	TP-31	T-09	III.A9.TP-31	III.A9-7(T-09)	Concrete: foundation; subfoundation
1772	III	TP-34	New Record	III.A5.TP-34		Masonry walls: all
1773	III	TP-35	T-13	III.A4.TP-35	III.A4-6(T-13)	#M#Sliding surfaces: radial beam seats in BWR drywell#M#
1774	III	TP-36	T-15	III.A6.TP-36	III.A6-5(T-15)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation#M#
1775	III	TP-37	T-16	III.A6.TP-37	III.A6-6(T-16)	#M#Concrete (accessible areas): exterior above- and below-grade; foundation; interior slab#M#
1776	III	TP-38	T-18	III.A6.TP-38	III.A6-1(T-18)	#M#Concrete (accessible areas): all#M#
329	III	TP-4		III.B1.1.TP-4	III.B1.1-10(TP-4)	Support members; welds; bolted connections; support anchorage to building structure
330	III	TP-4		III.B1.2.TP-4	III.B1.2-8(TP-4)	Support members; welds; bolted connections; support anchorage to building structure
331	III	TP-4		III.B1.3.TP-4	III.B1.3-8(TP-4)	Support members; welds; bolted connections; support anchorage to building structure

332	III	TP-4		III.B2.TP-4	III.B2-9(TP-4)	Support members; welds; bolted connections; support anchorage to building structure
333	III	TP-4		III.B3.TP-4	III.B3-6(TP-4)	Support members; welds; bolted connections; support anchorage to building structure
334	III	TP-4		III.B4.TP-4	III.B4-9(TP-4)	Support members; welds; bolted connections; support anchorage to building structure
335	III	TP-4		III.B5.TP-4	III.B5-6(TP-4)	Support members; welds; bolted connections; support anchorage to building structure
1779	III	TP-41	T-27	III.B1.1.TP-41	III.B1.1-3(T-27)	#M#High-strength structural bolting#M#
2191	III	TP-41		III.B2.TP-41		High-strength structural bolting
2192	III	TP-41		III.B3.TP-41		High-strength structural bolting
1780	III	TP-42	T-29	III.B1.1.TP-42	III.B1.1-1(T-29)	Building concrete at locations of expansion and grouted anchors; grout pads for support base plates

1781	III	TP-42	T-29	III.B1.2.TP-42	III.B1.2-1(T-29)	Building concrete at locations of expansion and grouted anchors; grout pads for support base plates
1782	III	TP-42	T-29	III.B1.3.TP-42	III.B1.3-1(T-29)	Building concrete at locations of expansion and grouted anchors; grout pads for support base plates
1783	III	TP-42	T-29	III.B2.TP-42	III.B2-1(T-29)	Building concrete at locations of expansion and grouted anchors; grout pads for support base plates
1784	III	TP-42	T-29	III.B3.TP-42	III.B3-1(T-29)	Building concrete at locations of expansion and grouted anchors; grout pads for support base plates
1785	III	TP-42	T-29	III.B4.TP-42	III.B4-1(T-29)	Building concrete at locations of expansion and grouted anchors; grout pads for support base plates
1786	III	TP-42	T-29	III.B5.TP-42	III.B5-1(T-29)	Building concrete at locations of expansion and grouted anchors; grout pads for support base plates

1787	III	TP-43	T-30	III.B2.TP-43	III.B2-10(T-30)	Support members; welds; bolted connections; support anchorage to building structure
1788	III	TP-43	T-30	III.B3.TP-43	III.B3-7(T-30)	Support members; welds; bolted connections; support anchorage to building structure
1789	III	TP-43	T-30	III.B4.TP-43	III.B4-10(T-30)	Support members; welds; bolted connections; support anchorage to building structure
1790	III	TP-43	T-30	III.B5.TP-43	III.B5-7(T-30)	Support members; welds; bolted connections; support anchorage to building structure
1791	III	TP-44	T-31	III.B4.TP-44	III.B4-12(T-31)	Vibration isolation elements
1792	III	TP-45	T-32	III.B1.1.TP-45	III.B1.1-5(T-32)	Sliding surfaces
1793	III	TP-45	T-32	III.B1.2.TP-45	III.B1.2-3(T-32)	Sliding surfaces
1794	III	TP-45	T-32	III.B1.3.TP-45	III.B1.3-3(T-32)	Sliding surfaces
1795	III	TP-46	TP-1	III.B2.TP-46	III.B2-2(TP-1)	Sliding support bearings; sliding support surfaces
1796	III	TP-46	TP-1	III.B4.TP-46	III.B4-2(TP-1)	Sliding support bearings; sliding support surfaces

1797	III	TP-47	TP-2	III.B2.TP-47	III.B2-3(TP-2)	Sliding support bearings; sliding support surfaces
1798	III	TP-47	TP-2	III.B4.TP-47	III.B4-3(TP-2)	Sliding support bearings; sliding support surfaces
343	III	TP-6		III.B2.TP-6	III.B2-7(TP-6)	Support members; welds; bolted connections; support anchorage to building structure
344	III	TP-6		III.B4.TP-6	III.B4-7(TP-6)	Support members; welds; bolted connections; support anchorage to building structure
2144	III	TP-67	T-02	III.A1.TP-67	III.A1-7(T-02)	#M#Concrete (inaccessible areas): exterior above- and below-grade; foundation#M#

1933	III	TP-67	T-02	III.A2.TP-67	III.A2-7(T-02)	#M#Concrete (inaccessible areas): exterior above- and below-grade; foundation#M#
2145	III	TP-67	T-02	III.A3.TP-67	III.A3-7(T-02)	#M#Concrete (inaccessible areas): exterior above- and below-grade; foundation#M#

2146	III	TP-67	T-02	III.A5.TP-67	III.A5-7(T-02)	#M#Concrete (inaccessible areas): exterior above- and below-grade; foundation#M#
2147	III	TP-67	T-02	III.A7.TP-67	III.A7-6(T-02)	#M#Concrete (inaccessible areas): exterior above- and below-grade; foundation#M#

2148	III	TP-67	T-02	III.A8.TP-67	III.A8-6(T-02)	#M#Concrete (inaccessible areas): exterior above- and below-grade; foundation#M#
2149	III	TP-67	T-02	III.A9.TP-67	III.A9-6(T-02)	#M#Concrete (inaccessible areas): exterior above- and below-grade; foundation#M#
345	III	TP-7		III.A6.TP-7	III.A6-12(TP-7)	Seals; gasket; moisture barriers (caulking, flashing, and other sealants)
346	III	TP-8		III.B1.1.TP-8	III.B1.1-6(TP-8) III.B1.1-7(TP-11)	Support members; welds; bolted connections; support anchorage to building structure
347	III	TP-8		III.B1.2.TP-8	III.B1.2-4(TP-8) III.B1.2-5(TP-11)	Support members; welds; bolted connections; support anchorage to building structure

348	III	TP-8		III.B1-3.TP-8	III.B1.3-4(TP-8) III.B1.3-5(TP-11)	Support members; welds; bolted connections; support anchorage to building structure
349	III	TP-8		III.B2.TP-8	III.B2-4(TP-8) III.B2-8(TP-5)	Support members; welds; bolted connections; support anchorage to building structure
350	III	TP-8		III.B3.TP-8	III.B3-2(TP-8) III.B3-5(TP-5)	Support members; welds; bolted connections; support anchorage to building structure
351	III	TP-8		III.B4.TP-8	III.B4-4(TP-8) III.B4-8(TP-5)	Support members; welds; bolted connections; support anchorage to building structure
352	III	TP-8		III.B5.TP-8	III.B5-2(TP-8) III.B5-5(TP-5)	Support members; welds; bolted connections; support anchorage to building structure
880	IV	R-04		IV.A1.R-04	IV.A1-7(R-04)	Reactor vessel components: flanges; nozzles; penetrations; safe ends; thermal sleeves; vessel shells, heads and welds
530	IV	R-05		IV.C2.R-05	IV.C2-3(R-05)	Class 1 piping, piping components, and piping elements

534	IV	R-08		IV.C1.R-08	IV.C1-3(R-08)	Class 1 pump casings; valve bodies and bonnets
535	IV	R-08		IV.C2.R-08	IV.C2-6(R-08)	Class 1 pump casings; valve bodies and bonnets
536	IV	R-09		IV.C2.R-09	IV.C2-5(R-09)	Class 1 pump casings; valve bodies
537	IV	R-10		IV.D1.R-10	IV.D1-2(R-10)	Closure bolting
538	IV	R-100		IV.B1.R-100	IV.B1-13(R-100)	Jet pump assemblies: thermal sleeve; inlet header; riser brace arm; holddown beams; inlet elbow; mixing assembly; diffuser castings
542	IV	R-104		IV.B1.R-104	IV.B1-8(R-104)	Fuel supports and control rod drive assemblies: control rod drive housing
543	IV	R-105		IV.B1.R-105	IV.B1-10(R-105)	Instrumentation: Intermediate range monitor (IRM) dry tubes; source range monitor (SRM) dry tubes; incore neutron flux monitor guide tubes

881	IV	R-11		IV.C2.R-11	IV.C2-7(R-11)	Closure bolting
892	IV	R-12		IV.C2.R-12	IV.C2-8(R-12)	Closure bolting
905	IV	R-13		IV.C2.R-13	IV.C2-23(R-13)	Pressurizer relief tank: tank shell and heads; flanges; nozzles
910	IV	R-15		IV.C1.R-15	IV.C1-4(R-15)	Isolation condenser components
914	IV	R-17		IV.A2.R-17	IV.A2-13(R-17)	External surfaces
472	IV	R-17		IV.C2.R-17	IV.C2-9(R-17)	External surfaces
473	IV	R-17		IV.D1.R-17	IV.D1-3(R-17)	External surfaces
577	IV	R-17		IV.D2.R-17	IV.D2-1(R-17)	External surfaces
588	IV	R-18		IV.C2.R-18	IV.C2-10(R-18)	Piping and components (External surfaces); bolting

919	IV	R-19		IV.C2.R-19	IV.C2-16(R-19)	Pressurizer: integral support
950	IV	R-20		IV.C1.R-20	IV.C1-9(R-20)	Piping, piping components, and piping elements greater than or equal to 4 NPS
960	IV	R-21		IV.C1.R-21	IV.C1-8(R-21)	Piping, piping components, and piping elements greater than or equal to 4 NPS
968	IV	R-217		IV.C2.R-217	IV.C2-20(R-217)	Pressurizer heater sheaths and sleeves; heater bundle diaphragm plate
969	IV	R-219		IV.A2.R-219	IV.A2-21(R-219)	Reactor vessel components: flanges; nozzles; penetrations; pressure housings; safe ends; thermal sleeves; vessel shells, heads and welds
970	IV	R-220		IV.C1.R-220	IV.C1-15(R-220)	Reactor coolant pressure boundary components: piping, piping components, and piping elements
971	IV	R-221		IV.D1.R-221	IV.D1-8(R-221)	Recirculating steam generator components: flanges; penetrations; nozzles; safe ends; lower heads and welds
972	IV	R-222		IV.D2.R-222	IV.D2-3(R-222)	Once-through steam generator components: primary side nozzles, safe ends, and welds

973	IV	R-223		IV.C2.R-223	IV.C2-25(R-223)	Reactor coolant pressure boundary components: piping, piping components, and piping elements; flanges; nozzles and safe ends; pressurizer vessel shell heads and welds; heater sheaths and sleeves; penetrations; thermal sleeves
975	IV	R-225		IV.C1.R-225	IV.C1-5(R-225)	Isolation condenser components
976	IV	R-226		IV.D2.R-226	IV.D2-13(R-226)	Tubes
977	IV	R-23		IV.C1.R-23	IV.C1-7(R-23)	Piping, piping components, and piping elements
979	IV	R-25		IV.C2.R-25	IV.C2-19(R-25)	Pressurizer components
984	IV	R-30		IV.C2.R-30	IV.C2-27(R-30)	Reactor coolant system piping and fittings: cold leg; hot leg; surge line; spray line
985	IV	R-31		IV.D2.R-31	IV.D2-5(R-31)	Secondary manway covers; handhole covers

550	IV	R-33		IV.D1.R-33	IV.D1-11(R-33)	Steam generator components: top head; steam nozzle and safe end; upper and lower shell; feedwater (FW) and auxiliary FW nozzle and safe end; FW impingement plate and support
551	IV	R-33		IV.D2.R-33	IV.D2-10(R-33)	Steam generator components: top head; steam nozzle and safe end; upper and lower shell; feedwater (FW) and auxiliary FW nozzle and safe end; FW impingement plate and support
554	IV	R-36		IV.D2.R-36	IV.D2-9(R-36)	Steam generator components: secondary side nozzles (vent, drain, and instrumentation)
555	IV	R-37		IV.D1.R-37	IV.D1-5(R-37)	Pressure boundary and structural: steam nozzle and safe end; feedwater nozzle and safe end
556	IV	R-38		IV.D2.R-38	IV.D2-7(R-38)	Steam generator components: feedwater (FW) and auxiliary FW nozzles and safe ends; steam nozzles and safe ends
557	IV	R-39		IV.D1.R-39	IV.D1-13(R-39)	Steam generator feedwater impingement plate and support
558	IV	R-40		IV.D1.R-40	IV.D1-18(R-40)	Tube plugs
559	IV	R-40		IV.D2.R-40	IV.D2-12(R-40)	Tube plugs
561	IV	R-42		IV.D1.R-42	IV.D1-17(R-42)	Steam generator structural: tube support plates
562	IV	R-42		IV.D2.R-42	IV.D2-11(R-42)	Steam generator structural: tube support plates

563	IV	R-43		IV.D1.R-43	IV.D1-19(R-43)	Tubes
564	IV	R-44		IV.D1.R-44	IV.D1-20(R-44)	Tubes and sleeves
565	IV	R-44		IV.D2.R-44	IV.D2-14(R-44)	Tubes and sleeves
566	IV	R-46		IV.D1.R-46	IV.D1-21(R-46)	Tubes and sleeves
567	IV	R-46		IV.D2.R-46	IV.D2-15(R-46)	Tubes and sleeves
986	IV	R-47		IV.D1.R-47	IV.D1-23(R-47)	Tubes and sleeves
987	IV	R-47		IV.D2.R-47	IV.D2-17(R-47)	Tubes and sleeves
988	IV	R-48		IV.D1.R-48	IV.D1-22(R-48)	Tubes and sleeves
989	IV	R-48		IV.D2.R-48	IV.D2-16(R-48)	Tubes and sleeves
992	IV	R-50		IV.D1.R-50	IV.D1-25(R-50)	Tubes and sleeves (exposed to phosphate chemistry)
474	IV	R-52		IV.C1.R-52	IV.C1-2(R-52)	Class 1 piping, piping components, and piping elements
475	IV	R-52		IV.C2.R-52	IV.C2-4(R-52)	Class 1 piping, piping components, and piping elements

476	IV	R-53		IV.B1.R-53	IV.B1-14(R-53)	Reactor vessel internal components
479	IV	R-53		IV.B4.R-53	IV.B4-37(R-53)	Reactor vessel internal components
480	IV	R-56		IV.C2.R-56	IV.C2-26(R-56)	Reactor coolant system piping and fittings: cold leg; hot leg; surge line; spray line
481	IV	R-58		IV.C2.R-58	IV.C2-18(R-58)	Pressurizer components
484	IV	R-61		IV.A1.R-61	IV.A1-10(R-61)	Top head enclosure: vessel flange leak detection line

485	IV	R-62		IV.A1.R-62	IV.A1-13(R-62)	Vessel shell: intermediate beltline shell; beltline welds
487	IV	R-64		IV.A1.R-64	IV.A1-12(R-64)	Vessel shell: attachment welds
488	IV	R-65		IV.A1.R-65	IV.A1-3(R-65)	Nozzles: feedwater
489	IV	R-66		IV.A1.R-66	IV.A1-2(R-66)	Nozzles: control rod drive return line

490	IV	R-67		IV.A1.R-67	IV.A1-4(R-67)	Nozzles: low-pressure coolant injection or RHR injection mode
491	IV	R-68		IV.A1.R-68	IV.A1-1(R-68)	Nozzle safe ends and welds: high-pressure core spray; low pressure core spray; control rod drive return line; recirculating water; low pressure coolant injection or RHR injection mode
684	IV	R-70		IV.A1.R-70	IV.A1-6(R-70)	Pressure vessel support skirt and attachment welds
685	IV	R-70		IV.A2.R-70	IV.A2-20(R-70)	Pressure vessel support skirt and attachment welds

689	IV	R-74		IV.A2.R-74	IV.A2-5(R-74)	Closure head: vessel flange leak detection line
692	IV	R-77		IV.A2.R-77	IV.A2-10(R-77)	Control rod drive head penetration: pressure housing
693	IV	R-78		IV.A2.R-78	IV.A2-6(R-78)	Control rod drive head penetration: flange bolting
694	IV	R-79		IV.A2.R-79	IV.A2-7(R-79)	Control rod drive head penetration: flange bolting
695	IV	R-80		IV.A2.R-80	IV.A2-8(R-80)	Control rod drive head penetration: Flange bolting
696	IV	R-81		IV.A2.R-81	IV.A2-16(R-81)	Nozzles: inlet; outlet; safety injection

699	IV	R-84		IV.A2.R-84	IV.A2-23(R-84)	Vessel shell: upper shell; intermediate shell; lower shell (including beltline welds)
700	IV	R-85		IV.A2.R-85	IV.A2-22(R-85)	Vessel shell: upper shell; intermediate shell; lower shell (including beltline welds)
923	IV	R-87		IV.A2.R-87	IV.A2-25(R-87)	Vessel shell: vessel flange

926	IV	R-90		IV.A2.R-90	IV.A2-18(R-90)	Penetrations: head vent pipe (top head); instrument tubes (top head)
927	IV	R-92		IV.B1.R-92	IV.B1-1(R-92)	Core shroud (including repairs) and core plate: core shroud (upper, central, lower)
928	IV	R-93		IV.B1.R-93	IV.B1-6(R-93)	Core shroud and core plate: core plate and plate bolts (used in early BWRs)
929	IV	R-94		IV.B1.R-94	IV.B1-5(R-94)	Core shroud and core plate: access hole cover (welded)
930	IV	R-95		IV.B1.R-95	IV.B1-4(R-95)	Core shroud and core plate: access hole cover (mechanical)
931	IV	R-96		IV.B1.R-96	IV.B1-2(R-96)	Core shroud (including repairs) and core plate: shroud support structure (shroud support cylinder, shroud support plate, shroud support legs)

932	IV	R-97		IV.B1.R-97	IV.B1-3(R-97)	Core shroud and core plate: LPCI coupling
933	IV	R-98		IV.B1.R-98	IV.B1-17(R-98)	Top guide
934	IV	R-99		IV.B1.R-99	IV.B1-7(R-99)	Core spray lines and spargers: core spray lines (headers); spray rings; spray nozzles; thermal sleeves
936	IV	RP-03		IV.E.RP-03	IV.E-1(RP-03)	Piping, piping components, and piping elements
937	IV	RP-04		IV.E.RP-04	IV.E-2(RP-04)	Piping, piping components, and piping elements
938	IV	RP-05		IV.E.RP-05	IV.E-3(RP-05)	Piping, piping components, and piping elements
939	IV	RP-06		IV.E.RP-06	IV.E-4(RP-06)	Piping, piping components, and piping elements
940	IV	RP-07		IV.E.RP-07	IV.E-5(RP-07)	Piping, piping components, and piping elements
994	IV	RP-12		IV.C2.RP-12	IV.C2-12(RP-12)	Piping, piping components, and piping elements
1401	IV	RP-153	R-224	IV.D2.RP-153	IV.D2-8(R-224)	Steam generator components: shell assembly
1402	IV	RP-154	RP-13	IV.A2.RP-154	IV.A2-1(RP-13)	#M#Bottom-mounted instrument guide tube (external to bottom head)#M#
1403	IV	RP-155	RP-18	IV.B1.RP-155	IV.B1-16(RP-18)	Steam dryers

1404	IV	RP-156	RP-22	IV.C2.RP-156	IV.C2-24(RP-22)	Pressurizer surge and steam space nozzles; welds
1405	IV	RP-157	RP-25	IV.A1.RP-157	IV.A1-8(RP-25)	Reactor Vessel: flanges; nozzles; penetrations; safe ends; vessel shells, heads and welds
1406	IV	RP-158	RP-27	IV.C1.RP-158	IV.C1-14(RP-27)	Reactor coolant pressure boundary components
1407	IV	RP-159	RP-31	IV.C2.RP-159	IV.C2-13(RP-31)	Piping, piping components, and piping elements
1408	IV	RP-161	RP-16	IV.D1.RP-161	IV.D1-9(RP-16)	#M#Steam generator: Tube bundle wrapper and associated supports and mounting hardware#M#
1409	IV	RP-162	New Record	IV.D2.RP-162		Steam generator: tube bundle wrapper and associated supports and mounting hardware
1412	IV	RP-165	New Record	IV.A1.RP-165		Top head enclosure: closure studs and nuts
1413	IV	RP-166	New Record	IV.C2.RP-166		Closure bolting
1414	IV	RP-167	New Record	IV.C2.RP-167		Closure bolting

999	IV	RP-17		IV.D1.RP-17	IV.D1-7(RP-17)	Primary side components: divider plate
1870	IV	RP-182	New Record	IV.B1.RP-182		Reactor vessel internals components
1891	IV	RP-186	R-75	IV.A2.RP-186	IV.A2-9(R-75)	Control rod drive head penetration: nozzle welds
2167	IV	RP-200	New Record	IV.B1.RP-200		Reactor vessel internals components
2168	IV	RP-201	New Record	IV.A1.RP-201		Top head enclosure: closure studs and nuts
2290	IV	RP-219	R-101	IV.B1.RP-219	IV.B1-11(R-101)	Jet pump assemblies: castings
2291	IV	RP-220	R-103	IV.B1.RP-220	IV.B1-9(R-103)	Fuel supports and control rod drive assemblies: orificed fuel support
2292	IV	RP-221	RP-10	IV.C2.RP-221	IV.C2-14(RP-10)	Piping, piping components, and piping elements
2293	IV	RP-222	RP-11	IV.C2.RP-222	IV.C2-11(RP-11)	Piping, piping components, and piping elements

2336	IV	RP-225	RP-15	IV.D1.RP-225	IV.D1-15(RP-15)	Steam generator structural: U-bend supports including anti-vibration bars
2337	IV	RP-226	RP-15	IV.D1.RP-226	IV.D1-15(RP-15)	Steam generator structural: U-bend supports including anti-vibration bars
2338	IV	RP-227	R-63	IV.A1.RP-227	IV.A1-14(R-63)	#M#Vessel shell (including applicable beltline) components: shell; shell plates or forgings; shell welds; nozzle plates or forgings; nozzle welds #M#
2339	IV	RP-228	R-82	IV.A2.RP-228	IV.A2-17(R-82)	Nozzles: inlet; outlet; safety injection
2340	IV	RP-229	R-86	IV.A2.RP-229	IV.A2-24(R-86)	Vessel shell: upper shell; intermediate shell; lower shell (including beltline welds)
1003	IV	RP-23		IV.C2.RP-23	IV.C2-15(RP-23)	Piping, piping components, and piping elements; flanges; heater sheaths and sleeves; penetrations; thermal sleeves; vessel shell heads and welds
2341	IV	RP-230	R-03	IV.C1.RP-230	IV.C1-1(R-03)	Class 1 piping, fittings and branch connections < NPS 4
2342	IV	RP-231	R-14	IV.C2.RP-231	IV.C2-22(R-14)	Pressurizer relief tank: tank shell and heads; flanges; nozzles
2344	IV	RP-232	R-07	IV.D1.RP-232	IV.D1-1(R-07)	#M#Steam generator: primary nozzles; nozzle to safe end welds; manways; flanges#M#

2345	IV	RP-233	R-49	IV.D1.RP-233	IV.D1-24(R-49)	Tubes and sleeves
2346	IV	RP-233	R-49	IV.D2.RP-233	IV.D2-18(R-49)	Tubes and sleeves
2347	IV	RP-234	R-83	IV.A2.RP-234	IV.A2-15(R-83)	Nozzle safe ends and welds: inlet; outlet; safety injection
2348	IV	RP-235	R-02	IV.C2.RP-235	IV.C2-1(R-02)	Class 1 piping, fittings and branch connections < NPS 4
2351	IV	RP-236	New Record	IV.B4.RP-236		Reactor vessel internal components with no additional measures
2352	IV	RP-237	New Record	IV.B4.RP-237		Reactor vessel internal components with no additional measures

2353	IV	RP-238	New Record	IV.B4.RP-238		Reactor vessel internal components (inaccessible locations)
2354	IV	RP-239	New Record	IV.B4.RP-239		Reactor vessel internal components (inaccessible locations)
2706	IV	RP-24		IV.B2.RP-24	IV.B2-32(RP-24)	Reactor vessel internal components
2707	IV	RP-24		IV.B3.RP-24	IV.B3-25(RP-24)	Reactor vessel internal components
1006	IV	RP-24		IV.B4.RP-24	IV.B4-38(RP-24)	Reactor vessel internal components
2355	IV	RP-240	R-128	IV.B4.RP-240	IV.B4-1(R-128) IV.B4-8(R-199)	Core barrel assembly: baffle/former assembly: (a) accessible baffle-to-former bolts and screws; (b) accessible locking devices (including welds) of baffle-to-former bolts
2356	IV	RP-241	R-125	IV.B4.RP-241	IV.B4-7(R-125)	Core barrel assembly: baffle/former assembly: (a) accessible baffle-to-former bolts and screws; (b) accessible locking devices (including welds) of baffle-to-former bolts

2357	IV	RP-242	R-183	IV.B4.RP-242	IV.B4-4(R-183)	Control rod guide tube (CRGT) assembly: accessible surfaces at four screw locations (every 90 degrees) for CRGT spacer castings
2358	IV	RP-243	R-128	IV.B4.RP-243	IV.B4-1(R-128) IV.B4-8(R-199)	Core barrel assembly; (a) external baffle-to-baffle bolts; (b) core barrel-to-former bolts; (c) locking devices (including welds) of external baffle-to-baffle bolts and core barrel-to-former bolts; (d) internal baffle-to-baffle bolts
2359	IV	RP-244	R-125	IV.B4.RP-244	IV.B4-7(R-125)	Core barrel assembly; (a) external baffle-to-baffle bolts; (b) core barrel-to-former bolts; (c) locking devices (including welds) of external baffle-to-baffle bolts and core barrel-to-former bolts
2360	IV	RP-245	R-194	IV.B4.RP-245	IV.B4-13(R-194)	Core barrel assembly: (a) upper thermal shield bolts; (b) surveillance specimen holder tube bolts (Davis-Besse, only); (c) surveillance specimen tube holder studs, and nuts (Crystal River Unit 3, only)
2361	IV	RP-246	R-196	IV.B4.RP-246	IV.B4-12(R-196)	Lower grid assembly: #*#lower thermal shield (LTS) bolts
2362	IV	RP-247	R-194	IV.B4.RP-247	IV.B4-13(R-194)	Core barrel assembly: accessible lower core barrel (LCB) bolts and locking devices

2363	IV	RP-248	R-196	IV.B4.RP-248	IV.B4-12(R-196)	Core support shield (CSS) assembly: #*#accessible upper core barrel (UCB) bolts and locking devices
2364	IV	RP-249	R-196	IV.B4.RP-249	IV.B4-12(R-196)	Core barrel assembly: baffle plate accessible surfaces within one inch around each baffle plate flow and bolt hole
2365	IV	RP-250	R-196	IV.B4.RP-250	IV.B4-12(R-196)	Core barrel assembly: core barrel cylinder (including vertical and circumferential seam welds); former plates
2366	IV	RP-251	R-190	IV.B4.RP-251	IV.B4-15(R-190)	Core support shield (CSS) assembly: CSS top flange; plenum cover assembly: plenum cover weldment rib pads and plenum cover support flange
2367	IV	RP-252	R-188	IV.B4.RP-252	IV.B4-16(R-188)	Core support shield (CSS) assembly: (a) CSS vent valve disc shaft or hinge pin (b) CSS vent valve top retaining ring (c) CSS vent valve bottom retaining ring
2368	IV	RP-253	R-191	IV.B4.RP-253	IV.B4-21(R-191)	Core support shield (CSS) assembly: (a) CSS cast outlet nozzles (Oconee Unit 3 and Davis-Besse, only); (b) CSS vent valve discs
2369	IV	RP-254	R-210	IV.B4.RP-254	IV.B4-25(R-210)	Lower grid assembly: #*#alloy X-750 lower grid shock pad bolts and locking devices (TMI-1, only)

2371	IV	RP-256	R-210	IV.B4.RP-256	IV.B4-25(R-210)	Flow distributor assembly: flow distributor bolts and locking devices
2373	IV	RP-258	R-183	IV.B4.RP-258	IV.B4-4(R-183)	Incore Monitoring Instrumentation (IMI) guide tube assembly: accessible top surfaces of IMI Incore guide tube spider castings
2374	IV	RP-259	R-205	IV.B4.RP-259	IV.B4-31(R-205)	Incore Monitoring Instrumentation (IMI) guide tube assembly: accessible top surfaces of IMI guide tube spider-to-lower grid rib sections welds
1008	IV	RP-26		IV.B1.RP-26	IV.B1-15(RP-26)	Reactor vessel internals components
2375	IV	RP-260	R-205	IV.B4.RP-260	IV.B4-31(R-205)	Lower grid assembly: (a) accessible pads; (b) accessible pad-to-rib section welds; (c) accessible alloy X-750 dowels, cap screws and locking devices
2376	IV	RP-261	R-203	IV.B4.RP-261	IV.B4-32(R-203)	Lower grid assembly: alloy X-750 dowel-to-guide block welds
2377	IV	RP-262	R-203	IV.B4.RP-262	IV.B4-32(R-203)	Lower grid assembly: accessible alloy X-750 dowel-to-lower fuel assembly support pad welds

2451	IV	RP-265	New Record	IV.B2.RP-265		Reactor vessel internal components with no additional measures
2453	IV	RP-267	New Record	IV.B2.RP-267		Reactor vessel internal components with no additional measures
2454	IV	RP-268	New Record	IV.B2.RP-268		Reactor vessel internal components (inaccessible locations)
2455	IV	RP-269	New Record	IV.B2.RP-269		Reactor vessel internal components (inaccessible locations)
2456	IV	RP-270	R-124	IV.B2.RP-270	IV.B2-1(R-124)	Baffle-to-former assembly: baffle and former plates

2457	IV	RP-271	R-125	IV.B2.RP-271	IV.B2-10(R-125)	Baffle-to-former assembly: accessible baffle-to-former bolts
2458	IV	RP-272	R-128	IV.B2.RP-272	IV.B2-6(R-128)	Baffle-to-former assembly: accessible baffle-to-former bolts
2459	IV	RP-273	R-125	IV.B2.RP-273	IV.B2-10(R-125)	Baffle-to-former assembly: barrel-to-former bolts
2460	IV	RP-274	R-128	IV.B2.RP-274	IV.B2-6(R-128)	Baffle-to-former assembly: barrel-to-former bolts
2461	IV	RP-275	R-128	IV.B2.RP-275	IV.B2-6(R-128)	Baffle-to-former assembly: baffle-edge bolts (all plants with baffle-edge bolts)
2462	IV	RP-276	R-120	IV.B2.RP-276	IV.B2-8(R-120)	Core barrel assembly: upper core barrel flange weld

2464	IV	RP-278	R-120	IV.B2.RP-278	IV.B2-8(R-120)	Core barrel assembly: core barrel outlet nozzle welds
1010	IV	RP-28		IV.A2.RP-28	IV.A2-14(RP-28)	Flanges; nozzles; penetrations; pressure housings; safe ends; vessel shells, heads welds
2466	IV	RP-280	R-120	IV.B2.RP-280	IV.B2-8(R-120)	Core barrel assembly: lower core barrel flange weld
2467	IV	RP-281	R-122	IV.B2.RP-281	IV.B2-9(R-122)	Core barrel assembly: lower core barrel flange weld
2468	IV	RP-282	R-120	IV.B2.RP-282	IV.B2-8(R-120)	Core barrel assembly: core barrel flange
2470	IV	RP-284	R-143	IV.B2.RP-284	IV.B2-12(R-143)IV.B2-13(R-145)	Bottom mounted instrument system: flux thimble tubes
2471	IV	RP-285	R-137	IV.B2.RP-285	IV.B2-14(R-137)	Lower internals assembly: clevis insert bolts
2472	IV	RP-286	R-133	IV.B2.RP-286	IV.B2-16(R-133)	Lower support assembly: lower support column bolts

2473	IV	RP-287	R-135	IV.B2.RP-287	IV.B2-17(R-135)	Lower support assembly: lower support column bolts
2474	IV	RP-288	R-132	IV.B2.RP-288	IV.B2-18(R-132)	Lower internals assembly: lower core plate and extra-long (XL) lower core plate
2475	IV	RP-289	R-130	IV.B2.RP-289	IV.B2-20(R-130)	Lower internals assembly: lower core plate and extra-long (XL) lower core plate
2476	IV	RP-290	R-140	IV.B2.RP-290	IV.B2-21(R-140)	Lower support assembly: lower support column bodies (cast)
2477	IV	RP-291	R-138	IV.B2.RP-291	IV.B2-24(R-138)	Lower support assembly: lower support column bodies (cast)
2478	IV	RP-292	R-140	IV.B2.RP-292	IV.B2-21(R-140)	Bottom-mounted instrumentation system: bottom-mounted instrumentation (BMI) column bodies
2479	IV	RP-293	R-138	IV.B2.RP-293	IV.B2-24(R-138)	Bottom-mounted instrumentation system: bottom-mounted instrumentation (BMI) column bodies
2480	IV	RP-294	R-138	IV.B2.RP-294	IV.B2-24(R-138)	Lower support assembly: lower support column bodies (non-cast)

2481	IV	RP-295	R-141	IV.B2.RP-295	IV.B2-22(R-141)	Lower support assembly: lower support column bodies (non-cast)
2482	IV	RP-296	New Record	IV.B2.RP-296		Control rod guide tube (CRGT) assemblies: CRGT guide plates (cards)
2483	IV	RP-297	New Record	IV.B2.RP-297		Control rod guide tube (CRGT) assemblies: CRGT lower flange welds (accessible)
2484	IV	RP-298	R-118	IV.B2.RP-298	IV.B2-28(R-118)	Control rod guide tube (CRGT) assemblies: CRGT lower flange welds (accessible)
2485	IV	RP-299	R-115	IV.B2.RP-299	IV.B2-34(R-115)	Alignment and interfacing components: upper core plate alignment pins
2486	IV	RP-300	R-108	IV.B2.RP-300	IV.B2-33(R-108)	Alignment and interfacing components: internals hold down spring
2487	IV	RP-301	R-112	IV.B2.RP-301	IV.B2-40(R-112)	Alignment and interfacing components: upper core plate alignment pins
2488	IV	RP-302	New Record	IV.B2.RP-302		Thermal shield assembly: thermal shield flexures

2489	IV	RP-303	R-53	IV.B2.RP-303	IV.B2-31(R-53)	Reactor vessel internal components
2492	IV	RP-306	New Record	IV.B3.RP-306		Reactor vessel internal components with no additional measures
2493	IV	RP-307	New Record	IV.B3.RP-307		Reactor vessel internal components with no additional measures
2495	IV	RP-309	New Record	IV.B3.RP-309		Reactor vessel internal components (inaccessible locations)
2497	IV	RP-311	New Record	IV.B3.RP-311		Reactor vessel internal components (inaccessible locations)

2498	IV	RP-312	R-149	IV.B3.RP-312	IV.B3-2(R-149)	Control Element Assembly (CEA): shroud assemblies: instrument guide tubes in peripheral CEA assemblies
2499	IV	RP-313	New Record	IV.B3.RP-313		Control Element Assembly (CEA): shroud assemblies: remaining instrument guide tubes in CEA assemblies
2500	IV	RP-314	R-162	IV.B3.RP-314	IV.B3-9(R-162)	Core shroud assemblies (for bolted core shroud assemblies): core shroud bolts (accessible)
2501	IV	RP-315	R-165	IV.B3.RP-315	IV.B3-7(R-165)	Core shroud assemblies (for bolted core shroud assemblies): core shroud bolts (accessible)
2502	IV	RP-316	R-162	IV.B3.RP-316	IV.B3-9(R-162)	Core shroud assemblies (for bolted core shroud assemblies): barrel-shroud bolts with neutron exposures greater than 3 dpa
2503	IV	RP-317	R-165	IV.B3.RP-317	IV.B3-7(R-165)	Core shroud assemblies (for bolted core shroud assemblies): barrel-shroud bolts with neutron exposures greater than 3 dpa

2504	IV	RP-318	R-163	IV.B3.RP-318	IV.B4-8(R-163)	Core shroud assemblies (for bolted core shroud assemblies): (a) shroud plates and (b) former plates
2505	IV	RP-319	R-162	IV.B3.RP-319	IV.B3-9(R-162)	Core shroud assemblies (all plants): guide lugs and guide lug insert bolts
2506	IV	RP-320	R-162	IV.B3.RP-320	IV.B3-9(R-162)	Core shroud assemblies (all plants): guide lugs and guide lug insert bolts
2508	IV	RP-322	New Record	IV.B3.RP-322		Core shroud assembly (for welded core shrouds in two vertical sections): Core shroud plate-former plate weld (a) The axial and horizontal weld seams at the core shroud re-entrant corners as visible from the core side of the shroud, within six inches of the central flange and horizontal stiffeners, and (b) the horizontal stiffeners in shroud plate-to-former plate weld
2509	IV	RP-323	New Record	IV.B3.RP-323		Core shroud assembly (for welded core shrouds in two vertical sections): remaining axial welds in shroud plate-to-former plate

2510	IV	RP-324	New Record	IV.B3.RP-324		Core shroud assembly (for welded core shrouds with full-height shroud plates): axial weld seams at the core shroud re-entrant corners, at the core mid-plane (+3 feet in height) as visible from the core side of the shroud
2511	IV	RP-325	New Record	IV.B3.RP-325		Core shroud assembly (for welded core shrouds with full-height shroud plates): remaining axial welds, ribs, and rings
2512	IV	RP-326	New Record	IV.B3.RP-326		Core shroud assembly (for welded core shrouds in two vertical sections): gap between the upper and lower plates
2513	IV	RP-327	R-155	IV.B3.RP-327	IV.B3-15(R-155)	Core support barrel assembly: upper core support barrel flange weld (accessible surfaces)
2514	IV	RP-328	R-155	IV.B3.RP-328	IV.B3-15(R-155)	Core support barrel assembly: surfaces of the lower core barrel flange weld (accessible surfaces)
2515	IV	RP-329	R-155	IV.B3.RP-329	IV.B3-15(R-155)	Core support barrel assembly: lower cylinder welds and remaining core barrel assembly welds
2516	IV	RP-330	R-167	IV.B3.RP-330	IV.B3-23(R-167)	Lower support structure: core support column bolts

2517	IV	RP-331	New Record	IV.B3.RP-331		Lower support structure: core support column bolts
2518	IV	RP-332	R-156	IV.B3.RP-332	IV.B3-17(R-156)	Core support barrel assembly: upper core barrel flange
2519	IV	RP-333	New Record	IV.B3.RP-333		Core support barrel assembly: lower flange weld, if fatigue life cannot be demonstrated by TLAA
2520	IV	RP-334	R-167	IV.B3.RP-334	IV.B3-23(R-167)	Lower support structure: A286 fuel alignment pins (all plants with core shroud assembled with full-height shroud plates)
2521	IV	RP-335	R-167	IV.B3.RP-335	IV.B3-23(R-167)	Lower support structure: core support column welds, applicable to all plants except those assembled with full-height shroud plates
2522	IV	RP-336	R-170	IV.B3.RP-336	IV.B3-22(R-170)	Lower support structure: A286 fuel alignment pins (all plants with core shroud assembled in two vertical sections)
2524	IV	RP-338	New Record	IV.B3.RP-338		Upper internals assembly: fuel alignment plate (applicable to plants with core shrouds assembled with full height shroud plates), if fatigue life cannot be demonstrated by TLAA

2525	IV	RP-339	R-53	IV.B3.RP-339	IV.B3-24(R-53)	Reactor vessel internal components
2528	IV	RP-342	New Record	IV.B3.RP-342		Lower support structure: deep beams (applicable assemblies with full height shroud plates)
2531	IV	RP-343	New Record	IV.B3.RP-343		Lower support structure: core support plate (applicable to plants with a core support plate), if fatigue life cannot be demonstrated by TLAA
2343	IV	RP-344	R-07	IV.C2.RP-344	IV.C2-2(R-07)	#M#Class 1 piping, piping components, and piping elements#M#
2585	IV	RP-345	New Record	IV.B2.RP-345		Core barrel assembly: core barrel flange
2586	IV	RP-346	New Record	IV.B2.RP-346		Upper internals assembly: upper support ring or skirt
2592	IV	RP-352	New Record	IV.B4.RP-352		Upper grid assembly: alloy X-750 dowel-to-upper fuel assembly support pad welds (all plants except Davis-Besse)
2594	IV	RP-353	RP-01	IV.E.RP-353	IV.E-6(RP-01)	Piping, piping components, and piping elements

2599	IV	RP-354	New Record	IV.B2.RP-354		Baffle-to-former assembly: baffle-edge bolts (all plants with baffle-edge bolts)
2600	IV	RP-355	New Record	IV.B2.RP-355		Control rod guide tube assemblies: guide tube support pins
2601	IV	RP-356	New Record	IV.B2.RP-356		Control rod guide tube assemblies: guide tube support pins
2602	IV	RP-357	New Record	IV.B3.RP-357		Incore instrumentation (ICI): ICI thimble tubes - lower
2603	IV	RP-358	New Record	IV.B3.RP-358		Core shroud assemblies (for bolted core shroud assemblies): (a) shroud plates and (b) former plates
2604	IV	RP-359	New Record	IV.B3.RP-359		Core shroud assemblies (welded): (shroud plates and (b) former plates
1280	IV	RP-36	R-01	IV.D1.RP-36	IV.D1-4(R-01)	Instrument penetrations and primary side nozzles; safe ends; welds
1281	IV	RP-36	R-01	IV.D2.RP-36	IV.D2-2(R-01)	Instrument penetrations and primary side nozzles; safe ends; welds

2605	IV	RP-360	New Record	IV.B3.RP-360		Core shroud assembly (for welded core shrouds with full-height shroud plates): axial weld seams at the core shroud re-entrant corners, at the core mid-plane (+3 feet in height) as visible from the core side of the shroud
2606	IV	RP-361	New Record	IV.B3.RP-361		Core shroud assembly (for welded core shrouds with full-height shroud plates): remaining axial welds, ribs, and rings
2607	IV	RP-362	New Record	IV.B3.RP-362		Core support barrel assembly: lower cylinder welds
2608	IV	RP-363	New Record	IV.B3.RP-363		Lower support structure: core support column
2609	IV	RP-364	New Record	IV.B3.RP-364		Lower support structure: core support column
2610	IV	RP-365	New Record	IV.B3.RP-365		Lower support structure: core support plate
2611	IV	RP-366	New Record	IV.B3.RP-366		Lower support structure: deep beams (applicable assemblies with full height shroud plates)
2612	IV	RP-367	RP-21	IV.D1.RP-367	IV.D1-6(RP-21)	Primary side components: divider plate

2613	IV	RP-368	R-34	IV.D1.RP-368	IV.D1-12(R-34)	#M#Steam generator components: upper and lower shell; transition cone; new transition cone closure weld#M#
2614	IV	RP-369	R-69	IV.A1.RP-369	IV.A1-5(R-69)	#M#Penetrations: control rod drive stub tubes; in core monitor housings; jet pump instrument; standby liquid control; flux monitor#M#
1282	IV	RP-37	R-06	IV.C2.RP-37	IV.C2-21(R-06)	Pressurizer instrumentation penetrations; heater sheaths and sleeves; heater bundle diaphram plate; manways and flanges
2616	IV	RP-371	R-69	IV.A1.RP-371	IV.A1-5(R-69)	#M#Penetrations: drain line#M#
2617	IV	RP-372	New Record	IV.D1.RP-372		Steam generator components: shell assembly

2645	IV	RP-375	New Record	IV.B4.RP-375		Core barrel assembly: internal baffle-to-baffle bolts
2646	IV	RP-376	New Record	IV.B4.RP-376		Reactor vessel internal components
2647	IV	RP-377	New Record	IV.B1.RP-377		Reactor vessel internals components: Jet pump wedge surface
2663	IV	RP-378	New Record	IV.E.RP-378		Piping, piping components, and piping elements
2704	IV	RP-379	R-17	IV.A2.RP-379	IV.A2-13(R-17)	#M#External surfaces: reactor vessel top head and bottom head#M#
2705	IV	RP-380	R-17	IV.C2.RP-380	IV.C2-9(R-17)	#M#External surfaces: reactor coolant pressure boundary piping or components adjacent to dissimilar metal (Alloy 82/182) welds#M#
2708	IV	RP-381	New Record	IV.B1.RP-381		Reactor vessel internals components
2709	IV	RP-382	R-142	IV.B2.RP-382	IV.B2-26(R-142)	#M#Reactor vessel internals: core support structure#M#
2710	IV	RP-382	R-170	IV.B3.RP-382	IV.B3-22(R-170)	#M#Reactor vessel internals: core support structure#M#

2711	IV	RP-382	R-179	IV.B4.RP-382	IV.B4-42(R-179)	#M#Reactor vessel internals: core support structure#M#
2712	IV	RP-383	New Record	IV.C2.RP-383		Pressurizer relief tank: tank shell and heads; flanges; nozzles (non-ASME Section XI components)
2713	IV	RP-384	RP-14	IV.D1.RP-384	IV.D1-14(RP-14)	Steam generator structural: U-bend supports including anti-vibration bars
2714	IV	RP-385	New Record	IV.D1.RP-385		Tube-to-tube sheet welds
2725	IV	RP-386	New Record	IV.B2.RP-386		Control rod guide tube (CRGT) assemblies: C-tubes and sheaths
2726	IV	RP-387	New Record	IV.B2.RP-387		Core barrel assembly: core barrel axial welds
2727	IV	RP-388	New Record	IV.B2.RP-388		Core barrel assembly: core barrel axial welds
1284	IV	RP-39	R-16	IV.C1.RP-39	IV.C1-6(R-16)	Isolation condenser components

1285	IV	RP-40	R-24	IV.C2.RP-40	IV.C2-17(R-24)	Pressurizer: spray head
1286	IV	RP-41	R-24	IV.C2.RP-41	IV.C2-17(R-24)	Pressurizer: spray head
1287	IV	RP-42	R-26	IV.C1.RP-42	IV.C1-12(R-26)	#M#Closure bolting#M#
1288	IV	RP-43	R-27	IV.C1.RP-43	IV.C1-10(R-27)	#M#Closure bolting#M#
1289	IV	RP-44	R-28	IV.C1.RP-44	IV.C1-11(R-28)	Pump and valve closure bolting
1291	IV	RP-46	R-32	IV.D1.RP-46	IV.D1-10(R-32)	Closure bolting
1292	IV	RP-46	R-32	IV.D2.RP-46	IV.D2-6(R-32)	Closure bolting
1293	IV	RP-47	R-35	IV.D2.RP-47	IV.D2-4(R-35)	#M#Primary side components: upper and lower heads, and tube sheet welds exposed to reactor coolant#M#
1294	IV	RP-48	R-41	IV.D1.RP-48	IV.D1-16(R-41)	Steam generator structural: tube support lattice bars
1295	IV	RP-49	R-51	IV.D1.RP-49	IV.D1-26(R-51)	Upper assembly and separators including: feedwater inlet ring and support
1296	IV	RP-50	R-59	IV.A1.RP-50	IV.A1-11(R-59)	Top head enclosure (without cladding): top head; nozzles (vent, top head spray or RCIC, and spare)

1297	IV	RP-51	R-60	IV.A1.RP-51	IV.A1-9(R-60)	Top head enclosure: closure studs and nuts
1298	IV	RP-52	R-71	IV.A2.RP-52	IV.A2-2(R-71)	Closure head: stud assembly
1299	IV	RP-53	R-72	IV.A2.RP-53	IV.A2-3(R-72)	Closure head: stud assembly
1300	IV	RP-54	R-73	IV.A2.RP-54	IV.A2-4(R-73)	Closure head: stud assembly
1301	IV	RP-55	R-76	IV.A2.RP-55	IV.A2-11(R-76)	Control rod drive head penetration: pressure housing
1303	IV	RP-57	R-88	IV.A2.RP-57	IV.A2-12(R-88)	Core support pads; core guide lugs
1305	IV	RP-59	R-89	IV.A2.RP-59	IV.A2-19(R-89)	Penetrations: instrument tubes (bottom head)
680	V	E-01		V.D1.E-01	V.D1-15(E-01)	Partially-encased tanks with breached moisture barrier

681	V	E-02		V.E.E-02	V.E-6(E-02)	Closure bolting
682	V	E-03		V.E.E-03	V.E-3(E-03)	Closure bolting
761	V	E-07		V.D2.E-07	V.D2-31(E-07)	Piping, piping components, and piping elements
763	V	E-09		V.D2.E-09	V.D2-34(E-09)	Piping, piping components, and piping elements
764	V	E-10		V.D2.E-10	V.D2-32(E-10)	Piping, piping components, and piping elements
765	V	E-11		V.D2.E-11	V.D2-20(E-11)	Piping, piping components, and piping elements
766	V	E-12		V.A.E-12	V.A-28(E-12)	Piping, piping components, and piping elements; tanks
767	V	E-12		V.D1.E-12	V.D1-31(E-12)	Piping, piping components, and piping elements; tanks
768	V	E-13		V.D1.E-13	V.D1-27(E-13)	Piping, piping components, and piping elements
782	V	E-21		V.A.E-21	V.A-15(E-21)	Heat exchanger tubes
783	V	E-21		V.D1.E-21	V.D1-11(E-21)	Heat exchanger tubes
784	V	E-21		V.D2.E-21	V.D2-12(E-21)	Heat exchanger tubes
785	V	E-22		V.C.E-22	V.C-5(E-22)	Containment isolation piping and components (Internal surfaces)

786	V	E-23		V.D2.E-23	V.D2-15(E-23)	Heat exchanger tubes
787	V	E-24		V.D1.E-24	V.D1-14(E-24)	Orifice (miniflow recirculation)
788	V	E-25		V.B.E-25	V.B-1(E-25)	Ducting and components (Internal surfaces)
789	V	E-26		V.A.E-26	V.A-1(E-26)	Ducting, piping, and components (External surfaces)
790	V	E-26		V.B.E-26	V.B-3(E-26)	Ducting, piping, and components (External surfaces)
791	V	E-26		V.D2.E-26	V.D2-2(E-26)	Ducting, piping, and components (External surfaces)
792	V	E-27		V.D2.E-27	V.D2-17(E-27)	Piping and components (Internal surfaces)
793	V	E-28		V.A.E-28	V.A-4(E-28)	External surfaces
794	V	E-28		V.D1.E-28	V.D1-1(E-28)	External surfaces
795	V	E-28		V.E.E-28	V.E-9(E-28)	External surfaces
796	V	E-29		V.A.E-29	V.A-19(E-29)	Piping and components (Internal surfaces)
797	V	E-29		V.D2.E-29	V.D2-16(E-29)	Piping and components (Internal surfaces)
798	V	E-30		V.C.E-30	V.C-2(E-30)	Containment isolation piping and components (External surfaces)
801	V	E-34		V.C.E-34	V.C-3(E-34)	Containment isolation piping and components (Internal surfaces)

802	V	E-35		V.C.E-35	V.C-1(E-35)	Containment isolation piping and components (External surfaces)
803	V	E-37		V.D2.E-37	V.D2-29(E-37)	Piping, piping components, and piping elements
804	V	E-38		V.D1.E-38	V.D1-33(E-38)	Safety injection tank (accumulator)
805	V	E-40		V.B.E-40	V.B-2(E-40)	Ducting, closure bolting
806	V	E-41		V.E.E-41	V.E-2(E-41)	Bolting
808	V	E-43		V.A.E-43	V.A-18(E-43)	Motor cooler
809	V	E-43		V.D1.E-43	V.D1-13(E-43)	Motor cooler
810	V	E-44		V.E.E-44	V.E-7(E-44)	External surfaces
811	V	E-45		V.E.E-45	V.E-8(E-45)	External surfaces
812	V	E-46		V.E.E-46	V.E-10(E-46)	External surfaces
813	V	E-47		V.D1.E-47	V.D1-16(E-47)	Piping, piping components, and piping elements
815	V	EP-10		V.F.EP-10	V.F-3(EP-10)	Piping, piping components, and piping elements
2330	V	EP-100	EP-39	V.A.EP-100	V.A-11(EP-39)	Heat exchanger tubes
2379	V	EP-101	EP-2	V.D1.EP-101	V.D2-18(EP-2)	Piping, piping components, and piping elements
2533	V	EP-103	New Record	V.B.EP-103		Piping, piping components, and piping elements; tanks

2534	V	EP-103	New Record	V.C.EP-103		Piping, piping components, and piping elements; tanks
2535	V	EP-103	New Record	V.D1.EP-103		Piping, piping components, and piping elements; tanks
2536	V	EP-103	New Record	V.D2.EP-103		Piping, piping components, and piping elements; tanks
2558	V	EP-107	New Record	V.B.EP-107		Piping, piping components, and piping elements; tanks
2559	V	EP-107	New Record	V.C.EP-107		Piping, piping components, and piping elements; tanks
2560	V	EP-107	New Record	V.D1.EP-107		Piping, piping components, and piping elements; tanks
2561	V	EP-107	New Record	V.D2.EP-107		Piping, piping components, and piping elements; tanks
2583	V	EP-111	E-42	V.B.EP-111	V.B-9(E-42)	Piping, piping components, and piping elements
2595	V	EP-112	EP-5	V.F.EP-112	V.F-17(EP-5)	Piping, piping components, and piping elements
2621	V	EP-113	E-04	V.D2.EP-113	V.D2-1(E-04)	Drywell and suppression chamber spray system (internal surfaces): flow orifice; spray nozzles
2657	V	EP-114	New Record	V.E.EP-114		Piping, piping components, and piping elements
2664	V	EP-115	New Record	V.F.EP-115		Piping, piping components, and piping elements

2667	V	EP-116	New Record	V.E.EP-116		Bolting
2670	V	EP-117	New Record	V.E.EP-117		Bolting
2673	V	EP-118	New Record	V.E.EP-118		Bolting
2676	V	EP-119	New Record	V.E.EP-119		Bolting
816	V	EP-12		V.F.EP-12	V.F-5(EP-12)	Piping, piping components, and piping elements
2678	V	EP-120	New Record	V.E.EP-120		Bolting
2680	V	EP-121	New Record	V.E.EP-121		Bolting
2682	V	EP-122	New Record	V.E.EP-122		Bolting
745	V	EP-14		V.F.EP-14	V.F-1(EP-14)	Ducting, piping, and components
746	V	EP-15		V.F.EP-15	V.F-6(EP-15)	Piping elements
747	V	EP-16		V.F.EP-16	V.F-7(EP-16)	Piping elements
748	V	EP-17		V.F.EP-17	V.F-11(EP-17)	Piping, piping components, and piping elements
635	V	EP-18		V.F.EP-18	V.F-12(EP-18)	Piping, piping components, and piping elements
636	V	EP-19		V.F.EP-19	V.F-13(EP-19)	Piping, piping components, and piping elements
638	V	EP-20		V.F.EP-20	V.F-14(EP-20)	Piping, piping components, and piping elements

639	V	EP-22		V.F.EP-22	V.F-15(EP-22)	Piping, piping components, and piping elements
643	V	EP-27		V.A.EP-27	V.A-22(EP-27)	Piping, piping components, and piping elements
644	V	EP-27		V.B.EP-27	V.B-7(EP-27)	Piping, piping components, and piping elements
645	V	EP-27		V.D1.EP-27	V.D1-19(EP-27)	Piping, piping components, and piping elements
646	V	EP-27		V.D2.EP-27	V.D2-23(EP-27)	Piping, piping components, and piping elements
647	V	EP-28		V.F.EP-28	V.F-8(EP-28)	Piping elements
648	V	EP-29		V.F.EP-29	V.F-10(EP-29)	Piping elements
649	V	EP-3		V.F.EP-3	V.F-2(EP-3)	Piping, piping components, and piping elements
650	V	EP-30		V.F.EP-30	V.F-9(EP-30)	Piping elements
435	V	EP-37		V.A.EP-37	V.A-6(EP-37)	Heat exchanger components
436	V	EP-37		V.B.EP-37	V.B-5(EP-37)	Heat exchanger components
437	V	EP-37		V.D1.EP-37	V.D1-3(EP-37)	Heat exchanger components
438	V	EP-37		V.D2.EP-37	V.D2-4(EP-37)	Heat exchanger components
439	V	EP-38		V.E.EP-38	V.E-11(EP-38)	Piping, piping components, and piping elements
839	V	EP-4		V.F.EP-4	V.F-16(EP-4)	Piping, piping components, and piping elements
843	V	EP-41		V.A.EP-41	V.A-27(EP-41)	Piping, piping components, and piping elements; tanks
844	V	EP-41		V.D1.EP-41	V.D1-30(EP-41)	Piping, piping components, and piping elements; tanks

845	V	EP-42		V.A.EP-42	V.A-2(EP-42)	Encapsulation components
846	V	EP-43		V.A.EP-43	V.A-3(EP-43)	Encapsulation components
370	V	EP-49		V.D1.EP-49	V.D1-32(EP-49)	Pump casings
850	V	EP-52		V.D1.EP-52	V.D1-20(EP-52)	Piping, piping components, and piping elements
853	V	EP-54		V.B.EP-54	V.B-8(EP-54)	Piping, piping components, and piping elements
854	V	EP-54		V.D1.EP-54	V.D1-21(EP-54)	Piping, piping components, and piping elements
855	V	EP-54		V.D2.EP-54	V.D2-24(EP-54)	Piping, piping components, and piping elements
856	V	EP-55		V.D1.EP-55	V.D1-25(EP-55)	Piping, piping components, and piping elements
1423	V	EP-58	E-06	V.B.EP-58	V.B-4(E-06)	Elastomer seals and components
1424	V	EP-59	E-06	V.B.EP-59	V.B-4(E-06)	Elastomer seals and components
1425	V	EP-60	E-08	V.D2.EP-60	V.D2-33(E-08)	Piping, piping components, and piping elements
1426	V	EP-61	E-14	V.D2.EP-61	V.D2-35(E-14)	Piping, piping components, and piping elements (Internal surfaces)
1427	V	EP-62	E-31	V.C.EP-62	V.C-6(E-31)	Containment isolation piping and components (Internal surfaces)

1428	V	EP-63	E-33	V.C.EP-63	V.C-4(E-33)	Containment isolation piping and components (Internal surfaces)
1429	V	EP-64	EP-1	V.E.EP-64	V.E-1(EP-1)	Bolting
1430	V	EP-65	New Record	V.F.EP-65		Piping elements
1433	V	EP-66	New Record	V.F.EP-66		Piping elements
1436	V	EP-67	New Record	V.F.EP-67		Piping elements
1439	V	EP-68	New Record	V.F.EP-68		Piping elements
1441	V	EP-69	EP-24	V.E.EP-69	V.E-5(EP-24)	Closure bolting
857	V	EP-7		V.F.EP-7	V.F-18(EP-7)	Piping, piping components, and piping elements
1442	V	EP-70	EP-25	V.E.EP-70	V.E-4(EP-25)	Closure bolting
1443	V	EP-71	EP-26	V.D2.EP-71	V.D2-19(EP-26)	Piping, piping components, and piping elements
1444	V	EP-72	EP-31	V.D1.EP-72	V.D1-26(EP-31)	Piping, piping components, and piping elements
1445	V	EP-72	EP-31	V.D2.EP-72	V.D2-27(EP-31)	Piping, piping components, and piping elements
1446	V	EP-73	EP-32	V.D2.EP-73	V.D2-28(EP-32)	Piping, piping components, and piping elements
1447	V	EP-74	EP-34	V.A.EP-74	V.A-16(EP-34)	Heat exchanger tubes
1448	V	EP-74	EP-34	V.D2.EP-74	V.D2-13(EP-34)	Heat exchanger tubes
1449	V	EP-75	EP-40	V.A.EP-75	V.A-17(EP-40)	Heat exchanger tubes
1450	V	EP-75	EP-40	V.D1.EP-75	V.D1-12(EP-40)	Heat exchanger tubes

1451	V	EP-75	EP-40	V.D2.EP-75	V.D2-14(EP-40)	Heat exchanger tubes
1452	V	EP-76	EP-45	V.A.EP-76	V.A-21(EP-45)	Piping, piping components, and piping elements
1453	V	EP-76	EP-45	V.D1.EP-76	V.D1-19(EP-45)	Piping, piping components, and piping elements
1454	V	EP-76	EP-45	V.D2.EP-76	V.D2-22(EP-45)	Piping, piping components, and piping elements
1455	V	EP-77	EP-46	V.A.EP-77	V.A-25(EP-46)	Piping, piping components, and piping elements
1456	V	EP-77	EP-46	V.D1.EP-77	V.D1-28(EP-46)	Piping, piping components, and piping elements
1457	V	EP-77	EP-46	V.D2.EP-77	V.D2-30(EP-46)	Piping, piping components, and piping elements
1458	V	EP-78	EP-47	V.A.EP-78	V.A-12(EP-47)	Heat exchanger tubes
1459	V	EP-78	EP-47	V.D1.EP-78	V.D1-8(EP-47)	Heat exchanger tubes
1460	V	EP-78	EP-47	V.D2.EP-78	V.D2-9(EP-47)	Heat exchanger tubes
1461	V	EP-79	EP-50	V.A.EP-79	V.A-14(EP-50)	Heat exchanger tubes
1462	V	EP-79	EP-50	V.D1.EP-79	V.D1-10(EP-50)	Heat exchanger tubes
1463	V	EP-79	EP-50	V.D2.EP-79	V.D2-11(EP-50)	Heat exchanger tubes
1464	V	EP-80	EP-51	V.D1.EP-80	V.D1-24(EP-51)	Piping, piping components, and piping elements
1465	V	EP-81	EP-53	V.A.EP-81	V.A-26(EP-53)	Piping, piping components, and piping elements (Internal surfaces); tanks

1466	V	EP-81	EP-53	V.D1.EP-81	V.D1-29(EP-53)	Piping, piping components, and piping elements (Internal surfaces); tanks
1510	V	EP-82	New Record	V.F.EP-82		Piping, piping components, and piping elements
1818	V	EP-87	New Record	V.F.EP-87		Piping elements
858	V	EP-9		V.F.EP-9	V.F-4(EP-9)	Piping, piping components, and piping elements
1873	V	EP-90	E-18	V.A.EP-90	V.A-10(E-18)	Heat exchanger components
1874	V	EP-90	E-18	V.D1.EP-90	V.D1-7(E-18)	Heat exchanger components
1875	V	EP-90	E-18	V.D2.EP-90	V.D2-8(E-18)	Heat exchanger components
1876	V	EP-91	E-20	V.A.EP-91	V.A-8(E-20)	Heat exchanger components
1877	V	EP-91	E-20	V.D1.EP-91	V.D1-5(E-20)	Heat exchanger components

1878	V	EP-91	E-20	V.D2.EP-91	V.D2-6(E-20)	Heat exchanger components
2305	V	EP-92	E-17	V.A.EP-92	V.A-9(E-17)	Heat exchanger components
2306	V	EP-92	E-17	V.D1.EP-92	V.D1-6(E-17)	Heat exchanger components
2307	V	EP-92	E-17	V.D2.EP-92	V.D2-7(E-17)	Heat exchanger components
2308	V	EP-93	E-19	V.A.EP-93	V.A-7(E-19)	Heat exchanger components
2309	V	EP-93	E-19	V.D1.EP-93	V.D1-4(E-19)	Heat exchanger components
2310	V	EP-93	E-19	V.D2.EP-93	V.D2-5(E-19)	Heat exchanger components
2311	V	EP-94	EP-13	V.A.EP-94	V.A-5(EP-13)	Heat exchanger components
2312	V	EP-94	EP-13	V.D1.EP-94	V.D1-2(EP-13)	Heat exchanger components
2313	V	EP-94	EP-13	V.D2.EP-94	V.D2-3(EP-13)	Heat exchanger components
2314	V	EP-95	EP-33	V.A.EP-95	V.A-23(EP-33)	Piping, piping components, and piping elements
2315	V	EP-95	EP-33	V.C.EP-95	V.C-7(EP-33)	Piping, piping components, and piping elements
2316	V	EP-95	EP-33	V.D1.EP-95	V.D1-22(EP-33)	Piping, piping components, and piping elements
2317	V	EP-95	EP-33	V.D2.EP-95	V.D2-25(EP-33)	Piping, piping components, and piping elements

2318	V	EP-96	EP-35	V.A.EP-96	V.A-13(EP-35)	Heat exchanger tubes
2319	V	EP-96	EP-35	V.D1.EP-96	V.D1-19(EP-35)	Heat exchanger tubes
2320	V	EP-96	EP-35	V.D2.EP-96	V.D2-10(EP-35)	Heat exchanger tubes
2321	V	EP-97	EP-36	V.A.EP-97	V.A-20(EP-36)	Piping, piping components, and piping elements
2322	V	EP-97	EP-36	V.B.EP-97	V.B-6(EP-36)	Piping, piping components, and piping elements
2323	V	EP-97	EP-36	V.D1.EP-97	V.D1-17(EP-36)	Piping, piping components, and piping elements
2324	V	EP-97	EP-36	V.D2.EP-97	V.D2-21(EP-36)	Piping, piping components, and piping elements
2325	V	EP-98	EP-44	V.A.EP-98	V.A-24(EP-44)	Piping, piping components, and piping elements
2326	V	EP-98	EP-44	V.C.EP-98	V.C-8(EP-44)	Piping, piping components, and piping elements
2327	V	EP-98	EP-44	V.D1.EP-98	V.D1-23(EP-44)	Piping, piping components, and piping elements
2328	V	EP-98	EP-44	V.D2.EP-98	V.D2-26(EP-44)	Piping, piping components, and piping elements
2329	V	EP-99	EP-48	V.C.EP-99	V.C-9(EP-48)	Piping, piping components, and piping elements

863	VI	L-05		VI.B.L-05	VI.B-1(L-05)	Electrical equipment subject to 10 CFR 50.49 EQ requirements
1271	VI	LP-23	LP-01	VI.A.LP-23	VI.A-8(LP-01)	#M#Fuse holders (not part of active equipment): metallic clamps#M#
1272	VI	LP-24	LP-02	VI.A.LP-24	VI.A-7(LP-02)	#M#Fuse holders (not part of active equipment): insulation material#M#
1273	VI	LP-25	LP-04	VI.A.LP-25	VI.A-11(LP-04)	Metal enclosed bus: bus/connections

1274	VI	LP-26	LP-05	VI.A.LP-26	VI.A-14(LP-05)	Metal enclosed bus: insulation; insulators
1276	VI	LP-28	LP-07	VI.A.LP-28	VI.A-9(LP-07)	High-voltage insulators
1277	VI	LP-29	LP-10	VI.A.LP-29	VI.A-12(LP-10)	Metal enclosed bus: enclosure assemblies
1278	VI	LP-30	LP-12	VI.A.LP-30	VI.A-1(LP-12)	Cable connections (metallic parts)
1279	VI	LP-31	LP-01	VI.A.LP-31	VI.A-8(LP-01)	Fuse holders (not part of active equipment): metallic clamps

1879	VI	LP-32	LP-11	VI.A.LP-32	VI.A-10(LP-11)	High-voltage insulators
1880	VI	LP-33	L-01	VI.A.LP-33	VI.A-2(L-01)	#M#Insulation material for electrical cables and connections (including terminal blocks, fuse holders, etc.)#M#
1881	VI	LP-34	L-02	VI.A.LP-34	VI.A-3(L-02)	#M#Insulation material for electrical cables and connections used in instrumentation circuits that are sensitive to reduction in conductor insulation resistance (IR)#M#
1882	VI	LP-35	L-03	VI.A.LP-35	VI.A-4(L-03)	#M#Conductor insulation for inaccessible power cables greater than or equal to 480 volts (e.g., installed in conduit or direct buried)#M#
1883	VI	LP-36	L-04	VI.A.LP-36	VI.A-5(L-04)	Connector contacts for electrical connectors exposed to borated water leakage
1885	VI	LP-38	LP-08	VI.A.LP-38	VI.A-16(LP-08)	#M#Transmission conductors#M#

1886	VI	LP-39	LP-09	VI.A.LP-39	VI.A-15(LP-09)	Switchyard bus and connections
2302	VI	LP-41	LP-06	VI.A.LP-41	VI.A-13(LP-06)	Metal enclosed bus: external surface of enclosure assemblies
2303	VI	LP-42	LP-06	VI.A.LP-42	VI.A-13(LP-06)	Metal enclosed bus: external surface of enclosure assemblies
2304	VI	LP-43	LP-06	VI.A.LP-43	VI.A-13(LP-06)	Metal enclosed bus: external surface of enclosure assemblies
2530	VI	LP-44	LP-06	VI.A.LP-44	VI.A-13(LP-06)	Metal enclosed bus: external surface of enclosure assemblies
2622	VI	LP-46	LP-08	VI.A.LP-46	VI.A-16(LP-08)	Transmission conductors
2623	VI	LP-47	LP-08	VI.A.LP-47	VI.A-16(LP-08)	Transmission conductors
2702	VI	LP-48	LP-08	VI.A.LP-48	VI.A-16(LP-08)	Transmission connectors
162	VII	A-02		VII.C1.A-02	VII.C1-12(A-02)	Piping, piping components, and piping elements
163	VII	A-02		VII.C3.A-02	VII.C3-5(A-02)	Piping, piping components, and piping elements
164	VII	A-02		VII.G.A-02	VII.G-15(A-02)	Piping, piping components, and piping elements
165	VII	A-02		VII.H1.A-02	VII.H1-5(A-02)	Piping, piping components, and piping elements
39	VII	A-02		VII.H2.A-02	VII.H2-15(A-02)	Piping, piping components, and piping elements
40	VII	A-03		VII.I.A-03	VII.I-6(A-03)	Closure bolting

41	VII	A-04		VII.I.A-04	VII.I-3(A-04)	Closure bolting
42	VII	A-05		VII.B.A-05	VII.B-1(A-05)	Cranes - rails
43	VII	A-06		VII.B.A-06	VII.B-2(A-06)	Cranes: structural girders
44	VII	A-07		VII.B.A-07	VII.B-3(A-07)	Cranes: rails and structural girders
45	VII	A-08		VII.F1.A-08	VII.F1-3(A-08)	Ducting and components (Internal surfaces)
46	VII	A-08		VII.F2.A-08	VII.F2-3(A-08)	Ducting and components (Internal surfaces)
47	VII	A-08		VII.F3.A-08	VII.F3-3(A-08)	Ducting and components (Internal surfaces)
48	VII	A-08		VII.F4.A-08	VII.F4-2(A-08)	Ducting and components (Internal surfaces)

52	VII	A-10		VII.F1.A-10	VII.F1-2(A-10)	Ducting and components (External surfaces)
53	VII	A-10		VII.F2.A-10	VII.F2-2(A-10)	Ducting and components (External surfaces)
54	VII	A-10		VII.F3.A-10	VII.F3-2(A-10)	Ducting and components (External surfaces)
55	VII	A-10		VII.F4.A-10	VII.F4-1(A-10)	Ducting and components (External surfaces)
56	VII	A-100		VII.E1.A-100	VII.E1-4(A-100)	Heat exchanger components and tubes
57	VII	A-102		VII.I.A-102	VII.I-2(A-102)	Bolting
208	VII	A-105		VII.F1.A-105	VII.F1-4(A-105)	Ducting; closure bolting
209	VII	A-105		VII.F2.A-105	VII.F2-4(A-105)	Ducting; closure bolting
210	VII	A-105		VII.F3.A-105	VII.F3-4(A-105)	Ducting; closure bolting
211	VII	A-105		VII.F4.A-105	VII.F4-3(A-105)	Ducting; closure bolting
212	VII	A-105		VII.I.A-105	VII.I-7(A-105)	Ducting; closure bolting
223	VII	A-19	A-19	VII.G.A-19	VII.G-1(A-19)	Fire barrier penetration seals
224	VII	A-20	A-20	VII.G.A-20	VII.G-2(A-20)	Fire barrier penetration seals
225	VII	A-21		VII.G.A-21	VII.G-3(A-21)	Fire rated doors
226	VII	A-22		VII.G.A-22	VII.G-4(A-22)	Fire rated doors

227	VII	A-23		VII.G.A-23	VII.G-23(A-23)	Piping, piping components, and piping elements
228	VII	A-23		VII.H2.A-23	VII.H2-21(A-23)	Piping, piping components, and piping elements
229	VII	A-24		VII.H1.A-24	VII.H1-8(A-24)	Piping, piping components, and piping elements
236	VII	A-26		VII.D.A-26	VII.D-2(A-26)	Piping, piping components, and piping elements: compressed air system
99	VII	A-33		VII.G.A-33	VII.G-24(A-33)	Piping, piping components, and piping elements
100	VII	A-34		VII.E1.A-34	VII.E1-18(A-34)	Piping, piping components, and piping elements
101	VII	A-34		VII.E3.A-34	VII.E3-17(A-34)	Piping, piping components, and piping elements
3	VII	A-47		VII.C1.A-47	VII.C1-10(A-47)	Piping, piping components, and piping elements
4	VII	A-47		VII.C3.A-47	VII.C3-3(A-47)	Piping, piping components, and piping elements
5	VII	A-47		VII.G.A-47	VII.G-13(A-47)	Piping, piping components, and piping elements
6	VII	A-47		VII.H2.A-47	VII.H2-13(A-47)	Piping, piping components, and piping elements
193	VII	A-50		VII.C2.A-50	VII.C2-8(A-50)	Piping, piping components, and piping elements

194	VII	A-50		VII.F3.A-50	VII.F3-18(A-50)	Piping, piping components, and piping elements
195	VII	A-51		VII.C1.A-51	VII.C1-11(A-51)	Piping, piping components, and piping elements
196	VII	A-51		VII.C3.A-51	VII.C3-4(A-51)	Piping, piping components, and piping elements
197	VII	A-51		VII.G.A-51	VII.G-14(A-51)	Piping, piping components, and piping elements
198	VII	A-51		VII.H2.A-51	VII.H2-14(A-51)	Piping, piping components, and piping elements
199	VII	A-52		VII.C2.A-52	VII.C2-10(A-52)	Piping, piping components, and piping elements
200	VII	A-53		VII.C3.A-53	VII.C3-7(A-53)	Piping, piping components, and piping elements
201	VII	A-54		VII.C1.A-54	VII.C1-15(A-54)	Piping, piping components, and piping elements
202	VII	A-55		VII.G.A-55	VII.G-19(A-55)	Piping, piping components, and piping elements
203	VII	A-56		VII.A3.A-56	VII.A3-10(A-56)	Piping, piping components, and piping elements
204	VII	A-57		VII.E1.A-57	VII.E1-16(A-57)	Piping, piping components, and piping elements
117	VII	A-61		VII.E4.A-61	VII.E4-15(A-61)	Piping, piping components, and piping elements
118	VII	A-62		VII.E3.A-62	VII.E3-14(A-62)	Piping, piping components, and piping elements

119	VII	A-62		VII.E4.A-62	VII.E4-13(A-62)	Piping, piping components, and piping elements
65	VII	A-66		VII.C1.A-66	VII.C1-4(A-66)	Heat exchanger components
69	VII	A-69		VII.E1.A-69	VII.E1-9(A-69)	Heat exchanger components, non-regenerative
72	VII	A-72		VII.C1.A-72	VII.C1-6(A-72)	#M#Heat exchanger tubes#M#
246	VII	A-77		VII.I.A-77	VII.I-8(A-77)	External surfaces
247	VII	A-78		VII.I.A-78	VII.I-9(A-78)	External surfaces
248	VII	A-79		VII.A3.A-79	VII.A3-2(A-79)	External surfaces
249	VII	A-79		VII.E1.A-79	VII.E1-1(A-79)	External surfaces
250	VII	A-79		VII.I.A-79	VII.I-10(A-79)	External surfaces
251	VII	A-80		VII.D.A-80	VII.D-3(A-80)	Piping and components (External surfaces)
252	VII	A-81		VII.I.A-81	VII.I-11(A-81)	External surfaces
257	VII	A-86		VII.A2.A-86	VII.A2-4(A-86)	Spent fuel storage racks: neutron-absorbing sheets (PWR)
258	VII	A-87		VII.A2.A-87	VII.A2-2(A-87)	Spent fuel storage racks: neutron-absorbing sheets (BWR)

261	VII	A-90		VII.G.A-90	VII.G-28(A-90)	Structural fire barriers: walls, ceilings and floors
262	VII	A-91		VII.G.A-91	VII.G-29(A-91)	Structural fire barriers: walls, ceilings and floors
263	VII	A-92		VII.G.A-92	VII.G-30(A-92)	Structural fire barriers: walls, ceilings and floors
264	VII	A-93		VII.G.A-93	VII.G-31(A-93)	Structural fire barriers: walls, ceilings and floors
265	VII	A-94		VII.A1.A-94	VII.A1-1(A-94)	Structural steel
266	VII	A-95		VII.H1.A-95	VII.H1-11(A-95)	Tanks
267	VII	A-96		VII.A2.A-96	VII.A2-6(A-96)	Spent fuel storage racks (BWR)
268	VII	A-97		VII.A2.A-97	VII.A2-7(A-97)	Spent fuel storage racks (PWR)
269	VII	AP-1		VII.A3.AP-1	VII.A3-4(AP-1)	Piping, piping components, and piping elements
270	VII	AP-1		VII.E1.AP-1	VII.E1-10(AP-1)	Piping, piping components, and piping elements
1470	VII	AP-100	A-15	VII.A3.AP-100	VII.A3-1(A-15)	Elastomers, linings
1471	VII	AP-101	A-16	VII.A4.AP-101	VII.A4-1(A-16)	Elastomers, linings
1472	VII	AP-102	A-17	VII.F1.AP-102	VII.F1-7(A-17)	Elastomer: seals and components

1473	VII	AP-102	A-17	VII.F2.AP-102	VII.F2-7(A-17)	Elastomer: seals and components
1474	VII	AP-102	A-17	VII.F3.AP-102	VII.F3-7(A-17)	Elastomer: seals and components
1475	VII	AP-102	A-17	VII.F4.AP-102	VII.F4-6(A-17)	Elastomer: seals and components
1477	VII	AP-103	A-18	VII.F1.AP-103	VII.F1-6(A-18)	Elastomer: seals and components
1478	VII	AP-103	A-18	VII.F2.AP-103	VII.F2-6(A-18)	Elastomer: seals and components
1479	VII	AP-103	A-18	VII.F3.AP-103	VII.F3-6(A-18)	Elastomer: seals and components
1480	VII	AP-103	A-18	VII.F4.AP-103	VII.F4-5(A-18)	Elastomer: seals and components
1481	VII	AP-104	A-27	VII.H2.AP-104	VII.H2-2(A-27)	Piping, piping components, and piping elements, diesel engine exhaust
1482	VII	AP-105	A-30	VII.H1.AP-105	VII.H1-10(A-30)	Piping, piping components, and piping elements; tanks
1483	VII	AP-105	A-30	VII.H2.AP-105	VII.H2-24(A-30)	Piping, piping components, and piping elements; tanks
1484	VII	AP-106	A-35	VII.E3.AP-106	VII.E3-18(A-35)	Piping, piping components, and piping elements

1485	VII	AP-106	A-35	VII.E4.AP-106	VII.E4-17(A-35)	Piping, piping components, and piping elements
1486	VII	AP-107	A-39	VII.A3.AP-107	VII.A3-9(A-39)	Piping, piping components, and piping elements
1487	VII	AP-108	A-40	VII.A4.AP-108	VII.A4-12(A-40)	Piping, piping components, and piping elements
1488	VII	AP-109	A-46	VII.F1.AP-109	VII.F1-16(A-46)	Piping, piping components, and piping elements
1489	VII	AP-109	A-46	VII.F2.AP-109	VII.F2-14(A-46)	Piping, piping components, and piping elements
1490	VII	AP-109	A-46	VII.F3.AP-109	VII.F3-16(A-46)	Piping, piping components, and piping elements
1491	VII	AP-109	A-46	VII.F4.AP-109	VII.F4-12(A-46)	Piping, piping components, and piping elements
271	VII	AP-11		VII.J.AP-11	VII.J-5(AP-11)	Piping, piping components, and piping elements
1492	VII	AP-110	A-58	VII.A4.AP-110	VII.A4-11(A-58)	Piping, piping components, and piping elements
1493	VII	AP-110	A-58	VII.E3.AP-110	VII.E3-15(A-58)	Piping, piping components, and piping elements
1494	VII	AP-110	A-58	VII.E4.AP-110	VII.E4-14(A-58)	Piping, piping components, and piping elements
1495	VII	AP-111	A-70	VII.A4.AP-111	VII.A4-2(A-70)	Heat exchanger components
1496	VII	AP-112	A-71	VII.E3.AP-112	VII.E3-3(A-71)	Heat exchanger components

1497	VII	AP-113	A-73	VII.F1.AP-113	VII.F1-5(A-73)	Elastomer: seals and components
1498	VII	AP-113	A-73	VII.F2.AP-113	VII.F2-5(A-73)	Elastomer: seals and components
1499	VII	AP-113	A-73	VII.F3.AP-113	VII.F3-5(A-73)	Elastomer: seals and components
1500	VII	AP-113	A-73	VII.F4.AP-113	VII.F4-4(A-73)	Elastomer: seals and components
1501	VII	AP-114	A-76	VII.E1.AP-114	VII.E1-7(A-76)	High-pressure pump, casing
1502	VII	AP-115	A-76	VII.E1.AP-115	VII.E1-7(A-76)	High-pressure pump, casing
1503	VII	AP-116	A-82	VII.G.AP-116	VII.G-27(A-82)	Reactor coolant pump oil collection system: tanks
1504	VII	AP-117	A-83	VII.G.AP-117	VII.G-26(A-83)	Reactor coolant pump oil collection system: piping, tubing, valve bodies
1505	VII	AP-118	A-84	VII.E1.AP-118	VII.E1-5(A-84)	Heat exchanger components
1506	VII	AP-119	New Record	VII.E1.AP-119		Heat exchanger components and tubes
1507	VII	AP-120	A-85	VII.E3.AP-120	VII.E3-19(A-85)	Regenerative heat exchanger components
1508	VII	AP-121	A-103	VII.D.AP-121	VII.D-1(A-103)	Closure bolting
1509	VII	AP-122	A-104	VII.E1.AP-122	VII.E1-8(A-104)	High-pressure pump, closure bolting
1511	VII	AP-123	New Record	VII.J.AP-123		Piping, piping components, and piping elements
1512	VII	AP-124	AP-26	VII.I.AP-124	VII.I-5(AP-26)	Closure bolting

1513	VII	AP-125	AP-27	VII.I.AP-125	VII.I-4(AP-27)	Closure bolting
1514	VII	AP-126	AP-28	VII.I.AP-126	VII.I-1(AP-28)	Bolting
1515	VII	AP-127	AP-30	VII.C1.AP-127	VII.C1-17(AP-30)	Piping, piping components, and piping elements
1516	VII	AP-127	AP-30	VII.C2.AP-127	VII.C2-13(AP-30)	Piping, piping components, and piping elements
1517	VII	AP-127	AP-30	VII.E1.AP-127	VII.E1-19(AP-30)	Piping, piping components, and piping elements
1518	VII	AP-127	AP-30	VII.E4.AP-127	VII.E4-16(AP-30)	Piping, piping components, and piping elements
1519	VII	AP-127	AP-30	VII.F1.AP-127	VII.F1-19(AP-30)	Piping, piping components, and piping elements
1520	VII	AP-127	AP-30	VII.F2.AP-127	VII.F2-17(AP-30)	Piping, piping components, and piping elements
1521	VII	AP-127	AP-30	VII.F3.AP-127	VII.F3-19(AP-30)	Piping, piping components, and piping elements
1522	VII	AP-127	AP-30	VII.F4.AP-127	VII.F4-15(AP-30)	Piping, piping components, and piping elements
1523	VII	AP-127	AP-30	VII.G.AP-127	VII.G-22(AP-30)	Piping, piping components, and piping elements
1524	VII	AP-127	AP-30	VII.H2.AP-127	VII.H2-20(AP-30)	Piping, piping components, and piping elements
1525	VII	AP-128	AP-33	VII.H2.AP-128	VII.H2-1(AP-33)	Diesel engine exhaust piping, piping components, and piping elements

1526	VII	AP-129	AP-35	VII.H1.AP-129	VII.H1-1(AP-35)	Piping, piping components, and piping elements
1527	VII	AP-129	AP-35	VII.H2.AP-129	VII.H2-7(AP-35)	Piping, piping components, and piping elements
176	VII	AP-13		VII.J.AP-13	VII.J-6(AP-13)	Piping, piping components, and piping elements
1528	VII	AP-130	AP-38	VII.A4.AP-130	VII.A4-5(AP-38)	Piping, piping components, and piping elements
1529	VII	AP-130	AP-38	VII.E3.AP-130	VII.E3-7(AP-38)	Piping, piping components, and piping elements
1530	VII	AP-130	AP-38	VII.E4.AP-130	VII.E4-4(AP-38)	Piping, piping components, and piping elements
1531	VII	AP-131	AP-39	VII.H2.AP-131	VII.H2-5(AP-39)	Heat exchanger components
1532	VII	AP-132	AP-44	VII.G.AP-132	VII.G-10(AP-44)	Piping, piping components, and piping elements
1533	VII	AP-132	AP-44	VII.H1.AP-132	VII.H1-3(AP-44)	Piping, piping components, and piping elements
1534	VII	AP-132	AP-44	VII.H2.AP-132	VII.H2-9(AP-44)	Piping, piping components, and piping elements
1535	VII	AP-133	AP-47	VII.C1.AP-133	VII.C1-8(AP-47)	Piping, piping components, and piping elements
1536	VII	AP-133	AP-47	VII.C2.AP-133	VII.C2-5(AP-47)	Piping, piping components, and piping elements

1537	VII	AP-133	AP-47	VII.E1.AP-133	VII.E1-12(AP-47)	Piping, piping components, and piping elements
1538	VII	AP-133	AP-47	VII.E4.AP-133	VII.E4-6(AP-47)	Piping, piping components, and piping elements
1539	VII	AP-133	AP-47	VII.G.AP-133	VII.G-11(AP-47)	Piping, piping components, and piping elements
1540	VII	AP-133	AP-47	VII.H2.AP-133	VII.H2-10(AP-47)	Piping, piping components, and piping elements
1541	VII	AP-134	New Record	VII.J.AP-134		Piping, piping components, and piping elements
1542	VII	AP-135	New Record	VII.J.AP-135		Piping, piping components, and piping elements
1543	VII	AP-136	AP-54	VII.G.AP-136	VII.G-17(AP-54)	Piping, piping components, and piping elements
1544	VII	AP-136	AP-54	VII.H1.AP-136	VII.H1-6(AP-54)	Piping, piping components, and piping elements
1545	VII	AP-136	AP-54	VII.H2.AP-136	VII.H2-16(AP-54)	Piping, piping components, and piping elements
1546	VII	AP-137	AP-56	VII.C1.AP-137	VII.C1-16(AP-56)	Piping, piping components, and piping elements
1547	VII	AP-137	AP-56	VII.C3.AP-137	VII.C3-8(AP-56)	Piping, piping components, and piping elements
1548	VII	AP-137	AP-56	VII.G.AP-137	VII.G-20(AP-56)	Piping, piping components, and piping elements
1549	VII	AP-137	AP-56	VII.H1.AP-137	VII.H1-7(AP-56)	Piping, piping components, and piping elements
1550	VII	AP-137	AP-56	VII.H2.AP-137	VII.H2-19(AP-56)	Piping, piping components, and piping elements

1551	VII	AP-138	AP-59	VII.C1.AP-138	VII.C1-14(AP-59)	Piping, piping components, and piping elements
1552	VII	AP-138	AP-59	VII.C2.AP-138	VII.C2-12(AP-59)	Piping, piping components, and piping elements
1553	VII	AP-138	AP-59	VII.E1.AP-138	VII.E1-15(AP-59)	Piping, piping components, and piping elements
1554	VII	AP-138	AP-59	VII.E4.AP-138	VII.E4-12(AP-59)	Piping, piping components, and piping elements
1555	VII	AP-138	AP-59	VII.G.AP-138	VII.G-18(AP-59)	Piping, piping components, and piping elements
1556	VII	AP-138	AP-59	VII.H2.AP-138	VII.H2-17(AP-59)	Piping, piping components, and piping elements
1557	VII	AP-139	AP-62	VII.A4.AP-139	VII.A4-4(AP-62)	Heat exchanger tubes
1558	VII	AP-139	AP-62	VII.E3.AP-139	VII.E3-6(AP-62)	Heat exchanger tubes
177	VII	AP-14		VII.J.AP-14	VII.J-8(AP-14)	Piping elements
1559	VII	AP-140	AP-64	VII.A4.AP-140	VII.A4-7(AP-64)	Piping, piping components, and piping elements
1560	VII	AP-140	AP-64	VII.E3.AP-140	VII.E3-9(AP-64)	Piping, piping components, and piping elements
1561	VII	AP-140	AP-64	VII.E4.AP-140	VII.E4-7(AP-64)	Piping, piping components, and piping elements

1562	VII	AP-141	AP-73	VII.E2.AP-141	VII.E2-1(AP-73)	Piping, piping components, and piping elements
1563	VII	AP-142	AP-74	VII.F1.AP-142	VII.F1-14(AP-74)	Piping, piping components, and piping elements
1564	VII	AP-142	AP-74	VII.F2.AP-142	VII.F2-12(AP-74)	Piping, piping components, and piping elements
1565	VII	AP-142	AP-74	VII.F3.AP-142	VII.F3-14(AP-74)	Piping, piping components, and piping elements
1566	VII	AP-142	AP-74	VII.F4.AP-142	VII.F4-10(AP-74)	Piping, piping components, and piping elements
1567	VII	AP-143	AP-78	VII.G.AP-143	VII.G-9(AP-78)	Piping, piping components, and piping elements
1596	VII	AP-144	New Record	VII.J.AP-144		Piping, piping components, and piping elements
1834	VII	AP-149	New Record	VII.G.AP-149		Fire Hydrants
178	VII	AP-15		VII.J.AP-15	VII.J-10(AP-15)	Piping elements
1835	VII	AP-150	New Record	VII.G.AP-150		Halon/carbon dioxide fire suppression system piping, piping components, and piping elements
1836	VII	AP-151	New Record	VII.J.AP-151		Heat exchanger components
1837	VII	AP-152	New Record	VII.C1.AP-152		Heat exchanger components other than tubes
1838	VII	AP-153	New Record	VII.C1.AP-153		Heat exchanger tubes

1839	VII	AP-154	New Record	VII.H2.AP-154		Heat exchanger tubes
1840	VII	AP-155	New Record	VII.C1.AP-155		Piping, piping components, and piping elements
1841	VII	AP-156	New Record	VII.C1.AP-156		Piping, piping components, and piping elements
1842	VII	AP-157	New Record	VII.C1.AP-157		Piping, piping components, and piping elements
1844	VII	AP-159	New Record	VII.I.AP-159		Piping, piping components, and piping elements
179	VII	AP-16		VII.J.AP-16	VII.J-14(AP-16)	Piping, piping components, and piping elements
1845	VII	AP-160	New Record	VII.J.AP-160		Piping, piping components, and piping elements
1846	VII	AP-161	New Record	VII.C1.AP-161		Piping, piping components, and piping elements
1847	VII	AP-162	New Record	VII.H2.AP-162		Piping, piping components, and piping elements
1851	VII	AP-166	New Record	VII.J.AP-166		Piping elements

1852	VII	AP-167	New Record	VII.J.AP-167		Piping elements
180	VII	AP-17		VII.J.AP-17	VII.J-15(AP-17)	Piping, piping components, and piping elements
1856	VII	AP-171	New Record	VII.C1.AP-171		Piping, piping components, and piping elements
1857	VII	AP-172	New Record	VII.C1.AP-172		Piping, piping components, and piping elements
1858	VII	AP-173	New Record	VII.C1.AP-173		Piping, piping components, and piping elements
1859	VII	AP-174	New Record	VII.C1.AP-174		Piping, piping components, and piping elements
1860	VII	AP-175	New Record	VII.C1.AP-175		Piping, piping components, and piping elements
1861	VII	AP-176	New Record	VII.C1.AP-176		Piping, piping components, and piping elements
1862	VII	AP-177	New Record	VII.C1.AP-177		Piping, piping components, and piping elements
1863	VII	AP-178	New Record	VII.C1.AP-178		Piping, piping components, and piping elements
1887	VII	AP-179	A-65	VII.C1.AP-179	VII.C1-3(A-65)	#M#Heat exchanger components#M#
181	VII	AP-18		VII.J.AP-18	VII.J-16(AP-18)	Piping, piping components, and piping elements
1888	VII	AP-180	AP-83	VII.G.AP-180	VII.G-8(AP-83)	Piping, piping components, and piping elements
1889	VII	AP-181	A-59	VII.E2.AP-181	VII.E2-2(A-59)	Piping, piping components, and piping elements

2331	VII	AP-183	A-64	VII.C1.AP-183	VII.C1-5(A-64)	Heat exchanger components
2381	VII	AP-186	AP-60	VII.C2.AP-186	VII.C2-11(AP-60)	Piping, piping components, and piping elements
2382	VII	AP-186	AP-60	VII.E3.AP-186	VII.E3-13(AP-60)	Piping, piping components, and piping elements
2383	VII	AP-186	AP-60	VII.E4.AP-186	VII.E4-11(AP-60)	Piping, piping components, and piping elements
2384	VII	AP-187	AP-61	VII.C1.AP-187	VII.C1-7(AP-61)	Heat exchanger tubes
2385	VII	AP-187	AP-61	VII.C3.AP-187	VII.C3-1(AP-61)	Heat exchanger tubes
2386	VII	AP-187	AP-61	VII.G.AP-187	VII.G-7(AP-61)	Heat exchanger tubes
2387	VII	AP-187	AP-61	VII.H2.AP-187	VII.H2-6(AP-61)	Heat exchanger tubes
2388	VII	AP-188	AP-63	VII.C2.AP-188	VII.C2-3(AP-63)	Heat exchanger tubes
2389	VII	AP-188	AP-63	VII.E3.AP-188	VII.E3-5(AP-63)	Heat exchanger tubes
2390	VII	AP-188	AP-63	VII.E4.AP-188	VII.E4-3(AP-63)	Heat exchanger tubes
2391	VII	AP-189	A-63	VII.A3.AP-189	VII.A3-3(A-63)	Heat exchanger components
2392	VII	AP-189	A-63	VII.A4.AP-189	VII.A4-3(A-63)	Heat exchanger components
2393	VII	AP-189	A-63	VII.C2.AP-189	VII.C2-1(A-63)	Heat exchanger components

2394	VII	AP-189	A-63	VII.E1.AP-189	VII.E1-6(A-63)	Heat exchanger components
2395	VII	AP-189	A-63	VII.E3.AP-189	VII.E3-4(A-63)	Heat exchanger components
2396	VII	AP-189	A-63	VII.E4.AP-189	VII.E4-2(A-63)	Heat exchanger components
2397	VII	AP-189	A-63	VII.F1.AP-189	VII.F1-11(A-63)	Heat exchanger components
2398	VII	AP-189	A-63	VII.F2.AP-189	VII.F2-9(A-63)	Heat exchanger components
2399	VII	AP-189	A-63	VII.F3.AP-189	VII.F3-11(A-63)	Heat exchanger components
2400	VII	AP-189	A-63	VII.F4.AP-189	VII.F4-8(A-63)	Heat exchanger components
182	VII	AP-19		VII.J.AP-19	VII.J-17(AP-19)	Piping, piping components, and piping elements
2402	VII	AP-191	A-67	VII.E3.AP-191	VII.E3-1(A-67)	Heat exchanger components
2403	VII	AP-191	A-67	VII.E4.AP-191	VII.E4-1(A-67)	Heat exchanger components
2404	VII	AP-192	A-68	VII.E3.AP-192	VII.E3-2(A-68)	Heat exchanger components
2405	VII	AP-193	AP-45	VII.H2.AP-193	VII.H2-11(AP-45)	Piping, piping components, and piping elements

2406	VII	AP-194	A-38	VII.C1.AP-194	VII.C1-19(A-38)	Piping, piping components, and piping elements
2407	VII	AP-194	A-38	VII.C3.AP-194	VII.C3-10(A-38)	Piping, piping components, and piping elements
2408	VII	AP-194	A-38	VII.H2.AP-194	VII.H2-22(A-38)	Piping, piping components, and piping elements
2409	VII	AP-195	A-43	VII.C3.AP-195	VII.C3-2(A-43)	Piping, piping components, and piping elements
2410	VII	AP-196	A-44	VII.C1.AP-196	VII.C1-9(A-44)	Piping, piping components, and piping elements
2411	VII	AP-197	A-45	VII.G.AP-197	VII.G-12(A-45)	Piping, piping components, and piping elements
2412	VII	AP-198	A-01	VII.C1.AP-198	VII.C1-18(A-01)	Piping, piping components, and piping elements

2413	VII	AP-198	A-01	VII.C3.AP-198	VII.C3-9(A-01)	Piping, piping components, and piping elements
2414	VII	AP-198	A-01	VII.G.AP-198	VII.G-25(A-01)	Piping, piping components, and piping elements
2415	VII	AP-198	A-01	VII.H1.AP-198	VII.H1-9(A-01)	Piping, piping components, and piping elements
2416	VII	AP-199	AP-12	VII.A3.AP-199	VII.A3-5(AP-12)	Piping, piping components, and piping elements
2417	VII	AP-199	AP-12	VII.A4.AP-199	VII.A4-6(AP-12)	Piping, piping components, and piping elements
2418	VII	AP-199	AP-12	VII.C2.AP-199	VII.C2-4(AP-12)	Piping, piping components, and piping elements
2419	VII	AP-199	AP-12	VII.E1.AP-199	VII.E1-11(AP-12)	Piping, piping components, and piping elements
2420	VII	AP-199	AP-12	VII.E3.AP-199	VII.E3-8(AP-12)	Piping, piping components, and piping elements
2421	VII	AP-199	AP-12	VII.E4.AP-199	VII.E4-5(AP-12)	Piping, piping components, and piping elements
2422	VII	AP-199	AP-12	VII.F1.AP-199	VII.F1-15(AP-12)	Piping, piping components, and piping elements
2423	VII	AP-199	AP-12	VII.F2.AP-199	VII.F2-13(AP-12)	Piping, piping components, and piping elements
2424	VII	AP-199	AP-12	VII.F3.AP-199	VII.F3-15(AP-12)	Piping, piping components, and piping elements

2425	VII	AP-199	AP-12	VII.F4.AP-199	VII.F4-11(AP-12)	Piping, piping components, and piping elements
2426	VII	AP-199	AP-12	VII.H1.AP-199	VII.H1-2(AP-12)	Piping, piping components, and piping elements
2427	VII	AP-199	AP-12	VII.H2.AP-199	VII.H2-8(AP-12)	Piping, piping components, and piping elements
183	VII	AP-2		VII.J.AP-2	VII.J-20(AP-2)	Piping, piping components, and piping elements
184	VII	AP-20		VII.J.AP-20	VII.J-18(AP-20)	Piping, piping components, and piping elements
2430	VII	AP-202	A-25	VII.C2.AP-202	VII.C2-14(A-25)	Piping, piping components, and piping elements; tanks
2431	VII	AP-202	A-25	VII.F1.AP-202	VII.F1-20(A-25)	Piping, piping components, and piping elements; tanks
2432	VII	AP-202	A-25	VII.F2.AP-202	VII.F2-18(A-25)	Piping, piping components, and piping elements; tanks
2433	VII	AP-202	A-25	VII.F3.AP-202	VII.F3-20(A-25)	Piping, piping components, and piping elements; tanks
2434	VII	AP-202	A-25	VII.F4.AP-202	VII.F4-16(A-25)	Piping, piping components, and piping elements; tanks
2435	VII	AP-202	A-25	VII.H2.AP-202	VII.H2-23(A-25)	Piping, piping components, and piping elements; tanks
2436	VII	AP-203	AP-34	VII.E1.AP-203	VII.E1-2(AP-34)	Heat exchanger components
2437	VII	AP-203	AP-34	VII.F1.AP-203	VII.F1-8(AP-34)	Heat exchanger components

2438	VII	AP-203	AP-34	VII.F3.AP-203	VII.F3-8(AP-34)	Heat exchanger components
2439	VII	AP-204	AP-77	VII.F1.AP-204	VII.F1-13(AP-77)	Heat exchanger tubes
2440	VII	AP-204	AP-77	VII.F2.AP-204	VII.F2-11(AP-77)	Heat exchanger tubes
2441	VII	AP-204	AP-77	VII.F3.AP-204	VII.F3-13(AP-77)	Heat exchanger tubes
2442	VII	AP-204	AP-77	VII.F4.AP-204	VII.F4-9(AP-77)	Heat exchanger tubes
2443	VII	AP-205	AP-80	VII.C2.AP-205	VII.C2-2(AP-80)	Heat exchanger tubes
2444	VII	AP-205	AP-80	VII.F1.AP-205	VII.F1-12(AP-80)	Heat exchanger tubes
2445	VII	AP-205	AP-80	VII.F2.AP-205	VII.F2-10(AP-80)	Heat exchanger tubes
2446	VII	AP-205	AP-80	VII.F3.AP-205	VII.F3-12(AP-80)	Heat exchanger tubes
2447	VII	AP-206	AP-53	VII.C1.AP-206	VII.C1-13(AP-53)	Piping, piping components, and piping elements
2448	VII	AP-206	AP-53	VII.C3.AP-206	VII.C3-6(AP-53)	Piping, piping components, and piping elements
2449	VII	AP-207	AP-75	VII.C1.AP-207	VII.C1-1(AP-75)	Elastomer: seals and components
2450	VII	AP-208	AP-76	VII.C1.AP-208	VII.C1-2(AP-76)	Elastomer: seals and components
2537	VII	AP-209	New Record	VII.C1.AP-209		Piping, piping components, and piping elements; tanks
2538	VII	AP-209	New Record	VII.C2.AP-209		Piping, piping components, and piping elements; tanks

2539	VII	AP-209	New Record	VII.C3.AP-209		Piping, piping components, and piping elements; tanks
2540	VII	AP-209	New Record	VII.D.AP-209		Piping, piping components, and piping elements; tanks
2541	VII	AP-209	New Record	VII.E1.AP-209		Piping, piping components, and piping elements; tanks
2542	VII	AP-209	New Record	VII.E4.AP-209		Piping, piping components, and piping elements; tanks
2543	VII	AP-209	New Record	VII.F1.AP-209		Piping, piping components, and piping elements; tanks
2544	VII	AP-209	New Record	VII.F2.AP-209		Piping, piping components, and piping elements; tanks
2545	VII	AP-209	New Record	VII.F4.AP-209		Piping, piping components, and piping elements; tanks
2546	VII	AP-209	New Record	VII.G.AP-209		Piping, piping components, and piping elements; tanks
2547	VII	AP-209	New Record	VII.H1.AP-209		Piping, piping components, and piping elements; tanks
2548	VII	AP-209	New Record	VII.H2.AP-209		Piping, piping components, and piping elements; tanks
185	VII	AP-22		VII.J.AP-22	VII.J-19(AP-22)	Piping, piping components, and piping elements
2562	VII	AP-221	New Record	VII.C1.AP-221		Piping, piping components, and piping elements; tanks
2563	VII	AP-221	New Record	VII.C2.AP-221		Piping, piping components, and piping elements; tanks

2564	VII	AP-221	New Record	VII.C3.AP-221		Piping, piping components, and piping elements; tanks
2565	VII	AP-221	New Record	VII.D.AP-221		Piping, piping components, and piping elements; tanks
2566	VII	AP-221	New Record	VII.E1.AP-221		Piping, piping components, and piping elements; tanks
2567	VII	AP-221	New Record	VII.E4.AP-221		Piping, piping components, and piping elements; tanks
2568	VII	AP-221	New Record	VII.F1.AP-221		Piping, piping components, and piping elements; tanks
2569	VII	AP-221	New Record	VII.F2.AP-221		Piping, piping components, and piping elements; tanks
2570	VII	AP-221	New Record	VII.F4.AP-221		Piping, piping components, and piping elements; tanks
2571	VII	AP-221	New Record	VII.G.AP-221		Piping, piping components, and piping elements; tanks
2572	VII	AP-221	New Record	VII.H1.AP-221		Piping, piping components, and piping elements; tanks
2573	VII	AP-221	New Record	VII.H2.AP-221		Piping, piping components, and piping elements; tanks
2593	VII	AP-234	A-28	VII.G.AP-234	VII.G-21(A-28)	Piping, piping components, and piping elements
2596	VII	AP-235	A-88	VII.A2.AP-235	VII.A2-5(A-88)	Spent fuel storage racks: neutron-absorbing sheets (PWR)

2597	VII	AP-236	A-89	VII.A2.AP-236	VII.A2-3(A-89)	Spent fuel storage racks: neutron-absorbing sheets (BWR)
2624	VII	AP-237	New Record	VII.C1.AP-237		Piping, piping components, and piping elements
2625	VII	AP-238	New Record	VII.C1.AP-238		Piping, piping components, and piping elements
2626	VII	AP-239	New Record	VII.C1.AP-239		Piping, piping components, and piping elements
2627	VII	AP-240	New Record	VII.D.AP-240		Piping, piping components, and piping elements
2628	VII	AP-241	New Record	VII.I.AP-241		Bolting
2629	VII	AP-242	New Record	VII.I.AP-242		Bolting
2630	VII	AP-243	New Record	VII.I.AP-243		Bolting
2631	VII	AP-244	New Record	VII.I.AP-244		Bolting
2649	VII	AP-248	New Record	VII.C1.AP-248		Piping, piping components, and piping elements
2650	VII	AP-249	New Record	VII.C1.AP-249		Piping, piping components, and piping elements
2651	VII	AP-250	New Record	VII.C1.AP-250		Piping, piping components, and piping elements
2652	VII	AP-251	New Record	VII.C1.AP-251		Piping, piping components, and piping elements
2653	VII	AP-252	New Record	VII.C1.AP-252		Piping, piping components, and piping elements

2654	VII	AP-253	New Record	VII.C1.AP-253		Piping, piping components, and piping elements
2655	VII	AP-254	New Record	VII.C2.AP-254		Piping, piping components, and piping elements
2656	VII	AP-255	New Record	VII.H2.AP-255		Piping, piping components, and piping elements
2658	VII	AP-256	New Record	VII.I.AP-256		Piping, piping components, and piping elements
2660	VII	AP-257	New Record	VII.C2.AP-257		Piping, piping components, and piping elements
2661	VII	AP-258	New Record	VII.H2.AP-258		Piping, piping components, and piping elements
2662	VII	AP-259	New Record	VII.C2.AP-259		Elastomer seals and components
2665	VII	AP-260	New Record	VII.J.AP-260		Piping, piping components, and piping elements
2668	VII	AP-261	New Record	VII.I.AP-261		Bolting
2671	VII	AP-262	New Record	VII.I.AP-262		Bolting
2674	VII	AP-263	New Record	VII.I.AP-263		Bolting
2677	VII	AP-264	New Record	VII.I.AP-264		Bolting
2679	VII	AP-265	New Record	VII.I.AP-265		Bolting
2681	VII	AP-266	New Record	VII.I.AP-266		Bolting

2683	VII	AP-267	New Record	VII.I.AP-267		Bolting
2684	VII	AP-268	New Record	VII.J.AP-268		Piping, piping components, and piping elements
2686	VII	AP-269	New Record	VII.J.AP-269		Piping, piping components, and piping elements
2688	VII	AP-270	New Record	VII.E5.AP-270		Piping, piping components, and piping elements
2689	VII	AP-271	New Record	VII.E5.AP-271		Piping, piping components, and piping elements
2690	VII	AP-272	New Record	VII.E5.AP-272		Piping, piping components, and piping elements
2691	VII	AP-273	New Record	VII.E5.AP-273		Piping, piping components, and piping elements
2692	VII	AP-274	New Record	VII.E5.AP-274		Piping, piping components, and piping elements
2693	VII	AP-275	New Record	VII.E5.AP-275		Heat exchanger components
2694	VII	AP-276	New Record	VII.E5.AP-276		Heat exchanger components
2695	VII	AP-277	New Record	VII.J.AP-277		Piping, piping components, and piping elements
2696	VII	AP-278	New Record	VII.E5.AP-278		Piping, piping components, and piping elements; tanks

2697	VII	AP-279	New Record	VII.E5.AP-279		Piping, piping components, and piping elements; tanks
2698	VII	AP-280	New Record	VII.E5.AP-280		Piping, piping components, and piping elements; tanks
2699	VII	AP-281	New Record	VII.E5.AP-281		Piping, piping components, and piping elements; tanks
2700	VII	AP-282	AP-3	VII.J.AP-282	VII.J-21(AP-3)	Piping, piping components, and piping elements
2728	VII	AP-283	A-60	VII.E3.AP-283	VII.E3-16(A-60)	Piping, piping components, and piping elements
26	VII	AP-31		VII.A3.AP-31	VII.A3-7(AP-31)	Piping, piping components, and piping elements
27	VII	AP-31		VII.A4.AP-31	VII.A4-10(AP-31)	Piping, piping components, and piping elements
28	VII	AP-31		VII.C2.AP-31	VII.C2-9(AP-31)	Piping, piping components, and piping elements
29	VII	AP-31		VII.E1.AP-31	VII.E1-14(AP-31)	Piping, piping components, and piping elements
30	VII	AP-31		VII.E3.AP-31	VII.E3-12(AP-31)	Piping, piping components, and piping elements
31	VII	AP-31		VII.E4.AP-31	VII.E4-10(AP-31)	Piping, piping components, and piping elements
32	VII	AP-31		VII.F1.AP-31	VII.F1-18(AP-31)	Piping, piping components, and piping elements
33	VII	AP-31		VII.F2.AP-31	VII.F2-16(AP-31)	Piping, piping components, and piping elements

142	VII	AP-31		VII.F4.AP-31	VII.F4-14(AP-31)	Piping, piping components, and piping elements
143	VII	AP-31		VII.G.AP-31	VII.G-16(AP-31)	Piping, piping components, and piping elements
144	VII	AP-32		VII.A4.AP-32	VII.A4-9(AP-32)	Piping, piping components, and piping elements
145	VII	AP-32		VII.C2.AP-32	VII.C2-7(AP-32)	Piping, piping components, and piping elements
146	VII	AP-32		VII.E3.AP-32	VII.E3-11(AP-32)	Piping, piping components, and piping elements
147	VII	AP-32		VII.E4.AP-32	VII.E4-9(AP-32)	Piping, piping components, and piping elements
377	VII	AP-36		VII.J.AP-36	VII.J-1(AP-36)	Piping, piping components, and piping elements
378	VII	AP-37		VII.J.AP-37	VII.J-2(AP-37)	Piping, piping components, and piping elements
383	VII	AP-4		VII.J.AP-4	VII.J-22(AP-4)	Piping, piping components, and piping elements
384	VII	AP-40		VII.G.AP-40	VII.G-6(AP-40)	Heat exchanger components
385	VII	AP-40		VII.H2.AP-40	VII.H2-4(AP-40)	Heat exchanger components
386	VII	AP-41		VII.F1.AP-41	VII.F1-10(AP-41)	Heat exchanger components
2715	VII	AP-41		VII.F2.AP-41	VII.F2-8(AP-41)	Heat exchanger components
440	VII	AP-41		VII.F3.AP-41	VII.F3-10(AP-41)	Heat exchanger components
441	VII	AP-41		VII.F4.AP-41	VII.F4-7(AP-41)	Heat exchanger components

442	VII	AP-41		VII.G.AP-41	VII.G-5(AP-41)	Heat exchanger components
443	VII	AP-41		VII.H2.AP-41	VII.H2-3(AP-41)	Heat exchanger components
444	VII	AP-43		VII.A3.AP-43	VII.A3-6(AP-43)	Piping, piping components, and piping elements
445	VII	AP-43		VII.A4.AP-43	VII.A4-8(AP-43)	Piping, piping components, and piping elements
446	VII	AP-43		VII.C2.AP-43	VII.C2-6(AP-43)	Piping, piping components, and piping elements
447	VII	AP-43		VII.E1.AP-43	VII.E1-13(AP-43)	Piping, piping components, and piping elements
448	VII	AP-43		VII.E3.AP-43	VII.E3-10(AP-43)	Piping, piping components, and piping elements
77	VII	AP-43		VII.E4.AP-43	VII.E4-8(AP-43)	Piping, piping components, and piping elements
78	VII	AP-43		VII.F1.AP-43	VII.F1-17(AP-43)	Piping, piping components, and piping elements
79	VII	AP-43		VII.F2.AP-43	VII.F2-15(AP-43)	Piping, piping components, and piping elements
80	VII	AP-43		VII.F3.AP-43	VII.F3-17(AP-43)	Piping, piping components, and piping elements
81	VII	AP-43		VII.F4.AP-43	VII.F4-13(AP-43)	Piping, piping components, and piping elements
82	VII	AP-43		VII.H1.AP-43	VII.H1-4(AP-43)	Piping, piping components, and piping elements
83	VII	AP-43		VII.H2.AP-43	VII.H2-12(AP-43)	Piping, piping components, and piping elements
94	VII	AP-48		VII.J.AP-48	VII.J-7(AP-48)	Piping elements
95	VII	AP-49		VII.J.AP-49	VII.J-9(AP-49)	Piping elements
96	VII	AP-50		VII.J.AP-50	VII.J-11(AP-50)	Piping elements
97	VII	AP-51		VII.J.AP-51	VII.J-13(AP-51)	Piping elements

449	VII	AP-52		VII.J.AP-52	VII.J-12(AP-52)	Piping elements
455	VII	AP-55		VII.H2.AP-55	VII.H2-18(AP-55)	Piping, piping components, and piping elements
396	VII	AP-6		VII.J.AP-6	VII.J-23(AP-6)	Piping, piping components, and piping elements
186	VII	AP-65		VII.E1.AP-65	VII.E1-3(AP-65)	Heat exchanger components
187	VII	AP-65		VII.F1.AP-65	VII.F1-9(AP-65)	Heat exchanger components
188	VII	AP-65		VII.F3.AP-65	VII.F3-9(AP-65)	Heat exchanger components
189	VII	AP-66		VII.I.AP-66	VII.I-12(AP-66)	Piping, piping components, and piping elements
409	VII	AP-79		VII.A2.AP-79	VII.A2-1(AP-79)	Piping, piping components, and piping elements
410	VII	AP-79		VII.A3.AP-79	VII.A3-8(AP-79)	Piping, piping components, and piping elements
411	VII	AP-79		VII.E1.AP-79	VII.E1-17(AP-79)	Piping, piping components, and piping elements
412	VII	AP-8		VII.J.AP-8	VII.J-3(AP-8)	Piping, piping components, and piping elements
417	VII	AP-81		VII.D.AP-81	VII.D-4(AP-81)	Piping, piping components, and piping elements
418	VII	AP-82		VII.E1.AP-82	VII.E1-20(AP-82)	Piping, piping components, and piping elements; tanks
420	VII	AP-85		VII.E1.AP-85	VII.E1-21(AP-85)	Pump Casings
421	VII	AP-9		VII.J.AP-9	VII.J-4(AP-9)	Piping, piping components, and piping elements

1431	VII	AP-96	New Record	VII.J.AP-96		Piping elements
1434	VII	AP-97	New Record	VII.J.AP-97		Piping elements
1437	VII	AP-98	New Record	VII.J.AP-98		Piping elements
1467	VII	AP-99	A-09	VII.F1.AP-99	VII.F1-1(A-09)	Ducting and components
1468	VII	AP-99	A-09	VII.F2.AP-99	VII.F2-1(A-09)	Ducting and components
1469	VII	AP-99	A-09	VII.F3.AP-99	VII.F3-1(A-09)	Ducting and components
1014	VIII	S-02		VIII.H.S-02	VIII.H-6(S-02)	Closure bolting
1015	VIII	S-03		VIII.H.S-03	VIII.H-3(S-03)	Closure bolting
1022	VIII	S-08		VIII.B1.S-08	VIII.B1-10(S-08)	Piping, piping components, and piping elements
1023	VIII	S-08		VIII.B2.S-08	VIII.B2-5(S-08)	Piping, piping components, and piping elements
598	VIII	S-11		VIII.D1.S-11	VIII.D1-7(S-11)	Piping, piping components, and piping elements
599	VIII	S-11		VIII.D2.S-11	VIII.D2-6(S-11)	Piping, piping components, and piping elements

600	VIII	S-11		VIII.G.S-11	VIII.G-37(S-11)	Piping, piping components, and piping elements
604	VIII	S-15		VIII.A.S-15	VIII.A-17(S-15)	Piping, piping components, and piping elements
605	VIII	S-15		VIII.B1.S-15	VIII.B1-9(S-15)	Piping, piping components, and piping elements
606	VIII	S-15		VIII.B2.S-15	VIII.B2-4(S-15)	Piping, piping components, and piping elements
607	VIII	S-15		VIII.C.S-15	VIII.C-5(S-15)	Piping, piping components, and piping elements
608	VIII	S-16		VIII.D1.S-16	VIII.D1-9(S-16)	Piping, piping components, and piping elements
609	VIII	S-16		VIII.D2.S-16	VIII.D2-8(S-16)	Piping, piping components, and piping elements
610	VIII	S-16		VIII.E.S-16	VIII.E-35(S-16)	Piping, piping components, and piping elements
611	VIII	S-16		VIII.F.S-16	VIII.F-26(S-16)	Piping, piping components, and piping elements
612	VIII	S-16		VIII.G.S-16	VIII.G-39(S-16)	Piping, piping components, and piping elements
1036	VIII	S-23		VIII.A.S-23	VIII.A-1(S-23)	Heat exchanger components
1037	VIII	S-23		VIII.E.S-23	VIII.E-5(S-23)	Heat exchanger components
1038	VIII	S-23		VIII.F.S-23	VIII.F-4(S-23)	Heat exchanger components
1039	VIII	S-23		VIII.G.S-23	VIII.G-5(S-23)	Heat exchanger components

1043	VIII	S-25		VIII.E.S-25	VIII.E-2(S-25)	Heat exchanger components
1044	VIII	S-25		VIII.F.S-25	VIII.F-1(S-25)	Heat exchanger components
1045	VIII	S-25		VIII.G.S-25	VIII.G-2(S-25)	Heat exchanger components
616	VIII	S-27		VIII.G.S-27	VIII.G-16(S-27)	Heat exchanger tubes
617	VIII	S-28		VIII.E.S-28	VIII.E-12(S-28)	Heat exchanger tubes
618	VIII	S-28		VIII.F.S-28	VIII.F-9(S-28)	Heat exchanger tubes
619	VIII	S-28		VIII.G.S-28	VIII.G-13(S-28)	Heat exchanger tubes
620	VIII	S-29		VIII.H.S-29	VIII.H-7(S-29)	External surfaces
621	VIII	S-30		VIII.H.S-30	VIII.H-9(S-30)	External surfaces
622	VIII	S-31		VIII.E.S-31	VIII.E-39(S-31)	Tanks
289	VIII	S-31		VIII.G.S-31	VIII.G-40(S-31)	Tanks
294	VIII	S-40		VIII.H.S-40	VIII.H-2(S-40)	Bolting
295	VIII	S-41		VIII.H.S-41	VIII.H-8(S-41)	External surfaces
296	VIII	S-42		VIII.H.S-42	VIII.H-10(S-42)	External surfaces
701	VIII	SP-1		VIII.I.SP-1	VIII.I-13(SP-1)	Piping, piping components, and piping elements
702	VIII	SP-10		VIII.I.SP-10	VIII.I-6(SP-10)	Piping elements
1641	VIII	SP-100	SP-58	VIII.E.SP-100	VIII.E-10(SP-58)	Heat exchanger tubes

1642	VIII	SP-100	SP-58	VIII.F.SP-100	VIII.F-7(SP-58)	Heat exchanger tubes
1643	VIII	SP-100	SP-58	VIII.G.SP-100	VIII.G-10(SP-58)	Heat exchanger tubes
1644	VIII	SP-101	SP-61	VIII.A.SP-101	VIII.A-5(SP-61)	Piping, piping components, and piping elements
1645	VIII	SP-101	SP-61	VIII.F.SP-101	VIII.F-15(SP-61)	Piping, piping components, and piping elements
1646	VIII	SP-102	SP-62	VIII.G.SP-102	VIII.G-12(SP-62)	Heat exchanger tubes
1647	VIII	SP-103	SP-63	VIII.G.SP-103	VIII.G-15(SP-63)	Heat exchanger tubes
1821	VIII	SP-104	New Record	VIII.I.SP-104		Piping, piping components, and piping elements
1825	VIII	SP-108	New Record	VIII.I.SP-108		Piping elements
703	VIII	SP-11		VIII.I.SP-11	VIII.I-9(SP-11)	Piping, piping components, and piping elements
1827	VIII	SP-110	New Record	VIII.B1.SP-110		Piping, piping components, and piping elements
2731	VIII	SP-110	New Record	VIII.B2.SP-110		Piping, piping components, and piping elements
1828	VIII	SP-111	New Record	VIII.I.SP-111		Piping elements
1830	VIII	SP-113	New Record	VIII.G.SP-113		Heat exchanger components and tubes
1831	VIII	SP-114	New Record	VIII.G.SP-114		Piping, piping components, and piping elements
1832	VIII	SP-115	New Record	VIII.E.SP-115		Tanks
1833	VIII	SP-116	New Record	VIII.G.SP-116		Tanks

1892	VIII	SP-117	S-26	VIII.E.SP-117	VIII.E-3(S-26)	Heat exchanger components
1893	VIII	SP-117	S-26	VIII.F.SP-117	VIII.F-2(S-26)	Heat exchanger components
1894	VIII	SP-117	S-26	VIII.G.SP-117	VIII.G-4(S-26)	Heat exchanger components
2549	VIII	SP-118	New Record	VIII.A.SP-118		Piping, piping components, and piping elements; tanks
2550	VIII	SP-118	New Record	VIII.B1.SP-118		Piping, piping components, and piping elements; tanks
2551	VIII	SP-118	New Record	VIII.B2.SP-118		Piping, piping components, and piping elements; tanks
2552	VIII	SP-118	New Record	VIII.C.SP-118		Piping, piping components, and piping elements; tanks
2553	VIII	SP-118	New Record	VIII.D1.SP-118		Piping, piping components, and piping elements; tanks
2554	VIII	SP-118	New Record	VIII.D2.SP-118		Piping, piping components, and piping elements; tanks
2555	VIII	SP-118	New Record	VIII.E.SP-118		Piping, piping components, and piping elements; tanks

2556	VIII	SP-118	New Record	VIII.F.SP-118		Piping, piping components, and piping elements; tanks
2557	VIII	SP-118	New Record	VIII.G.SP-118		Piping, piping components, and piping elements; tanks
704	VIII	SP-12		VIII.I.SP-12	VIII.I-10(SP-12)	Piping, piping components, and piping elements
2574	VIII	SP-127	New Record	VIII.A.SP-127		Piping, piping components, and piping elements; tanks
2575	VIII	SP-127	New Record	VIII.B1.SP-127		Piping, piping components, and piping elements; tanks
2576	VIII	SP-127	New Record	VIII.B2.SP-127		Piping, piping components, and piping elements; tanks
2577	VIII	SP-127	New Record	VIII.C.SP-127		Piping, piping components, and piping elements; tanks
2578	VIII	SP-127	New Record	VIII.D1.SP-127		Piping, piping components, and piping elements; tanks
2579	VIII	SP-127	New Record	VIII.D2.SP-127		Piping, piping components, and piping elements; tanks
2580	VIII	SP-127	New Record	VIII.E.SP-127		Piping, piping components, and piping elements; tanks
2581	VIII	SP-127	New Record	VIII.F.SP-127		Piping, piping components, and piping elements; tanks
2582	VIII	SP-127	New Record	VIII.G.SP-127		Piping, piping components, and piping elements; tanks
705	VIII	SP-13		VIII.I.SP-13	VIII.I-11(SP-13)	Piping, piping components, and piping elements

2618	VIII	SP-136	S-12	VIII.G.SP-136	VIII.G-36(S-12)	Steel Piping, piping components, and piping elements exposed to Raw water
2632	VIII	SP-137	New Record	VIII.E.SP-137		Tanks
2633	VIII	SP-138	New Record	VIII.E.SP-138		Tanks
2634	VIII	SP-139	New Record	VIII.E.SP-139		Tanks
2635	VIII	SP-140	New Record	VIII.E.SP-140		Tanks
2636	VIII	SP-141	New Record	VIII.H.SP-141		Bolting
2637	VIII	SP-142	New Record	VIII.H.SP-142		Bolting
2638	VIII	SP-143	New Record	VIII.H.SP-143		Bolting
2639	VIII	SP-144	New Record	VIII.H.SP-144		Bolting
2640	VIII	SP-145	S-01	VIII.E.SP-145	VIII.E-1(S-01)	Piping, piping components, and piping elements; tanks
2641	VIII	SP-145	S-01	VIII.G.SP-145	VIII.G-1(S-01)	Piping, piping components, and piping elements; tanks
2642	VIII	SP-146	S-24	VIII.E.SP-146	VIII.E-6(S-24)	Heat exchanger components

2643	VIII	SP-146	S-24	VIII.F.SP-146	VIII.F-5(S-24)	Heat exchanger components
2644	VIII	SP-146	S-24	VIII.G.SP-146	VIII.G-7(S-24)	Heat exchanger components
2659	VIII	SP-147	New Record	VIII.H.SP-147		Piping, piping components, and piping elements
2666	VIII	SP-148	New Record	VIII.I.SP-148		Piping, piping components, and piping elements
2669	VIII	SP-149	New Record	VIII.H.SP-149		Bolting
706	VIII	SP-15		VIII.I.SP-15	VIII.I-12(SP-15)	Piping, piping components, and piping elements
2672	VIII	SP-150	New Record	VIII.H.SP-150		Bolting
2675	VIII	SP-151	New Record	VIII.H.SP-151		Bolting
2685	VIII	SP-152	New Record	VIII.I.SP-152		Piping, piping components, and piping elements
2687	VIII	SP-153	New Record	VIII.I.SP-153		Piping, piping components, and piping elements
2701	VIII	SP-154	SP-2	VIII.I.SP-154	VIII.I-14(SP-2)	Piping, piping components, and piping elements

2716	VIII	SP-155	SP-43	VIII.A.SP-155	VIII.A-12(SP-43)	Piping, piping components, and piping elements
2717	VIII	SP-155	SP-43	VIII.B1.SP-155	VIII.B1-3(SP-43)	Piping, piping components, and piping elements
2719	VIII	SP-155	SP43	VIII.B2.SP-155	VIII.B2-2(SP43)	Piping, piping components, and piping elements
2720	VIII	SP-157	SP-18	VIII.B1.SP-157	VIII.B1-1(SP-18)	Piping, piping components, and piping elements
2724	VIII	SP-160	S-05	VIII.B2.SP-160	VIII.B2-3(S-05)	Piping, piping components, and piping elements
632	VIII	SP-23		VIII.I.SP-23	VIII.I-1(SP-23)	Piping, piping components, and piping elements
1058	VIII	SP-26		VIII.E.SP-26	VIII.E-22(SP-26)	Piping, piping components, and piping elements
1059	VIII	SP-26		VIII.G.SP-26	VIII.G-25(SP-26)	Piping, piping components, and piping elements
1060	VIII	SP-27		VIII.A.SP-27	VIII.A-8(SP-27)	Piping, piping components, and piping elements
1061	VIII	SP-27		VIII.E.SP-27	VIII.E-23(SP-27)	Piping, piping components, and piping elements
1062	VIII	SP-27		VIII.F.SP-27	VIII.F-19(SP-27)	Piping, piping components, and piping elements
1063	VIII	SP-27		VIII.G.SP-27	VIII.G-26(SP-27)	Piping, piping components, and piping elements
1064	VIII	SP-28		VIII.A.SP-28	VIII.A-7(SP-28)	Piping, piping components, and piping elements
1065	VIII	SP-28		VIII.G.SP-28	VIII.G-24(SP-28)	Piping, piping components, and piping elements
1066	VIII	SP-29		VIII.E.SP-29	VIII.E-19(SP-29)	Piping, piping components, and piping elements
1067	VIII	SP-29		VIII.F.SP-29	VIII.F-16(SP-29)	Piping, piping components, and piping elements
1068	VIII	SP-29		VIII.G.SP-29	VIII.G-21(SP-29)	Piping, piping components, and piping elements

1069	VIII	SP-30		VIII.A.SP-30	VIII.A-6(SP-30)	Piping, piping components, and piping elements
298	VIII	SP-30		VIII.E.SP-30	VIII.E-20(SP-30)	Piping, piping components, and piping elements
299	VIII	SP-30		VIII.F.SP-30	VIII.F-17(SP-30)	Piping, piping components, and piping elements
300	VIII	SP-30		VIII.G.SP-30	VIII.G-22(SP-30)	Piping, piping components, and piping elements
301	VIII	SP-31		VIII.A.SP-31	VIII.A-4(SP-31)	Piping, piping components, and piping elements
302	VIII	SP-31		VIII.E.SP-31	VIII.E-18(SP-31)	Piping, piping components, and piping elements
303	VIII	SP-31		VIII.F.SP-31	VIII.F-14(SP-31)	Piping, piping components, and piping elements
304	VIII	SP-31		VIII.G.SP-31	VIII.G-20(SP-31)	Piping, piping components, and piping elements
310	VIII	SP-33		VIII.I.SP-33	VIII.I-4(SP-33)	Piping elements
311	VIII	SP-34		VIII.I.SP-34	VIII.I-7(SP-34)	Piping elements
312	VIII	SP-35		VIII.I.SP-35	VIII.I-8(SP-35)	Piping elements
313	VIII	SP-36		VIII.E.SP-36	VIII.E-27(SP-36)	Piping, piping components, and piping elements
314	VIII	SP-36		VIII.F.SP-36	VIII.F-22(SP-36)	Piping, piping components, and piping elements

315	VIII	SP-36		VIII.G.SP-36	VIII.G-30(SP-36)	Piping, piping components, and piping elements
1075	VIII	SP-39		VIII.E.SP-39	VIII.E-24(SP-39)	Piping, piping components, and piping elements
1076	VIII	SP-39		VIII.F.SP-39	VIII.F-20(SP-39)	Piping, piping components, and piping elements
1077	VIII	SP-39		VIII.G.SP-39	VIII.G-27(SP-39)	Piping, piping components, and piping elements
1078	VIII	SP-4		VIII.I.SP-4	VIII.I-15(SP-4)	Piping, piping components, and piping elements
1081	VIII	SP-41		VIII.E.SP-41	VIII.E-11(SP-41)	Heat exchanger tubes
1082	VIII	SP-41		VIII.F.SP-41	VIII.F-8(SP-41)	Heat exchanger tubes
1083	VIII	SP-41		VIII.G.SP-41	VIII.G-11(SP-41)	Heat exchanger tubes
1093	VIII	SP-5		VIII.I.SP-5	VIII.I-3(SP-5)	Piping, piping components, and piping elements
1095	VIII	SP-54		VIII.E.SP-54	VIII.E-25(SP-54)	Piping, piping components, and piping elements
1096	VIII	SP-54		VIII.F.SP-54	VIII.F-21(SP-54)	Piping, piping components, and piping elements
1097	VIII	SP-54		VIII.G.SP-54	VIII.G-28(SP-54)	Piping, piping components, and piping elements
1098	VIII	SP-55		VIII.E.SP-55	VIII.E-21(SP-55)	Piping, piping components, and piping elements
1099	VIII	SP-55		VIII.F.SP-55	VIII.F-18(SP-55)	Piping, piping components, and piping elements
1100	VIII	SP-55		VIII.G.SP-55	VIII.G-23(SP-55)	Piping, piping components, and piping elements
1101	VIII	SP-56		VIII.E.SP-56	VIII.E-9(SP-56)	Heat exchanger tubes

1102	VIII	SP-56		VIII.F.SP-56	VIII.F-6(SP-56)	Heat exchanger components
1103	VIII	SP-56		VIII.G.SP-56	VIII.G-9(SP-56)	Heat exchanger tubes
1104	VIII	SP-57		VIII.E.SP-57	VIII.E-8(SP-57)	Heat exchanger tubes
1108	VIII	SP-59		VIII.B1.SP-59	VIII.B1-6(SP-59)	Piping, piping components, and piping elements
1109	VIII	SP-6		VIII.I.SP-6	VIII.I-2(SP-6)	Piping, piping components, and piping elements
1110	VIII	SP-60		VIII.B1.SP-60	VIII.B1-7(SP-60)	Piping, piping components, and piping elements
1111	VIII	SP-60		VIII.G.SP-60	VIII.G-34(SP-60)	Piping, piping components, and piping elements
1116	VIII	SP-64		VIII.A.SP-64	VIII.A-2(SP-64)	Heat exchanger components and tubes
1117	VIII	SP-64		VIII.E.SP-64	VIII.E-14(SP-64)	Heat exchanger tubes
1118	VIII	SP-64		VIII.F.SP-64	VIII.F-11(SP-64)	Heat exchanger tubes
1119	VIII	SP-64		VIII.G.SP-64	VIII.G-14(SP-64)	Heat exchanger tubes
1432	VIII	SP-67	New Record	VIII.I.SP-67		Piping elements
1435	VIII	SP-68	New Record	VIII.I.SP-68		Piping elements
1438	VIII	SP-69	New Record	VIII.I.SP-69		Piping elements
1440	VIII	SP-70	New Record	VIII.I.SP-70		Piping elements
1568	VIII	SP-71	S-04	VIII.A.SP-71	VIII.A-15(S-04)	Piping, piping components, and piping elements
2721	VIII	SP-71	S-07	VIII.B1.SP-71	VIII.B1-8(S-07)	Piping, piping components, and piping elements

1569	VIII	SP-71	S-04	VIII.C.SP-71	VIII.C-3(S-04)	Piping, piping components, and piping elements
1572	VIII	SP-73	S-09	VIII.B2.SP-73	VIII.B2-6(S-09)	Piping, piping components, and piping elements
1573	VIII	SP-73	S-09	VIII.C.SP-73	VIII.C-6(S-09)	Piping, piping components, and piping elements
1574	VIII	SP-73	S-09	VIII.D2.SP-73	VIII.D2-7(S-09)	Piping, piping components, and piping elements
1575	VIII	SP-73	S-09	VIII.E.SP-73	VIII.E-33(S-09)	Piping, piping components, and piping elements
1576	VIII	SP-74	S-10	VIII.B1.SP-74	VIII.B1-11(S-10)	Piping, piping components, and piping elements
1578	VIII	SP-74	S-10	VIII.D1.SP-74	VIII.D1-8(S-10)	Piping, piping components, and piping elements
1580	VIII	SP-74	S-10	VIII.F.SP-74	VIII.F-25(S-10)	Piping, piping components, and piping elements
1581	VIII	SP-74	S-10	VIII.G.SP-74	VIII.G-38(S-10)	Piping, piping components, and piping elements
1582	VIII	SP-75	S-13	VIII.E.SP-75	VIII.E-40(S-13)	Tanks
1583	VIII	SP-75	S-13	VIII.G.SP-75	VIII.G-41(S-13)	Tanks
1584	VIII	SP-76	S-17	VIII.G.SP-76	VIII.G-6(S-17)	Heat exchanger components

1585	VIII	SP-77	S-18	VIII.E.SP-77	VIII.E-7(S-18)	Heat exchanger components
1586	VIII	SP-78	S-19	VIII.E.SP-78	VIII.E-37(S-19)	PWR heat exchanger components
1587	VIII	SP-78	S-19	VIII.F.SP-78	VIII.F-28(S-19)	PWR heat exchanger components
1588	VIII	SP-79	S-20	VIII.G.SP-79	VIII.G-3(S-20)	Heat exchanger components
1120	VIII	SP-8		VIII.E.SP-8	VIII.E-16(SP-8)	Piping, piping components, and piping elements
1121	VIII	SP-8		VIII.F.SP-8	VIII.F-13(SP-8)	Piping, piping components, and piping elements
1122	VIII	SP-8		VIII.G.SP-8	VIII.G-18(SP-8)	Piping, piping components, and piping elements
1589	VIII	SP-80	S-21	VIII.E.SP-80	VIII.E-4(S-21)	Heat exchanger components and tubes
1590	VIII	SP-81	S-22	VIII.E.SP-81	VIII.E-36(S-22)	PWR heat exchanger components
1591	VIII	SP-81	S-22	VIII.F.SP-81	VIII.F-27(S-22)	PWR heat exchanger components
1592	VIII	SP-82	S-32	VIII.H.SP-82	VIII.H-1(S-32)	Bolting
1593	VIII	SP-83	S-33	VIII.H.SP-83	VIII.H-5(S-33)	Closure bolting
1594	VIII	SP-84	S-34	VIII.H.SP-84	VIII.H-4(S-34)	Closure bolting

1595	VIII	SP-85	S-39	VIII.F.SP-85	VIII.F-3(S-39)	Heat exchanger components
1597	VIII	SP-86	New Record	VIII.I.SP-86		Piping, piping components, and piping elements
1598	VIII	SP-87	SP-16	VIII.B1.SP-87	VIII.B1-4(SP-16)	Piping, piping components, and piping elements
1599	VIII	SP-87	SP-16	VIII.C.SP-87	VIII.C-1(SP-16)	Piping, piping components, and piping elements
1600	VIII	SP-87	SP-16	VIII.D1.SP-87	VIII.D1-4(SP-16)	Piping, piping components, and piping elements
1601	VIII	SP-87	SP-16	VIII.D2.SP-87	VIII.D2-4(SP-16)	Piping, piping components, and piping elements
1602	VIII	SP-87	SP-16	VIII.E.SP-87	VIII.E-29(SP-16)	Piping, piping components, and piping elements
1603	VIII	SP-87	SP-16	VIII.F.SP-87	VIII.F-23(SP-16)	Piping, piping components, and piping elements
1604	VIII	SP-87	SP-16	VIII.G.SP-87	VIII.G-32(SP-16)	Piping, piping components, and piping elements
1605	VIII	SP-88	SP-17	VIII.B1.SP-88	VIII.B1-5(SP-17)	Piping, piping components, and piping elements
1606	VIII	SP-88	SP-17	VIII.C.SP-88	VIII.C-2(SP-17)	Piping, piping components, and piping elements
1607	VIII	SP-88	SP-17	VIII.D1.SP-88	VIII.D1-5(SP-17)	Piping, piping components, and piping elements
1608	VIII	SP-88	SP-17	VIII.E.SP-88	VIII.E-30(SP-17)	Piping, piping components, and piping elements
1609	VIII	SP-88	SP-17	VIII.F.SP-88	VIII.F-24(SP-17)	Piping, piping components, and piping elements
1610	VIII	SP-88	SP-17	VIII.G.SP-88	VIII.G-33(SP-17)	Piping, piping components, and piping elements
1123	VIII	SP-9		VIII.I.SP-9	VIII.I-5(SP-9)	Piping elements
1612	VIII	SP-90	SP-24	VIII.D1.SP-90	VIII.D1-1(SP-24)	Piping, piping components, and piping elements

1613	VIII	SP-90	SP-24	VIII.D2.SP-90	VIII.D2-1(SP-24)	Piping, piping components, and piping elements
1614	VIII	SP-90	SP-24	VIII.E.SP-90	VIII.E-15(SP-24)	Piping, piping components, and piping elements
1615	VIII	SP-90	SP-24	VIII.F.SP-90	VIII.F-12(SP-24)	Piping, piping components, and piping elements
1616	VIII	SP-90	SP-24	VIII.G.SP-90	VIII.G-17(SP-24)	Piping, piping components, and piping elements
1617	VIII	SP-91	SP-25	VIII.A.SP-91	VIII.A-14(SP-25)	Piping, piping components, and piping elements
1618	VIII	SP-91	SP-25	VIII.D1.SP-91	VIII.D1-6(SP-25)	Piping, piping components, and piping elements
1619	VIII	SP-91	SP-25	VIII.D2.SP-91	VIII.D2-5(SP-25)	Piping, piping components, and piping elements
1620	VIII	SP-91	SP-25	VIII.E.SP-91	VIII.E-32(SP-25)	Piping, piping components, and piping elements
1621	VIII	SP-91	SP-25	VIII.G.SP-91	VIII.G-35(SP-25)	Piping, piping components, and piping elements
1622	VIII	SP-92	SP-32	VIII.A.SP-92	VIII.A-3(SP-32)	Piping, piping components, and piping elements
1623	VIII	SP-92	SP-32	VIII.D1.SP-92	VIII.D1-2(SP-32)	Piping, piping components, and piping elements
1624	VIII	SP-92	SP-32	VIII.D2.SP-92	VIII.D2-2(SP-32)	Piping, piping components, and piping elements
1625	VIII	SP-92	SP-32	VIII.E.SP-92	VIII.E-17(SP-32)	Piping, piping components, and piping elements
1626	VIII	SP-92	SP-32	VIII.G.SP-92	VIII.G-19(SP-32)	Piping, piping components, and piping elements
1627	VIII	SP-93	New Record	VIII.I.SP-93		Piping, piping components, and piping elements

1628	VIII	SP-94	SP-37	VIII.E.SP-94	VIII.E-28(SP-37)	Piping, piping components, and piping elements
1629	VIII	SP-94	SP-37	VIII.G.SP-94	VIII.G-31(SP-37)	Piping, piping components, and piping elements
1630	VIII	SP-95	SP-38	VIII.A.SP-95	VIII.A-9(SP-38)	Piping, piping components, and piping elements
1631	VIII	SP-95	SP-38	VIII.D1.SP-95	VIII.D1-3(SP-38)	Piping, piping components, and piping elements
1632	VIII	SP-95	SP-38	VIII.D2.SP-95	VIII.D2-3(SP-38)	Piping, piping components, and piping elements
1633	VIII	SP-95	SP-38	VIII.E.SP-95	VIII.E-26(SP-38)	Piping, piping components, and piping elements
1634	VIII	SP-95	SP-38	VIII.G.SP-95	VIII.G-29(SP-38)	Piping, piping components, and piping elements
1635	VIII	SP-96	SP-40	VIII.E.SP-96	VIII.E-13(SP-40)	Heat exchanger tubes
1636	VIII	SP-96	SP-40	VIII.F.SP-96	VIII.F-10(SP-40)	Heat exchanger tubes
1637	VIII	SP-97	SP-42	VIII.E.SP-97	VIII.E-38(SP-42)	Tanks
1638	VIII	SP-98	SP-45	VIII.A.SP-98	VIII.A-11(SP-45)	Piping, piping components, and piping elements
2723	VIII	SP-98	SP-44	VIII.B1.SP-98	VIII.B1-2(SP-44)	Piping, piping components, and piping elements
1639	VIII	SP-98	SP-45	VIII.B2.SP-98	VIII.B2-1(SP-45)	Piping, piping components, and piping elements
1640	VIII	SP-99	SP-53	VIII.G.SP-99	VIII.G-8(SP-53)	Heat exchanger tubes

Material	Environment	AgingEffect_Mechanism	AMP
Concrete; porous concrete	Water – flowing	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of erosion of cement from porous concrete subfoundations, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
Concrete; porous concrete	Water – flowing	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of erosion of cement from porous concrete subfoundations, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
Concrete; porous concrete	Water – flowing	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of erosion of cement from porous concrete subfoundations, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
Concrete; porous concrete	Water – flowing	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of erosion of cement from porous concrete subfoundations, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
Concrete; porous concrete	Water – flowing	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of erosion of cement from porous concrete subfoundations, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
Concrete; porous concrete	Water – flowing	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of erosion of cement from porous concrete subfoundations, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.

Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to corrosion	Chapter XI.S2, "ASME Section XI, Subsection IWL"
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to corrosion	Chapter XI.S2, "ASME Section XI, Subsection IWL"
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of prestress #*#due to relaxation; shrinkage; creep; elevated temperature	Loss of tendon prestress is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. #*#See the SRP, Section 4.5, "Concrete Containment Tendon Prestress" for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1)(i) and (ii). See Chapter X.S1 of this report for meeting the requirements of 10 CFR 54.21(c)(1)(iii). #*#For periodic monitoring of prestress, see Chapter XI.S2.
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of prestress #*#due to relaxation; shrinkage; creep; elevated temperature	Loss of tendon prestress is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. #*#See the SRP, Section 4.5, "Concrete Containment Tendon Prestress" for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1)(i) and (ii). See Chapter X.S1 of this report for meeting the requirements of 10 CFR 54.21(c)(1)(iii). #*#For periodic monitoring of prestress, see Chapter XI.S2.
Steel; stainless steel; dissimilar metal welds	Air – indoor, uncontrolled or Air – outdoor	Cumulative fatigue damage #*#due to fatigue #*#(Only if CLB fatigue analysis exists)	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.6, "Containment Liner Plate and Penetration Fatigue Analysis" for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel; stainless steel; dissimilar metal welds	Air – indoor, uncontrolled or Air – outdoor	Cumulative fatigue damage #*#due to fatigue #*#(Only if CLB fatigue analysis exists)	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.6, "Containment Liner Plate and Penetration Fatigue Analysis" for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S1, "ASME Section XI, Subsection IWE," and #*#Chapter XI.S4, "10 CFR Part 50, Appendix J"

Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”
Steel; stainless steel	Air – indoor, uncontrolled	Cumulative fatigue damage #*#due to fatigue #*#(Only if CLB fatigue analysis exists)	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.6, “Containment Liner Plate and Penetration Fatigue Analysis” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Air – indoor, uncontrolled	Fretting or lockup #*#due to mechanical wear	Chapter XI.S1, “ASME Section XI, Subsection IWE”
Steel	Air – indoor, uncontrolled	Fretting or lockup #*#due to mechanical wear	Chapter XI.S1, “ASME Section XI, Subsection IWE”
Steel	Air – indoor, uncontrolled	Fretting or lockup #*#due to mechanical wear	Chapter XI.S1, “ASME Section XI, Subsection IWE”
Steel	Air – indoor, uncontrolled	Fretting or lockup #*#due to mechanical wear	Chapter XI.S1, “ASME Section XI, Subsection IWE”
Stainless steel	Air – indoor, uncontrolled	Cracking #*#due to stress corrosion cracking	Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”
Stainless steel	Air – indoor, uncontrolled	Cracking #*#due to stress corrosion cracking	Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”
Steel; stainless steel; dissimilar metal welds	Air – indoor, uncontrolled	Cumulative fatigue damage #*#due to fatigue #*#(Only if CLB fatigue analysis exists)	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.6, “Containment Liner Plate and Penetration Fatigue Analysis” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel; stainless steel	Air – indoor, uncontrolled or Treated water	Cumulative fatigue damage #*#due to fatigue #*#(Only if CLB fatigue analysis exists)	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.6, “Containment Liner Plate and Penetration Fatigue Analysis” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel; stainless steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general (steel only), pitting, and crevice corrosion	Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”

Steel; stainless steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general (steel only), pitting, and crevice corrosion	Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”
Concrete	Air – indoor, uncontrolled or Air – outdoor or Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring"#M#
Concrete	Soil	Cracking and distortion #*#due to increased stress levels from settlement	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring" #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation. #M#
Concrete	Water – flowing	#M#Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation#M#	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#

Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#
Concrete	Soil	Cracking and distortion #*#due to increased stress levels from settlement	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring" #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation. #M#
Concrete	Soil	Cracking and distortion #*#due to increased stress levels from settlement	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring" #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation. #M#
Concrete	Soil	Cracking and distortion #*#due to increased stress levels from settlement	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring" #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation. #M#

Concrete	Air – indoor, uncontrolled or Air – outdoor	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring"#M#
Concrete	Air – indoor, uncontrolled or Air – outdoor	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring"#M#
Steel; stainless steel; dissimilar metal welds	Air – indoor, uncontrolled or Treated Water	Cracking #*#due to cyclic loading #*#(CLB fatigue analysis does not exist)	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”#M#
Concrete	Air – indoor, uncontrolled or Air – outdoor	Reduction of strength and modulus #*#due to elevated temperature (>150°F general; >200°F local)	#M#Plant-specific aging management program #*#The implementation of 10 CFR 50.55a and ASME Section XI, Subsection IWL would not be able to identify the reduction of strength and modulus of elasticity due to elevated temperature. Thus, for any portions of concrete containment that exceed specified temperature limits, further evaluations are warranted. Subsection CC-3400 of ASME Section III, Division 2, specifies the concrete temperature limits for normal operation or any other long-term period. The temperatures shall not exceed 150°F except for local areas, such as around penetrations, which are not allowed to exceed 200°F. If significant equipment loads are supported by concrete at temperatures exceeding 150°F, an evaluation of the ability to withstand the postulated design loads is to be made. #*#Higher temperatures than given above may be allowed in the concrete if tests and/or calculations are provided to evaluate the reduction in strength and modulus of elasticity and these reductions are applied to the design calculations.#M#

Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE” #*# #*#Plant specific aging management program is required if plant operating experience identified significant corrosion of the torus ring girders and downcomers. If protective coating is credited for preventing corrosion of the torus shell, the coating should be included in scope of license renewal and subject to aging management review.#M#
Concrete	Water – flowing	#M#Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation#M#	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#
Concrete	Water – flowing	#M#Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation#M#	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#

Steel	#M#Air – indoor, uncontrolled or Concrete#M#	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”#M#
Steel	Concrete	None	None
Steel	Concrete	None	None
Steel	Concrete	None	None
Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE”#M#
Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE”#M#
Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE”#M#
Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#

Concrete	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#
Concrete	Air – outdoor or Ground water/soil	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Further evaluation is required for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557) to determine if a plant-specific aging management program is needed. A plant-specific aging management program is not required if documented evidence confirms that the existing concrete had air entrainment content (as per Table CC-2231-2 of the ASME Section III Division 2), and subsequent inspections of accessible areas did not exhibit degradation related to freeze-thaw. Such inspections should be considered a part of the evaluation. If this condition is not satisfied, then a plant-specific aging management program is required to manage loss of material (spalling, scaling) and cracking due to freeze-thaw of concrete in inaccessible areas. #*#The weathering index for the continental US is shown in ASTM C33-90, Fig. 1.#M#
Steel; stainless steel; dissimilar metal welds	Air – indoor, uncontrolled or Treated water	Cracking #*#due to cyclic loading #*#(CLB fatigue analysis does not exist)	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE”#M#

Concrete	#M#Air – outdoor or Ground water/soil#M#	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Further evaluation is required for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557) to determine if a plant-specific aging management program is needed. A plant-specific aging management program is not required if documented evidence confirms that the existing concrete had air entrainment content (as per Table CC-2231-2 of the ASME Section III Division 2), and subsequent inspections of accessible areas did not exhibit degradation related to freeze-thaw. Such inspections should be considered a part of the evaluation. If this condition is not satisfied, then a plant-specific aging management program is required to manage loss of material (spalling, scaling) and cracking due to freeze-thaw of concrete in inaccessible areas. #*#The weathering index for the continental US is shown in ASTM C33-90, Fig. 1.#M#
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S1, “ASME Section XI, Subsection IWE”
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S1, “ASME Section XI, Subsection IWE”
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”
Coatings	Air – indoor, uncontrolled	Loss of coating integrity #*#due to blistering, cracking, flaking, peeling, or physical damage	Chapter XI.S8, "Protective Coating Monitoring and Maintenance"
Coatings	Air – indoor, uncontrolled	Loss of coating integrity #*#due to blistering, cracking, flaking, peeling, or physical damage	Chapter XI.S8, "Protective Coating Monitoring and Maintenance"

Concrete	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S1, “ASME Section XI, Subsection IWE” #*#Plant-specific aging management program is required if plant operating experience identified significant corrosion. If protective coating is credited for preventing corrosion, the coating should be included in scope of license renewal and subject to aging management review.
Concrete	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete	Water – flowing	#M#Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation#M#	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#

Concrete	Air – indoor, uncontrolled or Air – outdoor	Reduction of strength and modulus #*#due to elevated temperature (>150°F general; >200°F local)	#M#Plant-specific aging management program #*# #*#The implementation of 10 CFR 50.55a and ASME Section XI, Subsection IWL would not be able to identify the reduction of strength and modulus of elasticity due to elevated temperature. Thus, for any portions of concrete containment that exceed specified temperature limits, further evaluations are warranted. Subsection CC-3400 of ASME Section III, Division 2, specifies the concrete temperature limits for normal operation or any other long-term period. The temperatures shall not exceed 150°F except for local areas, such as around penetrations, which are not allowed to exceed 200°F. If significant equipment loads are supported by concrete at temperatures exceeding 150°F, an evaluation of the ability to withstand the postulated design loads is to be made. #*# #*#Higher temperatures than given above may be allowed in the concrete if tests and/or calculations are provided to evaluate the reduction in strength and modulus of elasticity and these reductions are applied to the design calculations.#M#
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”#M#
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”#M#
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”#M#
Steel; dissimilar metal welds	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J” #M#
Steel; dissimilar metal welds	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J” #M#

Steel; stainless steel; dissimilar metal welds	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to cyclic loading #*#(CLB fatigue analysis does not exist)	#M#Chapter XI.S1, "ASME Section XI, Subsection IWE," and #*#Chapter XI.S4, "10 CFR Part 50, Appendix J"#M#
Steel; stainless steel; dissimilar metal welds	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to cyclic loading #*#(CLB fatigue analysis does not exist)	#M#Chapter XI.S1, "ASME Section XI, Subsection IWE," and #*#Chapter XI.S4, "10 CFR Part 50, Appendix J"#M#
Stainless steel; dissimilar metal welds	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.S1, "ASME Section XI, Subsection IWE," and #*#Chapter XI.S4, "10 CFR Part 50, Appendix J"#M#
Stainless steel; dissimilar metal welds	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.S1, "ASME Section XI, Subsection IWE," and #*#Chapter XI.S4, "10 CFR Part 50, Appendix J"#M#
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of leak tightness #*#due to mechanical wear of locks, hinges and closure mechanisms	#M#Chapter XI.S1, "ASME Section XI, Subsection IWE," and #*#Chapter XI.S4, "10 CFR Part 50, Appendix J"#M#
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of leak tightness #*#due to mechanical wear of locks, hinges and closure mechanisms	#M#Chapter XI.S1, "ASME Section XI, Subsection IWE," and #*#Chapter XI.S4, "10 CFR Part 50, Appendix J"#M#
Elastomers, rubber and other similar materials	Air – indoor, uncontrolled	#M#Loss of sealing #*#due to wear, damage, erosion, tear, surface cracks, or other defects#M#	#M#Chapter XI.S1, "ASME Section XI, Subsection IWE"#M#
Elastomers, rubber and other similar materials	Air – indoor, uncontrolled	#M#Loss of sealing #*#due to wear, damage, erosion, tear, surface cracks, or other defects#M#	#M#Chapter XI.S1, "ASME Section XI, Subsection IWE"#M#
Elastomers, rubber and other similar materials	Air – indoor, uncontrolled or Air – outdoor	#M#Loss of sealing #*#due to wear, damage, erosion, tear, surface cracks, or other defects#M#	#M#Chapter XI.S4, "10 CFR Part 50, Appendix J "#M#
Elastomers, rubber and other similar materials	Air – indoor, uncontrolled or Air – outdoor	#M#Loss of sealing #*#due to wear, damage, erosion, tear, surface cracks, or other defects#M#	#M#Chapter XI.S4, "10 CFR Part 50, Appendix J "#M#
Steel	#M#Air – indoor, uncontrolled#M#	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, "ASME Section XI, Subsection IWE," and #*#Chapter XI.S4, "10 CFR Part 50, Appendix J"#M#

Steel	#M#Air – indoor, uncontrolled#M#	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”#M#
Steel	Concrete	None	None
Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”#M#
Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”#M#
Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”#M#
Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J” #*#Significant corrosion of the torus shell and degradation of its protective coating are identified in IN 88-82. Other industrywide operating indicates a number of incidences of torus corrosion. License renewal applicants are advised to address their plant specific operating experience related to the torus shell corrosion. If the identified corrosion is significant, a plant specific aging management is required. If protective coating is credited for preventing corrosion of the torus shell, the coating should be included in scope of license renewal and subject to aging management review . #M#
Steel; stainless steel	Air – indoor, uncontrolled	Cracking #*#due to cyclic loading #*#(CLB fatigue analysis does not exist)	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”#M#

Stainless steel	Air – indoor, uncontrolled	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE,” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J”#M#
Concrete	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete	Air – outdoor or Ground water/soil	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if #*#(1) There is evidence in the accessible areas of adjacent structures that the flowing water has not caused leaching and carbonation, or #*#(2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#
Concrete	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if #*#(1) There is evidence in the accessible areas of adjacent structures that the flowing water has not caused leaching and carbonation, or #*#(2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#

Concrete	Water – flowing	#M#Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation#M#	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete	Water – flowing	#M#Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation#M#	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete	Water – flowing	#M#Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation#M#	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#

Concrete	Air – indoor, uncontrolled or Air – outdoor	Reduction of strength and modulus #*#due to elevated temperature (>150°F general; >200°F local)	#M#Plant-specific aging management program #*# #*#The implementation of 10 CFR 50.55a and ASME Code, Section XI, Subsection IWL would not be able to identify the reduction of strength and modulus due to elevated temperature. Thus, for any portions of concrete containment that exceed specified temperature limits, further evaluations are warranted. Subsection CC-3400 of ASME Section III, Division 2, specifies the concrete temperature limits for normal operation or any other long-term period. The temperatures shall not exceed 150°F except for local areas, such as around penetrations, which are not allowed to exceed 200°F. If significant equipment loads are supported by concrete at temperatures exceeding 150°F, an evaluation of the ability to withstand the postulated design loads is to be made. #*# #*#Higher temperatures than given above may be allowed in the concrete if tests and/or calculations are provided to evaluate the reduction in strength and modulus of elasticity, and these reductions are applied to the design calculations.#M#

Concrete	Air – indoor, uncontrolled or Air – outdoor	Reduction of strength and modulus #*#due to elevated temperature (>150°F general; >200°F local)	#M#Plant-specific aging management program #*# #*#The implementation of 10 CFR 50.55a and ASME Section XI, Subsection IWL would not be able to identify the reduction of strength and modulus due to elevated temperature. Thus, for any portions of concrete containment that exceed specified temperature limits, further evaluations are warranted. Subsection CC-3400 of ASME Section III, Division 2, specifies the concrete temperature limits for normal operation or any other long-term period. The temperatures shall not exceed 150°F except for local areas, such as around penetrations, which are not allowed to exceed 200°F. If significant equipment loads are supported by concrete at temperatures exceeding 150°F, an evaluation of the ability to withstand the postulated design loads is to be made. #*# #*#Higher temperatures than given above may be allowed in the concrete if tests and/or calculations are provided to evaluate the reduction in strength and modulus of elasticity, and these reductions are applied to the design calculations.#M#
Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#

Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J” #*#Additional plant-specific activities are warranted if loss of material due to corrosion is significant for inaccessible areas (embedded containment steel shell or liner).#*#Loss of material due to corrosion is not significant if the following conditions are satisfied: #*#1. Concrete meeting the requirements of ACI 318 or 349 and the guidance of 201.2R was used for the concrete in contact with the embedded containment shell or liner. #*#2. The moisture barrier, at the junction where the shell or liner becomes embedded, is subject to aging management activities in accordance with ASME Section XI, Subsection IWE requirements. #*#3. The concrete is monitored to ensure that it is free of penetrating cracks that provide a path for water seepage to the surface of the containment shell or liner. #*#4. Borated water spills and water ponding on the concrete floor are common and when detected are cleaned up or diverted to a sump in a timely manner. #*# Operating experience has identified significant corrosion in some plants.#*# #*#If any of the above conditions cannot be

Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE” and #*# #*#Chapter XI.S4, “10 CFR Part 50, Appendix J” #*# #*# Additional plant-specific activities are warranted if loss of material due to corrosion is significant for inaccessible areas (embedded containment steel shell or liner).#*# #*#Loss of material due to corrosion is not significant if the following conditions are satisfied: #*#1. Concrete meeting the requirements of ACI 318 or 349 and the guidance of 201.2R was used for the concrete in contact with the embedded containment shell or liner. #*#2. The moisture barrier, at the junction where the shell or liner becomes embedded, is subject to aging management activities in accordance with ASME Section XI, Subsection IWE requirements. #*#3. The concrete is monitored to ensure that it is free of penetrating cracks that provide a path for water seepage to the surface of the containment shell or liner. #*#4. Borated water spills and water ponding on the concrete floor are common and when detected are cleaned up or diverted to a sump in a timely manner. #*# Operating experience has identified significant corrosion in some plants.#*# #*#If any of the above

Steel	Air – indoor, uncontrolled or Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE” and #*# #*#Chapter XI.S4, “10 CFR Part 50, Appendix J” #*# #*# Additional plant-specific activities are warranted if loss of material due to corrosion is significant for inaccessible areas (embedded containment steel shell or liner).#*# #*#Loss of material due to corrosion is not significant if the following conditions are satisfied: #*#1. Concrete meeting the requirements of ACI 318 or 349 and the guidance of 201.2R was used for the concrete in contact with the embedded containment shell or liner. #*#2. The moisture barrier, at the junction where the shell or liner becomes embedded, is subject to aging management activities in accordance with ASME Section XI, Subsection IWE requirements. #*#3. The concrete is monitored to ensure that it is free of penetrating cracks that provide a path for water seepage to the surface of the containment shell or liner. #*#4. Borated water spills and water ponding on the concrete floor are common and when detected are cleaned up or diverted to a sump in a timely manner. #*# Operating experience has identified significant corrosion in some plants.#*# #*#If any of the above
Steel; stainless steel	#M#Air – indoor, uncontrolled or Treated water#M#	Cracking #*#due to cyclic loading #*#(CLB fatigue analysis does not exist)	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE”#M#

Concrete	Air – indoor, uncontrolled or Air – outdoor	Reduction of strength and modulus #*#due to elevated temperature (>150°F general; >200°F local)	#M#Plant-specific aging management program #*# #*#The implementation of 10 CFR 50.55a and ASME Section XI, Subsection IWL would not be able to identify the reduction of strength and modulus of elasticity due to elevated temperature. Thus, for any portions of concrete containment that exceed specified temperature limits, further evaluations are warranted. Subsection CC-3400 of ASME Section III, Division 2, specifies the concrete temperature limits for normal operation or any other long-term period. The temperatures shall not exceed 150°F except for local areas, such as around penetrations, which are not allowed to exceed 200°F. If significant equipment loads are supported by concrete at temperatures exceeding 150°F, an evaluation of the ability to withstand the postulated design loads is to be made. #*# #*#Higher temperatures than given above may be allowed in the concrete if tests and/or calculations are provided to evaluate the reduction in strength and modulus of elasticity and these reductions are applied to the design calculations.#M#
Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#

Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#
Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	Chapter XI.S2, “ASME Section XI, Subsection IWL”
Concrete	Soil	Cracking and distortion #*#due to increased stress levels from settlement	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring" #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation. #M#
Concrete	Soil	Cracking and distortion #*#due to increased stress levels from settlement	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring" #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation. #M#

Concrete	Air – outdoor or Ground water/soil	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Further evaluation is required for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557) to determine if a plant-specific aging management program is needed. A plant-specific aging management program is not required if documented evidence confirms that the existing concrete had air entrainment content (as per Table CC-2231-2 of the ASME Section III Division 2), and subsequent inspections of accessible areas did not exhibit degradation related to freeze-thaw. Such inspections should be considered a part of the evaluation. If this condition is not satisfied, then a plant-specific aging management program is required to manage loss of material (spalling, scaling) and cracking due to freeze-thaw of concrete in inaccessible areas. #*#The weathering index for the continental US is shown in ASTM C33-90, Fig. 1.#M#
Concrete	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring“#M#
Concrete	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring“#M#
Concrete	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring"#M#

Concrete	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring"#M#
Concrete	Air – indoor, uncontrolled or Air – outdoor or Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring"#M#
Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring"#M#
Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring"#M#
Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#

Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#
Concrete	Air – indoor, uncontrolled or Air – outdoor or Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring"#M#
Concrete	#M#Air – indoor, uncontrolled or Air – outdoor#M#	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL”#M#
Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring"#M#

Concrete; steel	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S2, “ASME Section XI, Subsection IWL,” or #*#Chapter XI.S6, "Structure Monitoring"#M#
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE” and #*# #*#Chapter XI.S4, “10 CFR Part 50, Appendix J” #*# #*# Additional plant-specific activities are warranted if loss of material due to corrosion is significant for inaccessible areas (embedded containment steel shell or liner).#*# #*#Loss of material due to corrosion is not significant if the following conditions are satisfied: #*#1. Concrete meeting the requirements of ACI 318 or 349 and the guidance of 201.2R was used for the containment concrete in contact with the embedded containment shell or liner. #*#2. The moisture barrier, at the junction where the shell or liner becomes embedded, is subject to aging management activities in accordance with ASME Section XI, Subsection IWE requirements. #*#3. The concrete is monitored to ensure that it is free of penetrating cracks that provide a path for water seepage to the surface of the containment shell or liner. #*#4. Borated water spills and water ponding on the concrete floor are common and when detected are cleaned up or diverted to a sump in a timely manner. #*# Operating experience has identified significant corrosion in some

Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J” #*#Additional plant-specific activities are warranted if loss of material due to corrosion is significant for inaccessible areas (embedded containment steel shell or liner).#*#Loss of material due to corrosion is not significant if the following conditions are satisfied: #*#1. Concrete meeting the requirements of ACI 318 or 349 and the guidance of 201.2R was used for the containment concrete in contact with the embedded containment shell or liner. #*#2. The moisture barrier, at the junction where the shell or liner becomes embedded, is subject to aging management activities in accordance with ASME Section XI, Subsection IWE requirements. #*#3. The concrete is monitored to ensure that it is free of penetrating cracks that provide a path for water seepage to the surface of the containment shell or liner. #*#4. Borated water spills and water ponding on the concrete floor are common and when detected are cleaned up or diverted to a sump in a timely manner. #*# Operating experience has identified significant corrosion in some plants.#*#If any of the above conditions cannot be satisfied,

Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.S1, “ASME Section XI, Subsection IWE” and #*#Chapter XI.S4, “10 CFR Part 50, Appendix J” #*#Additional plant-specific activities are warranted if loss of material due to corrosion is significant for inaccessible areas (embedded containment steel shell or liner).#*#Loss of material due to corrosion is not significant if the following conditions are satisfied: #*#1. Concrete meeting the requirements of ACI 318 or 349 and the guidance of 201.2R was used for the containment concrete in contact with the embedded containment shell or liner. #*#2. The moisture barrier, at the junction where the shell or liner becomes embedded, is subject to aging management activities in accordance with ASME Section XI, Subsection IWE requirements. #*#3. The concrete is monitored to ensure that it is free of penetrating cracks that provide a path for water seepage to the surface of the containment shell or liner. #*#4. Borated water spills and water ponding on the concrete floor are common and when detected are cleaned up or diverted to a sump in a timely manner. #*# Operating experience has identified significant corrosion in some plants.#*#If any of the above conditions cannot be satisfied,

Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#
Concrete	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#
Concrete block	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to restraint shrinkage, creep, and aggressive environment	Chapter XI.S5, “Masonry Walls”
Concrete block	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to restraint shrinkage, creep, and aggressive environment	Chapter XI.S5, “Masonry Walls”

Concrete block	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to restraint shrinkage, creep, and aggressive environment	Chapter XI.S5, “Masonry Walls”
Concrete block	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to restraint shrinkage, creep, and aggressive environment	Chapter XI.S5, “Masonry Walls”
Concrete block	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to restraint shrinkage, creep, and aggressive environment	Chapter XI.S5, “Masonry Walls”
Stainless steel	Treated water or Treated borated water	Cracking #*#due to stress corrosion cracking; #*#Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, "Water Chemistry," and #*#Monitoring of the spent fuel pool water level in accordance with technical specifications and leakage from the leak chase channels.
Concrete	Water – flowing	Loss of material #*#due to abrasion; cavitation	Chapter XI.S7, “Regulatory Guide 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants” or the FERC / US Army Corp of Engineers dam inspections and maintenance programs.
Various	Water – flowing or standing	Loss of material; loss of form #*#due to erosion, settlement, sedimentation, frost action, waves, currents, surface runoff, seepage	Chapter XI.S7, “Regulatory Guide 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants” or the FERC / US Army Corp of Engineers dam inspections and maintenance programs.
Stainless steel	Water – standing	Cracking #*#due to stress corrosion cracking; #*#Loss of material #*#due to pitting and crevice corrosion	A plant-specific aging management program is to be evaluated.
Stainless steel	Water – standing	Cracking #*#due to stress corrosion cracking; #*#Loss of material #*#due to pitting and crevice corrosion	A plant-specific aging management program is to be evaluated.
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general and pitting corrosion	Chapter XI.S3, “ASME Section XI, Subsection IWF”

Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general and pitting corrosion	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general and pitting corrosion	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air – indoor, uncontrolled	Cumulative fatigue damage #*#due to fatigue #*#(Only if CLB fatigue analysis exists)	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).

Steel	Air – indoor, uncontrolled	Cumulative fatigue damage #*#due to fatigue #*#(Only if CLB fatigue analysis exists)	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Air – indoor, uncontrolled	Cumulative fatigue damage #*#due to fatigue #*#(Only if CLB fatigue analysis exists)	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of mechanical function #*#due to corrosion, distortion, dirt, overload, fatigue due to vibratory and cyclic thermal loads	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of mechanical function #*#due to corrosion, distortion, dirt, overload, fatigue due to vibratory and cyclic thermal loads	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of mechanical function #*#due to corrosion, distortion, dirt, overload, fatigue due to vibratory and cyclic thermal loads	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Non-metallic (e.g., rubber)	Air – indoor, uncontrolled or Air – outdoor	Reduction or loss of isolation function #*#due to radiation hardening, temperature, humidity, sustained vibratory loading	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Non-metallic (e.g., rubber)	Air – indoor, uncontrolled or Air – outdoor	Reduction or loss of isolation function #*#due to radiation hardening, temperature, humidity, sustained vibratory loading	Chapter XI.S3, “ASME Section XI, Subsection IWF”

Non-metallic (e.g., rubber)	Air – indoor, uncontrolled or Air – outdoor	Reduction or loss of isolation function #*#due to radiation hardening, temperature, humidity, sustained vibratory loading	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Steel; stainless steel	Treated water <60C (<140 F)	Loss of material #*#due to general (steel only), pitting, and crevice corrosion	Chapter XI.M2, “Water Chemistry,” for BWR water, and #*#Chapter XI.S3, “ASME Section XI, Subsection IWF”
#M#Concrete#M#	#M#Air – indoor, uncontrolled or Air – outdoor or Ground water/soil#M#	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
Concrete	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
Concrete	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Further evaluation is required for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557) to determine if a plant-specific aging management program is needed. A plant-specific aging management program is not required if documented evidence confirms that the existing concrete had air entrainment content (as per Table CC-2231-2 of the ASME Section III Division 2), and subsequent inspections of accessible areas did not exhibit degradation related to freeze-thaw. Such inspections should be considered a part of the evaluation. If this condition is not satisfied, then a plant-specific aging management program is required to manage loss of material (spalling, scaling) and cracking due to freeze-thaw of concrete in inaccessible areas. #*#The weathering index for the continental US is shown in ASTM C33-90, Fig. 1.#M#

Concrete	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Further evaluation is required for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557) to determine if a plant-specific aging management program is needed. A plant-specific aging management program is not required if documented evidence confirms that the existing concrete had air entrainment content (as per Table CC-2231-2 of the ASME Section III Division 2), and subsequent inspections of accessible areas did not exhibit degradation related to freeze-thaw. Such inspections should be considered a part of the evaluation. If this condition is not satisfied, then a plant-specific aging management program is required to manage loss of material (spalling, scaling) and cracking due to freeze-thaw of concrete in inaccessible areas. #*#The weathering index for the continental US is shown in ASTM C33-90, Fig. 1.#M#

Concrete	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Further evaluation is required for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557) to determine if a plant-specific aging management program is needed. A plant-specific aging management program is not required if documented evidence confirms that the existing concrete had air entrainment content (as per Table CC-2231-2 of the ASME Section III Division 2), and subsequent inspections of accessible areas did not exhibit degradation related to freeze-thaw. Such inspections should be considered a part of the evaluation. If this condition is not satisfied, then a plant-specific aging management program is required to manage loss of material (spalling, scaling) and cracking due to freeze-thaw of concrete in inaccessible areas. #*#The weathering index for the continental US is shown in ASTM C33-90, Fig. 1.#M#

Concrete	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Further evaluation is required for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557) to determine if a plant-specific aging management program is needed. A plant-specific aging management program is not required if documented evidence confirms that the existing concrete had air entrainment content (as per Table CC-2231-2 of the ASME Section III Division 2), and subsequent inspections of accessible areas did not exhibit degradation related to freeze-thaw. Such inspections should be considered a part of the evaluation. If this condition is not satisfied, then a plant-specific aging management program is required to manage loss of material (spalling, scaling) and cracking due to freeze-thaw of concrete in inaccessible areas. #*#The weathering index for the continental US is shown in ASTM C33-90, Fig. 1.#M#

Concrete	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Further evaluation is required for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557) to determine if a plant-specific aging management program is needed. A plant-specific aging management program is not required if documented evidence confirms that the existing concrete had air entrainment content (as per Table CC-2231-2 of the ASME Section III Division 2), and subsequent inspections of accessible areas did not exhibit degradation related to freeze-thaw. Such inspections should be considered a part of the evaluation. If this condition is not satisfied, then a plant-specific aging management program is required to manage loss of material (spalling, scaling) and cracking due to freeze-thaw of concrete in inaccessible areas. #*#The weathering index for the continental US is shown in ASTM C33-90, Fig. 1.#M#

Concrete	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Further evaluation is required for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557) to determine if a plant-specific aging management program is needed. A plant-specific aging management program is not required if documented evidence confirms that the existing concrete had air entrainment content (as per Table CC-2231-2 of the ASME Section III Division 2), and subsequent inspections of accessible areas did not exhibit degradation related to freeze-thaw. Such inspections should be considered a part of the evaluation. If this condition is not satisfied, then a plant-specific aging management program is required to manage loss of material (spalling, scaling) and cracking due to freeze-thaw of concrete in inaccessible areas. #*#The weathering index for the continental US is shown in ASTM C33-90, Fig. 1.#M#

Concrete	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Further evaluation is required for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557) to determine if a plant-specific aging management program is needed. A plant-specific aging management program is not required if documented evidence confirms that the existing concrete had air entrainment content (as per Table CC-2231-2 of the ASME Section III Division 2), and subsequent inspections of accessible areas did not exhibit degradation related to freeze-thaw. Such inspections should be considered a part of the evaluation. If this condition is not satisfied, then a plant-specific aging management program is required to manage loss of material (spalling, scaling) and cracking due to freeze-thaw of concrete in inaccessible areas. #*#The weathering index for the continental US is shown in ASTM C33-90, Fig. 1.#M#
#M#Concrete#M#	Water – flowing	#M#Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation#M#	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#

#M#Concrete#M#	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Further evaluation is required for plants that are located in moderate to severe weathering conditions (weathering index >100 day-inch/yr) (NUREG-1557) to determine if a plant-specific aging management program is needed. A plant-specific aging management program is not required if documented evidence confirms that the existing concrete had air entrainment content (as per Table CC-2231-2 of the ASME Section III Division 2), and subsequent inspections of accessible areas did not exhibit degradation related to freeze-thaw. Such inspections should be considered a part of the evaluation. If this condition is not satisfied, then a plant-specific aging management program is required to manage loss of material (spalling, scaling) and cracking due to freeze-thaw of concrete in inaccessible areas. #*#The weathering index for the continental US is shown in ASTM C33-90, Fig. 1.#M#
Concrete	Air – indoor, uncontrolled	Reduction of strength and modulus #*#due to elevated temperature (>150°F general; >200°F local)	#M#Plant-specific aging management program #*# #*# Subsection CC-3400 of ASME Section III, Division 2, and Appendix A of ACI 349 specifies the concrete temperature limits for normal operation or any other long-term period. The temperatures shall not exceed 150°F except for local areas, such as around penetrations, where the temperatures are not allowed to exceed 200°F. If significant equipment loads are supported by concrete at temperatures exceeding 150°F, an evaluation of the ability to withstand the postulated design loads is to be made. #*# #*#Higher temperatures than those given above may be allowed in the concrete if tests and/or calculations are provided to evaluate the reduction in strength and modulus of elasticity and these reductions are applied to the design calculations.#M#

Concrete	Air – indoor, uncontrolled	Reduction of strength and modulus #*#due to elevated temperature (>150°F general; >200°F local)	#M#Plant-specific aging management program #*# #*# Subsection CC-3400 of ASME Section III, Division 2, and Appendix A of ACI 349 specifies the concrete temperature limits for normal operation or any other long-term period. The temperatures shall not exceed 150°F except for local areas, such as around penetrations, where the temperatures are not allowed to exceed 200°F. If significant equipment loads are supported by concrete at temperatures exceeding 150°F, an evaluation of the ability to withstand the postulated design loads is to be made. #*# #*#Higher temperatures than those given above may be allowed in the concrete if tests and/or calculations are provided to evaluate the reduction in strength and modulus of elasticity and these reductions are applied to the design calculations.#M#
Concrete	Air – indoor, uncontrolled	Reduction of strength and modulus #*#due to elevated temperature (>150°F general; >200°F local)	#M#Plant-specific aging management program #*# #*# Subsection CC-3400 of ASME Section III, Division 2, and Appendix A of ACI 349 specifies the concrete temperature limits for normal operation or any other long-term period. The temperatures shall not exceed 150°F except for local areas, such as around penetrations, where the temperatures are not allowed to exceed 200°F. If significant equipment loads are supported by concrete at temperatures exceeding 150°F, an evaluation of the ability to withstand the postulated design loads is to be made. #*# #*#Higher temperatures than those given above may be allowed in the concrete if tests and/or calculations are provided to evaluate the reduction in strength and modulus of elasticity and these reductions are applied to the design calculations.#M#

Concrete	Air – indoor, uncontrolled	Reduction of strength and modulus #*#due to elevated temperature (>150°F general; >200°F local)	#M#Plant-specific aging management program #*# #*# Subsection CC-3400 of ASME Section III, Division 2, and Appendix A of ACI 349 specifies the concrete temperature limits for normal operation or any other long-term period. The temperatures shall not exceed 150°F except for local areas, such as around penetrations, where the temperatures are not allowed to exceed 200°F. If significant equipment loads are supported by concrete at temperatures exceeding 150°F, an evaluation of the ability to withstand the postulated design loads is to be made. #*# #*#Higher temperatures than those given above may be allowed in the concrete if tests and/or calculations are provided to evaluate the reduction in strength and modulus of elasticity and these reductions are applied to the design calculations.#M#
Concrete	Air – indoor, uncontrolled	Reduction of strength and modulus #*#due to elevated temperature (>150°F general; >200°F local)	#M#Plant-specific aging management program #*# #*# Subsection CC-3400 of ASME Section III, Division 2, and Appendix A of ACI 349 specifies the concrete temperature limits for normal operation or any other long-term period. The temperatures shall not exceed 150°F except for local areas, such as around penetrations, where the temperatures are not allowed to exceed 200°F. If significant equipment loads are supported by concrete at temperatures exceeding 150°F, an evaluation of the ability to withstand the postulated design loads is to be made. #*# #*#Higher temperatures than those given above may be allowed in the concrete if tests and/or calculations are provided to evaluate the reduction in strength and modulus of elasticity and these reductions are applied to the design calculations.#M#

#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#
#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#

#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#
#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#

#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#
#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#

#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#
#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#

#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
Steel	Ground water/soil	Loss of material #*#due to corrosion	Chapter XI.S6, "Structures Monitoring"

#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage cracking and expansion due to reaction with aggregate of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) as described in NUREG-1557, investigations, tests, and petrographic examinations of aggregates performed in accordance with ASTM C295 and other ASTM reactivity tests, as required, can demonstrate that those aggregates do not adversely react within concrete, or (2) For potentially reactive aggregates, aggregate concrete reaction is not significant if it is demonstrated that the in-place concrete can perform its intended function.#M#
Steel	Air – indoor, uncontrolled or Air – outdoor or Water – flowing or standing	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S7, “Regulatory Guide 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants” or the FERC / US Army Corp of Engineers dam inspections and maintenance programs.
Wood	Air – outdoor or Water – flowing or standing or Ground water/soil	Loss of material; change in material properties #*#due to weathering, chemical degradation, and insect infestation repeated wetting and drying, fungal decay	Chapter XI.S7, “Regulatory Guide 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants” or the FERC / US Army Corp of Engineers dam inspections and maintenance programs.
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S3, “ASME Section XI, Subsection IWF”

Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S3, “ASME Section XI, Subsection IWF”
#M#Concrete#M#	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Chapter XI.S6, "Structures Monitoring"#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.S3, “ASME Section XI, Subsection IWF”
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.S3, “ASME Section XI, Subsection IWF”
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.S3, “ASME Section XI, Subsection IWF”

Steel; galvanized steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.S3, “ASME Section XI, Subsection IWF”
#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Chapter XI.S6, "Structures Monitoring"#M#

Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"

#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Any environment	Cracking #*#due to expansion from reaction with aggregates	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#

#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"

Any	Any environment	Loss of preload #*#due to self-loosening	Chapter XI.S6, "Structures Monitoring"
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S6, "Structures Monitoring"#M#
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"

Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel; galvanized steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#

#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – indoor, uncontrolled or Air – outdoor	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#

#M#Concrete#M#	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Ground water/soil	Increase in porosity and permeability; cracking; loss of material (spalling, scaling) #*#due to aggressive chemical attack	#M#Chapter XI.S6, "Structures Monitoring"#M#
Galvanized steel; aluminum	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Galvanized steel; aluminum	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Galvanized steel; aluminum	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”

Galvanized steel; aluminum	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Galvanized steel; aluminum	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Galvanized steel; aluminum	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Galvanized steel; aluminum	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
#M#Concrete#M#	Soil	Cracking and distortion #*#due to increased stress levels from settlement	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete#M#	Soil	Cracking and distortion #*#due to increased stress levels from settlement	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete#M#	Soil	Cracking and distortion #*#due to increased stress levels from settlement	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete#M#	Soil	Cracking and distortion #*#due to increased stress levels from settlement	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.

#M#Concrete#M#	Soil	Cracking and distortion #*#due to increased stress levels from settlement	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete#M#	Soil	Cracking and distortion #*#due to increased stress levels from settlement	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete#M#	Soil	Cracking and distortion #*#due to increased stress levels from settlement	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete#M#	Soil	Cracking and distortion #*#due to increased stress levels from settlement	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.

Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.

Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled or Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.S6, "Structures Monitoring“ #*##*#Note: ASTM A 325, F 1852, and ASTM A 490 bolts used in civil structures have not shown to be prone to SCC. SCC potential need not be evaluated for these bolts.
Coatings	Air – indoor, uncontrolled	Loss of coating integrity #*#due to blistering, cracking, flaking, peeling, physical damage	Chapter XI.S8, "Protective Coating Monitoring and Maintenance"
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to corrosion	Chapter XI.S6, “Structures Monitoring” #*#If protective coatings are relied upon to manage the effects of aging, the structures monitoring program is to include provisions to address protective coating monitoring and maintenance.
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to corrosion	Chapter XI.S6, “Structures Monitoring” #*#If protective coatings are relied upon to manage the effects of aging, the structures monitoring program is to include provisions to address protective coating monitoring and maintenance.
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to corrosion	Chapter XI.S6, “Structures Monitoring” #*#If protective coatings are relied upon to manage the effects of aging, the structures monitoring program is to include provisions to address protective coating monitoring and maintenance.
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to corrosion	Chapter XI.S6, “Structures Monitoring” #*#If protective coatings are relied upon to manage the effects of aging, the structures monitoring program is to include provisions to address protective coating monitoring and maintenance.

Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to corrosion	Chapter XI.S6, “Structures Monitoring” #*#If protective coatings are relied upon to manage the effects of aging, the structures monitoring program is to include provisions to address protective coating monitoring and maintenance.
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to corrosion	Chapter XI.S6, “Structures Monitoring” #*#If protective coatings are relied upon to manage the effects of aging, the structures monitoring program is to include provisions to address protective coating monitoring and maintenance.
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to corrosion	Chapter XI.S6, “Structures Monitoring” #*#If protective coatings are relied upon to manage the effects of aging, the structures monitoring program is to include provisions to address protective coating monitoring and maintenance.
Concrete	Soil	Cracking and distortion #*#due to increased stress levels from settlement	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
Concrete	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.

#M#Concrete; porous concrete#M#	Water – flowing under foundation	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete; porous concrete#M#	Water – flowing under foundation	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete; porous concrete#M#	Water – flowing under foundation	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete; porous concrete#M#	Water – flowing under foundation	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete; porous concrete#M#	Water – flowing under foundation	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete; porous concrete#M#	Water – flowing under foundation	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
#M#Concrete; porous concrete#M#	Water – flowing under foundation	Reduction of foundation strength and cracking #*#due to differential settlement and erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.

#M#Concrete; porous concrete#M#	Water – flowing under foundation	Reduction in foundation strength, cracking #*#due to differential settlement,erosion of porous concrete subfoundation	Chapter XI.S6, “Structures Monitoring” #*#If a de-watering system is relied upon for control of settlement, then the licensee is to ensure proper functioning of the de-watering system through the period of extended operation.
Concrete block	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	Chapter XI.S5, “Masonry Walls”
#M#Lubrite; Fluorogold; Lubrofluor#M#	Air – indoor, uncontrolled	#M#Loss of mechanical function #*#due to corrosion, distortion, dirt, overload, wear#M#	#M#Chapter XI.S6, "Structures Monitoring"#M#
#M#Concrete#M#	Air – outdoor	Loss of material (spalling, scaling) and cracking #*#due to freeze-thaw	#M#Chapter XI.S7, “Regulatory Guide 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants” or the FERC / US Army Corp of Engineers dam inspections and maintenance programs.#M#
#M#Concrete#M#	Water – flowing	#M#Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation#M#	#M#Chapter XI.S7, “Regulatory Guide 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants” or the FERC / US Army Corp of Engineers dam inspections and maintenance programs.#M#
#M#Concrete#M#	#M#Air – indoor, uncontrolled or Air – outdoor or Ground water/soil#M#	Cracking; loss of bond; and loss of material (spalling, scaling) #*#due to corrosion of embedded steel	#M#Chapter XI.S7, “Regulatory Guide 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants” or the FERC / US Army Corp of Engineers dam inspections and maintenance programs.#M#
Stainless steel	Air with borated water leakage	None	None
Stainless steel	Air with borated water leakage	None	None
Stainless steel	Air with borated water leakage	None	None

Stainless steel	Air with borated water leakage	None	None
Stainless steel	Air with borated water leakage	None	None
Stainless steel	Air with borated water leakage	None	None
Stainless steel	Air with borated water leakage	None	None
#M#Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)#M#	Air – indoor, uncontrolled	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.S3, “ASME Section XI, Subsection IWF”#M#
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled	Cracking #*#due to stress corrosion cracking	Chapter XI.S3, “ASME Section XI, Subsection IWF”
Low-alloy steel, actual measured yield strength ≥ 150 ksi (1,034 MPa)	Air – indoor, uncontrolled	Cracking #*#due to stress corrosion cracking	Chapter XI.S3, “ASME Section XI, Subsection IWF”
#M#Concrete; grout#M#	Air – indoor, uncontrolled or Air – outdoor	Reduction in concrete anchor capacity #*#due to local concrete degradation/ service-induced cracking or other concrete aging mechanisms	Chapter XI.S6, "Structures Monitoring"

#M#Concrete; grout#M#	Air – indoor, uncontrolled or Air – outdoor	Reduction in concrete anchor capacity #*#due to local concrete degradation/ service-induced cracking or other concrete aging mechanisms	Chapter XI.S6, "Structures Monitoring"
#M#Concrete; grout#M#	Air – indoor, uncontrolled or Air – outdoor	Reduction in concrete anchor capacity #*#due to local concrete degradation/ service-induced cracking or other concrete aging mechanisms	Chapter XI.S6, "Structures Monitoring"
#M#Concrete; grout#M#	Air – indoor, uncontrolled or Air – outdoor	Reduction in concrete anchor capacity #*#due to local concrete degradation/ service-induced cracking or other concrete aging mechanisms	Chapter XI.S6, "Structures Monitoring"
#M#Concrete; grout#M#	Air – indoor, uncontrolled or Air – outdoor	Reduction in concrete anchor capacity #*#due to local concrete degradation/ service-induced cracking or other concrete aging mechanisms	Chapter XI.S6, "Structures Monitoring"
#M#Concrete; grout#M#	Air – indoor, uncontrolled or Air – outdoor	Reduction in concrete anchor capacity #*#due to local concrete degradation/ service-induced cracking or other concrete aging mechanisms	Chapter XI.S6, "Structures Monitoring"
#M#Concrete; grout#M#	Air – indoor, uncontrolled or Air – outdoor	Reduction in concrete anchor capacity #*#due to local concrete degradation/ service-induced cracking or other concrete aging mechanisms	Chapter XI.S6, "Structures Monitoring"

Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general and pitting corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general and pitting corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general and pitting corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general and pitting corrosion	Chapter XI.S6, "Structures Monitoring"
Non-metallic (e.g., rubber)	Air – indoor, uncontrolled or Air – outdoor	Reduction or loss of isolation function #*#due to radiation hardening, temperature, humidity, sustained vibratory loading	Chapter XI.S3, “ASME Section XI, Subsection IWF”
#M#Lubrite®; graphitic tool steel; Fluorogold; Lubrofluor#M#	Air – indoor, uncontrolled or Air – outdoor	#M#Loss of mechanical function #*#due to corrosion, distortion, dirt, debris, overload, wear#M#	Chapter XI.S3, “ASME Section XI, Subsection IWF”
#M#Lubrite®; graphitic tool steel; Fluorogold; Lubrofluor#M#	Air – indoor, uncontrolled or Air – outdoor	#M#Loss of mechanical function #*#due to corrosion, distortion, dirt, debris, overload, wear#M#	Chapter XI.S3, “ASME Section XI, Subsection IWF”
#M#Lubrite®; graphitic tool steel; Fluorogold; Lubrofluor#M#	Air – indoor, uncontrolled or Air – outdoor	#M#Loss of mechanical function #*#due to corrosion, distortion, dirt, debris, overload, wear#M#	Chapter XI.S3, “ASME Section XI, Subsection IWF”
#M#Lubrite®; graphitic tool steel; Fluorogold; Lubrofluor#M#	Air – indoor, uncontrolled	#M#Loss of mechanical function #*#due to corrosion, distortion, dirt, debris, overload, wear#M#	Chapter XI.S6, "Structures Monitoring"
#M#Lubrite®; graphitic tool steel; Fluorogold; Lubrofluor#M#	Air – indoor, uncontrolled	#M#Loss of mechanical function #*#due to corrosion, distortion, dirt, debris, overload, wear#M#	Chapter XI.S6, "Structures Monitoring"

#M#Lubrite®; graphitic tool steel; Fluorogold; Lubrofluor#M#	Air – outdoor	#M#Loss of mechanical function #*#due to corrosion, distortion, dirt, debris, overload, wear#M#	Chapter XI.S6, "Structures Monitoring"
#M#Lubrite®; graphitic tool steel; Fluorogold; Lubrofluor#M#	Air – outdoor	#M#Loss of mechanical function #*#due to corrosion, distortion, dirt, debris, overload, wear#M#	Chapter XI.S6, "Structures Monitoring"
Galvanized steel; aluminum; stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Galvanized steel; aluminum; stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#

#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#
#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#

#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#
#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#

#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#
#M#Concrete#M#	Water – flowing	Increase in porosity and permeability; loss of strength #*#due to leaching of calcium hydroxide and carbonation	#M#Further evaluation is required to determine if a plant-specific aging management program is needed to manage increase in porosity, and permeability due to leaching of calcium hydroxide and carbonation of concrete in Inaccessible Areas. A plant-specific aging management program is not required if (1) There is evidence in the accessible areas that the flowing water has not caused leaching and carbonation, or (2) Evaluation determined that the observed leaching of calcium hydroxide and carbonation in accessible areas has no impact on the intended function of the concrete structure.#M#
Elastomers (such as EPDM rubber)	Various	Loss of sealing #*#due to deterioration of seals, gaskets, and moisture barriers (caulking, flashing, and other sealants)	Chapter XI.S6, "Structures Monitoring"
Aluminum; galvanized steel; stainless steel	Air – indoor, uncontrolled	None	None
Aluminum; galvanized steel; stainless steel	Air – indoor, uncontrolled	None	None

Aluminum; galvanized steel; stainless steel	Air – indoor, uncontrolled	None	None
Aluminum; galvanized steel; stainless steel	Air – indoor, uncontrolled	None	None
Aluminum; galvanized steel; stainless steel	Air – indoor, uncontrolled	None	None
Aluminum; galvanized steel; stainless steel	Air – indoor, uncontrolled	None	None
Aluminum; galvanized steel; stainless steel	Air – indoor, uncontrolled	None	None
Steel (with or without nickel-alloy or stainless steel cladding); stainless steel; nickel alloy	Reactor coolant	Cumulative fatigue damage #*#due to fatigue	Fatigue is a TLAA evaluated for the period of extended operation, and for Class 1 components environmental effects on fatigue are to be addressed. (See SRP, Sec 4.3 “Metal Fatigue,” for acceptable methods to comply with 10 CFR 54.21(c)(1))
Cast austenitic stainless steel	Reactor coolant	Cracking #*#due to stress corrosion cracking	Monitoring and control of primary water chemistry in accordance with EPRI 1014986 minimize the potential for SCC. Material selection according to NUREG-0313, Rev. 2, guidelines of ≤0.035% C and ≥7.5% ferrite reduces susceptibility to SCC. #*#For CASS components that do not meet either one of the above, a plant-specific aging management program is evaluated #*#The program is to include (a) adequate inspection methods to ensure detection of cracks, and (b) flaw evaluation methodology for CASS components that are susceptible to thermal aging embrittlement.

Cast austenitic stainless steel	Reactor coolant >250°C (>482°F)	Loss of fracture toughness #*#due to thermal aging embrittlement	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components #*#For pump casings and valve bodies, screening for susceptibility to thermal aging is not necessary. The ASME Section XI inspection requirements are sufficient for managing the effects of loss of fracture toughness due to thermal aging embrittlement of CASS pump casings and valve bodies.
Cast austenitic stainless steel	Reactor coolant >250°C (>482°F)	Loss of fracture toughness #*#due to thermal aging embrittlement	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components #*#For pump casings and valve bodies, screening for susceptibility to thermal aging is not necessary. The ASME Section XI inspection requirements are sufficient for managing the effects of loss of fracture toughness due to thermal aging embrittlement of CASS pump casings and valve bodies.
Steel (with stainless steel cladding); stainless steel	Reactor coolant	Cracking #*#due to stress corrosion cracking	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry”
Steel	Air with reactor coolant leakage	Cracking #*#due to stress corrosion cracking	Chapter XI.M18, "Bolting Integrity"
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, irradiation-assisted stress corrosion cracking	Chapter XI.M9, “BWR Vessel Internals” for jet pump assembly, and #*#Chapter XI.M2, “Water Chemistry”
Stainless steel	Reactor coolant	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking	Chapter XI.M9, “BWR Vessel Internals” for lower plenum, and #*#Chapter XI.M2, “Water Chemistry”
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, irradiation-assisted stress corrosion cracking	Chapter XI.M9, “BWR Vessel Internals” for lower plenum, and #*#Chapter XI.M2, “Water Chemistry”

High-strength, low-alloy steel; stainless steel	Air with reactor coolant leakage	Cracking #*#due to stress corrosion cracking	Chapter XI.M18, "Bolting Integrity"
Low-alloy steel, stainless steel	Air (with reactor coolant leakage)	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel (with stainless steel or nickel-alloy cladding)	Treated borated water	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Stainless steel	Reactor coolant	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry” #*#The AMP in Chapter XI.M1 is to be augmented to detect cracking due to stress corrosion cracking and verification of the program's effectiveness is necessary to ensure that significant degradation is not occurring and the component intended function will be maintained during the extended period of operation. An acceptable verification program includes temperature and radioactivity monitoring of the shell side water, and eddy current testing of tubes.
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel; stainless steel	System temperature up to 340°C (644°F)	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).

Steel; stainless steel	Air with metal temperature up to 288°C (550°F)	Cracking #*#due to cyclic loading	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components
Stainless steel	Reactor coolant	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking	Chapter XI.M7, “BWR Stress Corrosion Cracking,” and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Reactor coolant	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking	Chapter XI.M7, “BWR Stress Corrosion Cracking,” and #*#Chapter XI.M2, “Water Chemistry”
Stainless steel	Reactor coolant	Cracking #*#due to stress corrosion cracking	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry”
Steel (with or without nickel-alloy or stainless steel cladding); stainless steel; nickel alloy	Reactor coolant	Cumulative fatigue damage #*#due to fatigue	Fatigue is a TLAA evaluated for the period of extended operation, and for Class 1 components environmental effects on fatigue are to be addressed. (See SRP, Sec 4.3 “Metal Fatigue,” for acceptable methods to comply with 10 CFR 54.21(c)(1))
Steel (with or without nickel-alloy or stainless steel cladding); stainless steel; nickel alloy	Reactor coolant	Cumulative fatigue damage #*#due to fatigue	Fatigue is a TLAA evaluated for the period of extended operation, and for Class 1 components environmental effects on fatigue are to be addressed. (See SRP, Sec 4.3 “Metal Fatigue,” for acceptable methods to comply with 10 CFR 54.21(c)(1))
Steel (with or without nickel-alloy or stainless steel cladding); stainless steel; nickel alloy	Reactor coolant	Cumulative fatigue damage #*#due to fatigue	Fatigue is a TLAA evaluated for the period of extended operation, and for Class 1 components environmental effects on fatigue are to be addressed. (See SRP, Sec 4.3 “Metal Fatigue,” for acceptable methods to comply with 10 CFR 54.21(c)(1))
Steel (with or without nickel-alloy or stainless steel cladding); stainless steel; nickel alloy	Reactor coolant	Cumulative fatigue damage #*#due to fatigue	Fatigue is a TLAA evaluated for the period of extended operation, and for Class 1 components environmental effects on fatigue are to be addressed. (See SRP, Sec 4.3 “Metal Fatigue,” for acceptable methods to comply with 10 CFR 54.21(c)(1))

Steel (with or without nickel-alloy or stainless steel cladding); stainless steel; nickel alloy	Reactor coolant	Cumulative fatigue damage #*#due to fatigue	Fatigue is a TLAA evaluated for the period of extended operation, and for Class 1 components environmental effects on fatigue are to be addressed. (See SRP, Sec 4.3 “Metal Fatigue,” for acceptable methods to comply with 10 CFR 54.21(c)(1))
Steel; stainless steel	Reactor coolant	Cracking #*#due to cyclic loading	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components #*#The AMP in Chapter XI.M1 is to be augmented to detect cracking due to cyclic loading and verification of the program's effectiveness is necessary to ensure that significant degradation is not occurring and the component intended function will be maintained during the extended period of operation. An acceptable verification program includes temperature and radioactivity monitoring of the shell side water, and eddy current testing of tubes.
Nickel alloy	Secondary feedwater or steam	Changes in dimension ("denting") #*#due to corrosion of carbon steel tube support plate	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Steel	Reactor coolant	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel (with stainless steel or nickel-alloy cladding); stainless steel	Reactor coolant	Cracking #*#due to stress corrosion cracking, primary water stress corrosion cracking	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry”
Steel (with stainless steel cladding); stainless steel	Reactor coolant	Cracking #*#due to stress corrosion cracking	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry”
Steel	Air with leaking secondary-side water and/or steam	Loss of material #*#due to erosion	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 2 components

Steel	Secondary feedwater or steam	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Secondary feedwater or steam	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Nickel alloy	Secondary feedwater or steam	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, "Water Chemistry," and #*#Chapter XI.M32, "One-Time Inspection," or #*#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD.”
Steel	Secondary feedwater or steam	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Secondary feedwater or steam	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Secondary feedwater	Loss of material #*#due to erosion	A plant-specific aging management program is to be evaluated
Nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Steel	Secondary feedwater or steam	Ligament cracking #*#due to corrosion	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Steel	Secondary feedwater or steam	Ligament cracking #*#due to corrosion	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”

Nickel alloy	Secondary feedwater or steam	Changes in dimension ("denting") #*#due to corrosion of carbon steel tube support plate	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Reactor coolant and secondary feedwater/steam	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Nickel alloy	Reactor coolant and secondary feedwater/steam	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Nickel alloy	Secondary feedwater or steam	Cracking #*#due to outer diameter stress corrosion cracking	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Secondary feedwater or steam	Cracking #*#due to outer diameter stress corrosion cracking	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Secondary feedwater or steam	Cracking #*#due to intergranular attack	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Secondary feedwater or steam	Cracking #*#due to intergranular attack	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Secondary feedwater or steam	Loss of material #*#due to wastage and pitting corrosion	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Cast austenitic stainless steel	Reactor coolant >250°C (>482°F)	Loss of fracture toughness #*#due to thermal aging embrittlement	Chapter XI.M12, "Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS)"
Cast austenitic stainless steel	Reactor coolant >250°C (>482°F)	Loss of fracture toughness #*#due to thermal aging embrittlement	Chapter XI.M12, "Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS)"

Stainless steel; nickel alloy	Reactor coolant	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 "Metal Fatigue," for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 "Metal Fatigue," for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel (with stainless steel cladding); stainless steel	Reactor coolant	Cracking #*#due to cyclic loading	Chapter XI.M1, "ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD" for Class 1 components
Steel (with stainless steel or nickel-alloy cladding); stainless steel	Reactor coolant	Cracking #*#due to cyclic loading	Chapter XI.M1, "ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD" for Class 1 components, and #*#Chapter XI.M2, "Water Chemistry" #*#Cracks in the pressurizer cladding could propagate from cyclic loading into the ferrite base metal and weld metal. However, because the weld metal between the surge nozzle and the vessel lower head is subjected to the maximum stress cycles and the area is periodically inspected as part of the ISI program, the existing AMP is adequate for managing the effect of pressurizer clad cracking.
Stainless steel; nickel alloy	Air with reactor coolant leakage (Internal); or reactor coolant	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking	A plant-specific aging management program is to be evaluated because existing programs may not be capable of mitigating or detecting crack initiation and growth due to SCC in the vessel flange leak detection line

Steel (with or without stainless steel cladding)	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Neutron irradiation embrittlement is a time-dependent aging mechanism evaluated for extended operation for all ferritic materials that have a neutron fluence >1E17 n/cm2 (E >1 MeV) at the end of the period of extended operation. Aspects may involve a TLAA. #*#In accordance with approved BWRVIP-74, the TLAA evaluates the impact of neutron embrittlement on: (a) adjusted reference temperature values used for calculation of the plant's pressure-temperature limits, (b) need for inservice inspection of circumferential welds, and (c) Charpy upper shelf energy or the equivalent margins analyses performed in accordance with 10 CFR Part 50, Appendix G. Additionally, the applicant is to monitor axial beltline weld embrittlement. One acceptable method is to determine that the mean RTNDT of the axial beltline welds at the end of the extended period of operation is less than the value specified by the staff in its March 7, 2000 letter (ADAMS ML031430372). See the Standard Review Plan, Section 4.2 "Reactor Vessel Neutron Embrittlement" for acceptable methods for meeting the requirements of 10 CFR 54.21(c).
Stainless steel; nickel alloy	Reactor coolant	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking	Chapter XI.M4, "BWR Vessel ID Attachment Welds," and #*#Chapter XI.M2, "Water Chemistry"
Steel (with or without stainless steel cladding)	Reactor coolant	Cracking #*#due to cyclic loading	Chapter XI.M5, "BWR Feedwater Nozzle"
Steel (with or without stainless steel cladding)	Reactor coolant	Cracking #*#due to cyclic loading	Chapter XI.M6, "BWR Control Rod Drive Return Line Nozzle"

Steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Neutron irradiation embrittlement is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation for all ferritic materials that have a neutron fluence greater than 1E17 n/cm2 (E >1 MeV) at the end of the period of extended operation. In accordance with approved BWRVIP-74, the TLAA is to evaluate the impact of neutron embrittlement on: (a) the adjusted reference temperature values used for calculation of the plant's pressure-temperature limits, (b) the need for inservice inspection of circumferential welds, and (c) the Charpy upper shelf energy or the equivalent margins analyses performed in accordance with 10 CFR Part 50, Appendix G The applicant may choose to demonstrate that the materials of the nozzles are not controlling for the TLAA evaluations. See the Standard Review Plan, Section 4.2 "Reactor Vessel Neutron Embrittlement" for acceptable methods for meeting the requirements of 10 CFR 54.21(c).
Stainless steel; nickel alloy	Reactor coolant	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking	Chapter XI.M7, "BWR Stress Corrosion Cracking," and #*#Chapter XI.M2, "Water Chemistry"
Steel	Air – indoor, uncontrolled	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 "Metal Fatigue," for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Air – indoor, uncontrolled	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 "Metal Fatigue," for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).

Stainless steel	Air with reactor coolant leakage (Internal); or reactor coolant	Cracking #*#due to stress corrosion cracking	A plant-specific aging management program is to be evaluated because existing programs may not be capable of mitigating or detecting crack initiation and growth due to SCC in the vessel flange leak detection line
Cast austenitic stainless steel	Reactor coolant >250°C (>482°F)	Loss of fracture toughness #*#due to thermal aging embrittlement	Chapter XI.M12, "Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS)"
Stainless steel	Air with reactor coolant leakage	Cracking #*#due to stress corrosion cracking	Chapter XI.M18, "Bolting Integrity"
Stainless steel	Air with reactor coolant leakage	Loss of material #*#due to wear	Chapter XI.M18, "Bolting Integrity"
Stainless steel	Air (with reactor coolant leakage)	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel (with stainless steel or nickel-alloy cladding)	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Neutron irradiation embrittlement is a TLAA evaluated for extended operation for all ferritic materials with a neutron fluence greater than 1E17 n/cm2 (E >1 MeV) at the end of the period of extended operation.#*#The TLAA is to evaluate the impact of neutron embrittlement on: (a) the RTPTS value based on the requirements in 10 CFR 50.61, (b) the adjusted reference temperature values used for calculation of the plant's pressure-temperature limits, and (c) the Charpy upper shelf energy or the equivalent margins analyses performed in accordance with 10 CFR Part 50, Appendix G requirements. The applicant may choose to demonstrate that the materials in the inlet, outlet, and safety injection nozzles are not controlling for the TLAA evaluations.

Steel (with stainless steel or nickel-alloy cladding)	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Neutron irradiation embrittlement is a TLAA evaluated for extended operation for all ferritic materials with a neutron fluence greater than 1E17 n/cm2 (E >1 MeV) at the end of the period of extended operation. The TLAA is to evaluate the impact of neutron embrittlement on: (a) the RTPTS value based on the requirements in 10 CFR 50.61, (b) the adjusted reference temperature values used for calculation of the plant's pressure-temperature limits, and (c) the Charpy upper shelf energy or the equivalent margins analyses performed in accordance with 10 CFR Part 50, Appendix G requirements. See the Standard Review Plan, Section 4.2 "Reactor Vessel Neutron Embrittlement" for acceptable methods for meeting the requirements of 10 CFR 54.21(c).
SA508-Cl 2 forgings clad (with stainless steel) using a high-heat-input welding process	Reactor coolant	Crack growth #*#due to cyclic loading	Growth of intergranular separations (underclad cracks) in low-alloy steel forging heat affected zone under austenitic stainless steel cladding is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation for all the SA 508-Cl 2 forgings where the cladding was deposited with a high heat input welding process. The methodology for evaluating an underclad flaw is in accordance with the current well-established flaw evaluation procedure and criterion in the ASME Section XI Code. See the Standard Review Plan, Section 4.7, "Other Plant-Specific Time-Limited Aging Analysis," for generic guidance for meeting the requirements of 10 CFR 54.21(c).
Steel	Reactor coolant	Loss of material #*#due to wear	Chapter XI.M1, "ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD" for Class 1 components

Nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M11B, “Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)"#M#
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, irradiation-assisted stress corrosion cracking	Chapter XI.M9, “BWR Vessel Internals” for core shroud, and #*#Chapter XI.M2, “Water Chemistry”
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, irradiation-assisted stress corrosion cracking	Chapter XI.M9, “BWR Vessel Internals” for core plate, and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, irradiation-assisted stress corrosion cracking	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry” #*#Because cracking initiated in crevice regions is not amenable to visual inspection, for BWRs with a crevice in the access hole covers, an augmented inspection is to include ultrasonic testing (UT) or other demonstrated acceptable inspection of cover welds.
Nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, irradiation-assisted stress corrosion cracking	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, irradiation-assisted stress corrosion cracking	Chapter XI.M9, “BWR Vessel Internals” for shroud support, and #*#Chapter XI.M2, “Water Chemistry”

Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, irradiation-assisted stress corrosion cracking	Chapter XI.M9, “BWR Vessel Internals” for the LPCI coupling, and #*#Chapter XI.M2, “Water Chemistry”
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, irradiation-assisted stress corrosion cracking	Chapter XI.M9, “BWR Vessel Internals” for top guide, and #*#Chapter XI.M2, “Water Chemistry”
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, irradiation-assisted stress corrosion cracking	Chapter XI.M9, “BWR Vessel Internals” for core spray internals, and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Air – indoor, uncontrolled (External)	None	None
Stainless steel	Air – indoor, uncontrolled (External)	None	None
Stainless steel	Air with borated water leakage	None	None
Stainless steel	Concrete	None	None
Stainless steel	Gas	None	None
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Steel	Secondary feedwater or steam	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
Stainless steel	Reactor coolant	Cracking #*#due to stress corrosion cracking	A plant-specific aging management program is to be evaluated
Stainless steel	Reactor coolant	Cracking #*#due to flow-induced vibration	#M#Chapter XI.M9, "BWR Vessel Internals" for steam dryer#M#

Nickel alloy	Reactor coolant or steam	Cracking #*#due to primary water stress corrosion cracking	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M11B, “Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)"#M#
Steel (with stainless steel or nickel-alloy cladding); stainless steel; nickel alloy	Reactor coolant	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel (with stainless steel or nickel-alloy cladding); stainless steel; nickel alloy	Reactor coolant	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Nickel alloy	Reactor coolant or steam	Cracking #*#due to primary water stress corrosion cracking	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M11B, “Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)"#M#
Steel	Secondary feedwater or steam	Loss of material #*#due to erosion, general, pitting, and crevice corrosion	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Steel	Secondary feedwater or steam	Loss of material #*#due to erosion, general, pitting, and crevice corrosion	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
High-strength, low-alloy steel	Air with reactor coolant leakage	Loss of material #*#due to general, pitting, and crevice corrosion, or wear	Chapter XI.M3, “Reactor Head Closure Stud Bolting”
Steel	Air – indoor, uncontrolled	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M18, "Bolting Integrity"
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”

Stainless steel	Reactor coolant	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry”
PH martensitic stainless steel (17-4PH and 15-5PH); martensitic stainless steel (SS 403, 410, 431, etc.)	Reactor coolant >250°C (>482°F) and neutron flux	Loss of fracture toughness #*#due to thermal aging, neutron irradiation embrittlement	Chapter XI.M9, "BWR Vessel Internals"
Nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M11B, “Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)"#M#
X-750 alloy	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M9, "BWR Vessel Internals"
High-strength, low-alloy steel	Air with reactor coolant leakage	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Cast austenitic stainless steel	Reactor coolant >250°C (>482°F) and neutron flux	Loss of fracture toughness #*#due to thermal aging, neutron irradiation embrittlement	#M#Chapter XI.M9, "BWR Vessel Internals"#M#
Cast austenitic stainless steel	Reactor coolant >250°C (>482°F) and neutron flux	Loss of fracture toughness #*#due to thermal aging, neutron irradiation embrittlement	#M#Chapter XI.M9, "BWR Vessel Internals"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#

Steel; chrome plated steel; stainless steel; nickel alloy	Secondary feedwater or steam	#M#Loss of material #*#due to fretting#M#	#M#Chapter XI.M19, “Steam Generators”#M#
#M#Steel; chrome plated steel; stainless steel; nickel alloy#M#	Secondary feedwater or steam	#M#Loss of material #*#due to general (steel only), pitting, and crevice corrosion#M#	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
#M#Steel (with or without cladding)#M#	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M31, “Reactor Vessel Surveillance”
#M#Steel (with or without cladding)#M#	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M31, “Reactor Vessel Surveillance”
#M#Steel (with or without cladding)#M#	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M31, “Reactor Vessel Surveillance”
Steel (with stainless steel or nickel-alloy cladding); stainless steel; nickel alloy	Reactor coolant	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry”
Steel; stainless steel	Reactor coolant	#M#Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking (for stainless steel only), and thermal, mechanical, and vibratory loading#M#	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, #*#Chapter XI.M2, “Water Chemistry,” and #*#XI.M35, "One-Time Inspection of ASME Code Class 1 Small-bore Piping"
Stainless steel; steel with stainless steel cladding	Treated borated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for ASME Code components, and #*#Chapter XI.M2, “Water Chemistry”#M#
Stainless steel; steel with stainless steel cladding	Reactor coolant	Cracking #*#due to stress corrosion cracking	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry”

Nickel alloy	Secondary feedwater or steam	Loss of material #*#due to fretting and wear	#M#Chapter XI.M19, “Steam Generators”#M#
Nickel alloy	Secondary feedwater or steam	Loss of material #*#due to fretting and wear	#M#Chapter XI.M19, “Steam Generators”#M#
Stainless steel; nickel alloy welds and/or buttering	Reactor coolant	Cracking #*#due to stress corrosion cracking, primary water stress corrosion cracking	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M11B, “Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)" for nickel alloy components#M#
Stainless steel; steel with stainless steel cladding	Reactor coolant	#M#Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking (for stainless steel only), and thermal, mechanical, and vibratory loading#M#	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, #*#Chapter XI.M2, “Water Chemistry,” and #*#XI.M35, "One-Time Inspection of ASME Code Class 1 Small-bore Piping"
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, and irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Note: Components with no additional measures are not uniquely identifies in GALL tables - Components with no additional measures are defined in Section 3.3.1 of MRP-227, "Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines"
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#change in dimension #*#due to void swelling; #*#loss of preload #*#due to stress relaxation; #*#loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*#Note: Components with no additional measures are not uniquely identified in GALL tables - Components with no additional measures are defined in Section 3.3.1 of MRP-227, "Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines"

Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, and irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals”
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#change in dimension #*#due to void swelling; #*#loss of preload #*#due to stress relaxation; #*#loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals”
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry”
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry”
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry”
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#loss of preload #*#due to stress relaxation; #*# loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals.” #*#Primary components (identified in the "Structure and Components" column) #*# (for Expansion components see AMR Line Item IV.B4.RP-243.)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary Components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Items IV.B4.RP-244 and IV.B4.RP-375)

Cast austenitic stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to thermal aging embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*# (for Primary components see AMR Line Items IV.B4.RP-253 and IV.B4.RP-258)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#loss of preload #*#due to stress relaxation; #*#loss of material #*#due to wear	Chapter XI.M16A, "PWR Vessel Internals" #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B4.RP-240)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking	Chapter XI.M2, "Water Chemistry," and #*#Chapter XI.M16A, "PWR Vessel Internals" #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B4.RP-241)
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Items IV.B4.RP-247 and IV.B4.RP-248)
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	'Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Items IV.B4.RP-247 and IV.B4.RP-248)
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Items IV.B4.RP-245, IV.B4.RP-246, IV.B4.RP-254, and IV.B4.RP-256)

Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Items IV.B4.RP-245, IV.B4.RP-246, IV.B4.RP-254, IV.B4.RP-247, and IV.B4.RP-256)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Item IV.B4.RP-250)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B4.RP-249)
Stainless steel	Reactor coolant and neutron flux	Loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*#Primary component (identified in the "Structure and Components" column) #*#No Expansion components
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to thermal aging embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#No Expansion components
Cast austenitic stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to thermal aging embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see ARM Line Item IV.B4.RP-242)
Nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals,” Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see ARM Line Items IV.B4.RP-247 and IV.B4.RP-248)

Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals,” Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see ARM Line Items IV.B4.RP-247 and IV.B4.RP-248)
Cast austenitic stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to thermal aging, neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see Line Item IV.B4.RP-242)
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to thermal aging, neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see Line Item IV.B4.RP-260)
Stainless steel; nickel alloy	Reactor coolant	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry”
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals" #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B4.RP-259)
Nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Item IV.B4.RP-262 and IV.B4.RP-352)
Nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B4.RP-261)

Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, and irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Note: Components with no additional measures are not uniquely identified in GALL tables - Components with no additional measures are defined in Section 3.3.1 of MRP-227, "Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines"
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#change in dimension #*#due to void swelling; #*#loss of preload #*#due to stress relaxation; #*#loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*#Note: Components with no additional measures are not uniquely identified in GALL tables - Components with no additional measures are defined in Section 3.3.1 of MRP-227, "Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines"
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, and irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals”
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#change in dimension #*#due to void swelling; #*#loss of preload #*#due to stress relaxation; #*#loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals”
Stainless steel	Reactor coolant and neutron flux	Change in dimension #*#due to void swelling	Chapter XI.M16A, “PWR Vessel Internals” #*# Primary components (identified in the "Structure and Components" column) #*#no Expansion components

Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Items IV.B2.RP-273 and IV.B2.RP-286)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#change in dimension #*#due to void swelling; #*#loss of preload #*#due to stress relaxation	Chapter XI.M16A, “PWR Vessel Internals” #*# Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Items IV.B2.RP-274 and IV.B2.RP-287)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-271)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#change in dimension #*#due to void swelling; #*#loss of preload #*#due to stress relaxation	Chapter XI.M16A, “PWR Vessel Internals” #*# Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-272)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking and irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Items IV.B2.RP-278, IV.B2.RP-280, IV.B2.RP-282, and 'IV.B2.RP-294, IV.B2.RP-295, and IV. B4.RP-281)

Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion component (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-276)
Steel (with stainless steel or nickel-alloy cladding); stainless steel; nickel alloy	Reactor coolant	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry”
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking and irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion component (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-276)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*# Expansion Components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-276)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-276)
Stainless steel (with or without chrome plating)	Reactor coolant and neutron flux	Loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*# Existing Program components (identified in the "Structure and Components" column) #*#No expansion components; and #*#Chapter XI.M37, "Flux Thimble Tube Inspection"
Nickel alloy	Reactor coolant and neutron flux	Loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*# Existing Program components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-271)

Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#loss of preload #*#due to stress relaxation	Chapter XI.M16A, “PWR Vessel Internals” #*# Expansion component (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-272)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*# Existing Program components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking, and fatigue	'Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Existing Program components (identified in the "Structure and Components" column) #*#no Expansion components
Cast austenitic stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to thermal aging and neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*# Expansion components (identified in the "Structure and Components" column)#*#(for Primary components see AMR Line Item IV.B2.RP-297)
Cast austenitic stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column)#*#(for Primary components see AMR Line Item IV.B2.RP-298)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*# Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-297)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column)#*#(for Primary components see AMR Line Item IV.B2.RP-298)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-276)

Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*# Expansion Components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-276)
Stainless steel	Reactor coolant and neutron flux	Loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*# Primary Components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to thermal aging and neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*# Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Items IV.B2.RP-290 and IV.B2.RP-292)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column)#*#(for Expansion components see AMR Line Items IV.B2.RP-291 and IV.B2.RP-293)
Stainless steel	Reactor coolant and neutron flux	Loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*#Existing Program components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Loss of preload #*#due to irradiation enhanced stress relaxation; #*#loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*# Primary components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	'Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Existing Program components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to fatigue; #*#loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*# Primary components (identified in the "Structure and Components" column) #*#no Expansion components

Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, and irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Note: Components with no additional measures are not uniquely identified in GALL tables - Components with no additional measures are defined in Section 3.3.1 of MRP-227, "Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines"
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#change in dimension #*#due to void swelling; #*#loss of preload #*#due to irradiation enhanced stress relaxation; #*#loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*#Note: Components with no additional measures are not uniquely identified in GALL tables - Components with no additional measures are defined in Section 3.3.1 of MRP-227, "Materials Reliability Program: Pressurized Water Reactor Internals Inspection and Evaluation Guidelines"
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, and irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals”
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#change in dimension #*#due to void swelling; #*#loss of preload #*#due to stress relaxation; #*#loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals”

Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Item IV.B3.RP-313)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking and fatigue	Chapter XI.M2, "Water Chemistry," and #*#Chapter XI.M16A, "PWR Vessel Internals" #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B3.RP-312)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Items IV.B3.RP-316, IV.B3.RP-330, and IV.B3.RP-358)
Stainless steel	Reactor coolant and neutron flux	Loss of preload #*#due to irradiation enhanced stress relaxation; #*#loss of fracture toughness #*#due to neutron irradiation embrittlement; #*# change in dimension #*#due to void swelling	Chapter XI.M16A, “PWR Vessel Internals,” Primary components (identified in the "Structure and Components" column) #*# (for Expansion components see AMR Line Items IV.B3.RP-317, and IV.B3.RP-331)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking	Chapter XI.M2, "Water Chemistry," and #*#Chapter XI.M16A, "PWR Vessel Internals" #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B3.RP-314)
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Loss of preload #*#due to irradiation enhanced stress relaxation; #*#loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, "PWR Vessel Internals" #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B3.RP-315)

Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#change in dimension #*#due to void swelling	Chapter XI.M16A, "PWR Vessel Internals" #*#Primary components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Loss of material #*#due to wear; #*#Loss of preload #*#due to irradiation enhanced stress relaxation	Chapter XI.M16A, "PWR Vessel Internals" #*#Existing Program components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to fatigue	'Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Existing Program components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Item IV.B3.RP-323)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B3.RP-322)

Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Item IV.B3.RP-325)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B3.RP-324)
Stainless steel	Reactor coolant and neutron flux	Change in dimension #*#due to void swelling	Chapter XI.M16A, "PWR Vessel Internals" #*#Primary components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Items IV.B3.RP-329, IV.B3.RP-335, IV.B3.RP-362, IV.B3.RP-363, IV.B3.RP-364)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B3.RP-327)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item 'IV.B3.RP-314)

Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item 'IV.B3.RP-315)
Stainless steel	Reactor coolant and neutron flux	Loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*#Existing Program components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to fatigue	TLAA, or #*#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking and fatigue	'Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Existing Program components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, irradiation-assisted stress corrosion cracking, and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B3.RP-327)
Stainless steel	Reactor coolant and neutron flux	Loss of material #*#due to wear; #*#loss of fracture toughness #*#due to neutron irradiation embrittlement; loss of preload #*#due to irradiation enhanced stress relaxation	Chapter XI.M16A, “PWR Vessel Internals” #*#Existing Program components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to fatigue	'Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#no Expansion components

Stainless steel; nickel alloy	Reactor coolant and neutron flux	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, irradiation-assisted stress corrosion cracking, and fatigue	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to fatigue	Chapter XI.M2, “Water Chemistry”, and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#no Expansion components
Stainless steel; steel with stainless steel cladding	Reactor coolant	Cracking #*#due to stress corrosion cracking	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry”
Stainless steel	Reactor coolant and neutron flux	Loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*# Existing Program components (identified in the "Structure and Components" column)#*#no Expansion components
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking and fatigue	'Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Existing Program components (identified in the "Structure and Components" column) #*#no Expansion components
Nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B4.RP-261)
Steel	Concrete	None	#M#None, provided #*#1) attributes of the concrete are consistent with ACI 318 or ACI 349 (low water-to-cement ratio, low permeability, and adequate air entrainment) as cited in NUREG-1557, and #*#2) plant OE indicates no degradation of the concrete#M#

Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#change in dimension #*#due to void swelling; #*#loss of preload #*#due to stress relaxation	Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#no Expansion components
Nickel alloy	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking and fatigue	A plant-specific aging management program is to be evaluated
Nickel alloy	Reactor coolant and neutron flux	Loss of material #*#due to wear	A plant-specific aging management program is to be evaluated
Zircaloy-4	Reactor coolant and neutron flux	Loss of material #*#due to wear	A plant-specific aging management program is to be evaluated
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary component see AMR Line Item IV.B3.RP-314)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement; #*#change in dimension #*#due to void swelling	Chapter XI.M16A, “PWR Vessel Internals,” Primary components (identified in the "Structure and Components" column) #*# no Expansion components
Steel (with nickel-alloy cladding); nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M11B, “Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)"#M#
Steel (with nickel-alloy cladding); nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M11B, “Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)"#M#

Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, "PWR Vessel Internals" #*#Primary components (identified in the "Structure and Components" column) #*#(for Expansion components see AMR Line Items IV.B3.RP-361)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, "PWR Vessel Internals" #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Items IV.B3.RP-360)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, "PWR Vessel Internals" #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Items IV.B3.RP-327)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, "PWR Vessel Internals" #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Items IV.B3RP-327)
Cast austenitic stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation and thermal embrittlement	Chapter XI.M16A, "PWR Vessel Internals" #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Items IV.B3RP-327)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, "PWR Vessel Internals" #*#Primary component (identified in the "Structure and Components" column) #*# no Expansion components
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*#Primary components (identified in the "Structure and Components" column) #*#no Expansion components
Steel (with nickel-alloy cladding); nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry” #*#For nickel alloy divider plate assemblies and associated welds made of Alloy 600, effectiveness of the chemistry control program should be verified to ensure that cracking due to PWSCC is not occurring.#M#

Steel	Secondary feedwater or steam	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 2 components, and #*#Chapter XI.M2, “Water Chemistry” #*#As noted in NRC IN 90-04, if general and pitting corrosion of the shell exists, Chapter XI.M1 methods may not be sufficient to detect general and pitting corrosion (and the resulting corrosion-fatigue cracking), and additional inspection procedures are to be developed. This issue is limited to Westinghouse Model 44 and 51 Steam Generators where a high stress region exists at the shell to transition cone weld. The new transition is only applicable to replacement recirculating steam generators.#M#
Stainless steel; nickel alloy	Reactor coolant	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, cyclic loading	Chapter XI.M8, “BWR Penetrations,” and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy; nickel-alloy cladding	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M11B, “Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)"#M#
Stainless steel; nickel alloy	Reactor coolant	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking, cyclic loading	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD,” and #*#Chapter XI.M2, “Water Chemistry”#M#
Steel	Secondary feedwater or steam	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M2, “Water Chemistry” and #*#Chapter XI.M32, “One-Time Inspection”

Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to fatigue	Chapter XI.M2, "Water Chemistry," and #*#Chapter XI.M16A, "PWR Vessel Internals" #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B4.RP-241)
Stainless steel; nickel alloy	Reactor coolant and neutron flux	Reduction in ductility and fracture toughness #*#due to neutron irradiation	Ductility - Reduction in Fracture Toughness is a TLAA (BAW-2248A) to be evaluated for the period of extended operation. See the SRP, Section 4.7, "Other Plant-Specific TLAAs," for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Stainless steel	Reactor coolant	Loss of material #*#due to wear	Chapter XI.M9, "BWR Vessel Internals"
Nickel alloy	Air with borated water leakage	None	None
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	#M#Chapter XI.M10, "Boric Acid Corrosion," and #*#Chapter XI.M11B, "Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)"#M#
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	#M#Chapter XI.M10, "Boric Acid Corrosion," and #*#Chapter XI.M11B, "Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)"#M#
X-750 alloy	Reactor coolant and neutron flux	Cracking #*#due to intergranular stress corrosion cracking	Chapter XI.M9, "BWR Vessel Internals" for core plate, and #*#Chapter XI.M2, "Water Chemistry"
#M#Stainless steel; nickel alloy; cast austenitic stainless steel#M#	Reactor coolant and neutron flux	#M#Cracking, or #*#Loss of material #*#due to wear#M#	Chapter XI.M1, "ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD"
#M#Stainless steel; nickel alloy; cast austenitic stainless steel#M#	Reactor coolant and neutron flux	#M#Cracking, or #*#Loss of material #*#due to wear#M#	Chapter XI.M1, "ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD"

#M#Stainless steel; nickel alloy; cast austenitic stainless steel#M#	Reactor coolant and neutron flux	#M#Cracking, or #*#Loss of material #*#due to wear#M#	Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD”
Stainless steel; steel with stainless steel cladding	Treated borated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
#M#Steel; chrome plated steel; stainless steel; nickel alloy#M#	Secondary feedwater or steam	#M#Cracking #*#due to stress corrosion cracking or other mechanism(s)#M#	Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”
Nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry” #*#For nickel alloy divider plate assemblies and associated welds made of Alloy 600, effectiveness of the chemistry control program should be verified to ensure that cracking due to PWSCC is not occurring.#M#
Stainless steel	Reactor coolant and neutron flux	Loss of material #*#due to wear	Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) are only the components associated with a primary component that exceeded the acceptance limit. #*#(for Primary components see AMR Line Item IV.B2.RP-296)
Stainless steel	Reactor coolant and neutron flux	Cracking #*#due to stress corrosion cracking, and irradiation-assisted stress corrosion cracking	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-276)
Stainless steel	Reactor coolant and neutron flux	Loss of fracture toughness #*#due to neutron irradiation embrittlement	Chapter XI.M16A, “PWR Vessel Internals” #*#Expansion components (identified in the "Structure and Components" column) #*#(for Primary components see AMR Line Item IV.B2.RP-276)
Steel; stainless steel	Reactor coolant	Loss of material #*#due to general (steel only), pitting, and crevice corrosion	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD,” and #*#Chapter XI.M2, “Water Chemistry”#M#

#M#Nickel alloy#M#	Reactor coolant	Cracking #*#due to stress corrosion cracking, primary water stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
#M#Stainless Steel#M#	Reactor coolant	#M#Cracking #*#due to stress corrosion cracking#M#	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
#M#Steel; stainless steel#M#	#M#Air with reactor coolant leakage#M#	#M#Loss of material #*#due to general (steel only), pitting, and crevice corrosion or wear#M#	Chapter XI.M18, "Bolting Integrity"
#M#Steel; stainless steel#M#	#M#Air#M#	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
#M#Steel; stainless steel#M#	System temperature up to 288°C (550°F)	Cumulative fatigue damage #*#due to fatigue	Fatigue is a TLAA evaluated for the period of extended operation; check ASME Code limits for allowable cycles (less than 7000 cycles) of thermal stress range. (SRP Sec 4.3 “Metal Fatigue,” for acceptable methods to comply with 10 CFR 54.21(c)(1))
#M#Steel; stainless steel#M#	#M#Air – indoor, uncontrolled (External)#M#	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
#M#Steel; stainless steel#M#	#M#Air – indoor, uncontrolled (External)#M#	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel (with stainless steel or nickel-alloy cladding)	Reactor coolant	Cracking #*#due to stress corrosion cracking, primary water stress corrosion cracking	#M#Chapter XI.M1, “ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD” for Class 1 components, and #*#Chapter XI.M2, “Water Chemistry”#M#
Steel	Secondary feedwater or steam	#M#Wall thinning #*#due to flow-accelerated corrosion and general corrosion#M#	#M#Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”#M#
Steel	Secondary feedwater or steam	Wall thinning #*#due to flow-accelerated corrosion	#M#Chapter XI.M19, “Steam Generators,” and #*#Chapter XI.M2, “Water Chemistry”#M#
Steel	Reactor coolant	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#

#M#High-strength, low-alloy steel#M#	Air with reactor coolant leakage	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking	Chapter XI.M3, "Reactor Head Closure Stud Bolting"
#M#High-strength, low-alloy steel#M#	Air with reactor coolant leakage	Cracking #*#due to stress corrosion cracking	Chapter XI.M3, "Reactor Head Closure Stud Bolting"
#M#High-strength, low-alloy steel#M#	Air with reactor coolant leakage	#M#Loss of material #*#due to general, pitting, and crevice corrosion, or wear#M#	Chapter XI.M3, "Reactor Head Closure Stud Bolting"
#M#High-strength, low-alloy steel#M#	Air with reactor coolant leakage	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 "Metal Fatigue," for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Stainless steel; nickel alloy	Reactor coolant	Cracking #*#due to stress corrosion cracking, primary water stress corrosion cracking	#M#Chapter XI.M1, "ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD" for Class 1 components, and #*#Chapter XI.M2, "Water Chemistry"#M#
Nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	#M#Chapter XI.M1, "ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD" for Class 1 components, and #*#Chapter XI.M2, "Water Chemistry," and #*#Chapter XI.M11B, "Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)"#M#
Nickel alloy	Reactor coolant	Cracking #*#due to primary water stress corrosion cracking	#M#Chapter XI.M1, "ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD" for Class 1 components, and #*#Chapter XI.M2, "Water Chemistry," and #*#Chapter XI.M11B, "Cracking of Nickel-Alloy Components and Loss of Material Due to Boric Acid-Induced Corrosion in RCPB Components (PWRs Only)"#M#
Stainless steel	Raw water	Loss of material #*#due to pitting and crevice corrosion	A plant-specific aging management program is to be evaluated for pitting and crevice corrosion of tank bottom because moisture and water can egress under the tank due to cracking of the perimeter seal from weathering.

Steel	Air with steam or water leakage	Loss of material #*#due to general corrosion	Chapter XI.M18, "Bolting Integrity"
Steel, high-strength	Air with steam or water leakage	Cracking #*#due to cyclic loading, stress corrosion cracking	Chapter XI.M18, "Bolting Integrity"
Steel	Steam	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Treated water	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Treated water	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Cast austenitic stainless steel	Treated water >250°C (>482°F)	Loss of fracture toughness #*#due to thermal aging embrittlement	Chapter XI.M12, "Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS)"
Stainless steel	Treated water (borated) >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry”
Stainless steel	Treated water (borated) >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry”
Stainless steel	Treated water (borated)	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Stainless steel	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M20, "Open-Cycle Cooling Water System"#M#
Steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"

Steel	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Treated water (borated)	Loss of material #*#due to erosion	A plant-specific aging management program is to be evaluated for erosion of the orifice due to extended use of the centrifugal HPSI pump for normal charging. See LER 50-275/94-023 for evidence of erosion.
Steel	Air – indoor, uncontrolled (Internal)	Loss of material #*#due to general corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Condensation (Internal)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air – indoor, uncontrolled (Internal)	Loss of material #*#due to general corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Air – indoor, uncontrolled (Internal)	Loss of material #*#due to general corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Condensation (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Raw water	#M#Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"

Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking	Chapter XI.M7, “BWR Stress Corrosion Cracking,” and #*#Chapter XI.M2, “Water Chemistry”
Steel (with stainless steel or nickel-alloy cladding)	Treated water (borated) >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry”
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – outdoor (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Condensation (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Cast austenitic stainless steel	Treated water (borated) >250°C (>482°F)	Loss of fracture toughness #*#due to thermal aging embrittlement	Chapter XI.M12, "Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (CASS)"
Copper alloy	Air – indoor, uncontrolled (External)	None	None
Copper alloy	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Aluminum	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"

Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
#M#Steel (with coating or wrapping)#M#	Soil	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
Steel	Concrete	None	#M#None, provided #*#1) attributes of the concrete are consistent with ACI 318 or ACI 349 (low water-to-cement ratio, low permeability, and adequate air entrainment) as cited in NUREG-1557, and #*#2) plant OE indicates no degradation of the concrete#M#
Steel	Air – indoor, uncontrolled (Internal)	#M#Loss of material #*#due to general corrosion; fouling that leads to corrosion#M#	A plant-specific aging management program is to be evaluated
Aluminum	Air - outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Nickel alloy	Air with borated water leakage	None	None

Copper alloy	Any environment	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Nickel alloy	Any environment	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel; stainless steel	Air – outdoor (External)	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel; stainless steel	Raw water	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Copper alloy (≤15% Zn and ≤8% Al)	Air with borated water leakage	None	None
Stainless steel	Treated borated water	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel; stainless steel	Fuel oil	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel; stainless steel	Treated water	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Galvanized steel	Air – indoor, controlled (External)	None	None
Glass	Air – indoor, uncontrolled (External)	None	None
Glass	Lubricating oil	None	None
Nickel alloy	Air – indoor, uncontrolled (External)	None	None
Stainless steel	Air – indoor, uncontrolled (External)	None	None
Stainless steel	Air with borated water leakage	None	None
Stainless steel	Concrete	None	None

Stainless steel	Gas	None	None
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Glass	Raw water	None	None
Glass	Treated water	None	None
Aluminum	Air – indoor, uncontrolled (Internal/External)	None	None
Glass	Treated water (borated)	None	None
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air – indoor, controlled (External)	None	None
Stainless steel	Treated water (borated)	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry”
Stainless steel	Treated water (borated)	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry”

Steel	Air – indoor, uncontrolled (Internal)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Air with borated water leakage (Internal)	Loss of material #*#due to general, pitting, crevice, and boric acid corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel (with stainless steel cladding)	Treated water (borated)	Loss of material #*#due to cladding breach	A plant-specific aging management program is to be evaluated #*#Reference NRC Information Notice 94-63, “Boric Acid Corrosion of Charging Pump Casings Caused by Cladding Cracks."
Gray cast iron	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Soil	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Soil	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Soil	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Stainless steel	Raw water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Elastomers	Air – indoor, uncontrolled (Internal)	Hardening and loss of strength #*#due to elastomer degradation	#M#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#
Elastomers	Air – indoor, uncontrolled (External)	Hardening and loss of strength #*#due to elastomer degradation	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Condensation (Internal)	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#

Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
#M#Steel; stainless steel#M#	Air – outdoor (External)	#M#Loss of material #*#due to general (steel only), pitting, and crevice corrosion#M#	Chapter XI.M18, "Bolting Integrity"
Glass	Air with borated water leakage	None	None
Glass	Condensation (Internal/External)	None	None
Glass	Gas	None	None
Glass	Closed-cycle cooling water	None	None
#M#Steel; stainless steel#M#	Air – indoor, uncontrolled (External)	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel	Gas	None	None
#M#Steel; stainless steel#M#	Air – indoor, uncontrolled (External)	#M#Loss of material #*#due to general (steel only), pitting, and crevice corrosion#M#	Chapter XI.M18, "Bolting Integrity"
Aluminum	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Soil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
Stainless steel	Soil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#

Steel	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Condensation (Internal)	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#

Stainless steel	Condensation (Internal)	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#
Stainless steel	Air – indoor, uncontrolled (Internal)	None	None
Glass	Air – outdoor	None	None
Copper alloy	Gas	None	None
Steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	#M#Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	#M#Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"

Stainless steel	Raw water	#M#Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#

Stainless steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#

Various polymeric and metallic materials	Adverse localized environment caused by heat, radiation, oxygen, moisture, or voltage	#M#Various aging effects#*#due to various mechanisms in accordance with 10 CFR 50.49#M#	EQ is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the Standard Review Plan, Section 4.4, "Environmental Qualification (EQ) of Electrical Equipment," for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1)(i) and (ii). #*# #*#See Chapter X.E1, "Environmental Qualification (EQ) of Electric Components," of this report for meeting the requirements of 10 CFR 54.21(c)(1)(iii).
#M#Various metals used for electrical connections#M#	#M#Air – indoor, uncontrolled#M#	#M#Increased resistance of connection #*#due to chemical contamination, corrosion, and oxidation (in an air, indoor controlled environment, increased resistance of connection due to chemical contamination, corrosion and oxidation do not apply); #*#fatigue #*#due to ohmic heating, thermal cycling, electrical transients#M#	Chapter XI.E5, "Fuse Holders"
Insulation material: bakelite; phenolic melamine or ceramic; molded polycarbonate; other	#M#Air – indoor, controlled or uncontrolled#M#	None	None
#M#Various metals used for electrical bus and connections#M#	#M#Air – indoor, controlled or uncontrolled or Air – outdoor#M#	#M#Increased resistance of connection #*#due to the loosening of bolts caused by thermal cycling and ohmic heating#M#	Chapter XI.E4, "Metal Enclosed Bus"

Porcelain; xenoy; thermo-plastic organic polymers	#M#Air – indoor, controlled or uncontrolled or Air – outdoor#M#	#M#Reduced insulation resistance #*#due to thermal/thermoxidative degradation of organics/thermoplastics, radiation-induced oxidation, moisture/debris intrusion, and ohmic heating#M#	Chapter XI.E4, "Metal Enclosed Bus"
Porcelain; malleable iron; aluminum; galvanized steel; cement	Air – outdoor	#M#Reduced insulation resistance #*#due to presence of salt deposits or surface contamination#M#	A plant-specific aging management program is to be evaluated for plants located such that the potential exists for salt deposits or surface contamination (e.g., in the vicinity of salt water bodies or industrial pollution)
Elastomers	#M#Air – indoor, controlled or uncontrolled or Air – outdoor#M#	#M#Surface cracking, crazing, scuffing, dimensional change (e.g. “ballooning” and “necking”), shrinkage, discoloration, hardening and loss of strength#*# #*#due to elastomer degradation#M#	#M#Chapter XI.E4, "Metal Enclosed Bus," or #*#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#
Various metals used for electrical contacts	#M#Air – indoor, controlled or uncontrolled or Air – outdoor#M#	#M#Increased resistance of connection #*#due to thermal cycling, ohmic heating, electrical transients, vibration, chemical contamination, corrosion, and oxidation#M#	Chapter XI.E6, "Electrical Cable Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements"
Various metals used for electrical connections	Air – indoor, controlled	Increased resistance of connection #*#due to fatigue caused by frequent manipulation or vibration	Chapter XI.E5, "Fuse Holders" #*#No aging management program is required for those applicants who can demonstrate these fuse holders are located in an environment that does not subject them to environmental aging mechanisms or fatigue caused by frequent manipulation or vibration

Porcelain; malleable iron; aluminum; galvanized steel; cement	Air – outdoor	#M#Loss of material #*#due to mechanical wear caused by wind blowing on transmission conductors#M#	A plant-specific aging management program is to be evaluated
Various organic polymers (e.g., EPR, SR, EPDM, XLPE)	#M#Adverse localized environment caused by heat, radiation, or moisture#M#	#M#Reduced insulation resistance #*#due to thermal/thermoxidative degradation of organics, radiolysis, and photolysis (UV sensitive materials only) of organics; #*#radiation-induced oxidation; #*#moisture intrusion#M#	#M#Chapter XI.E1, "Insulation Material for Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements"#M#
Various organic polymers (e.g., EPR, SR, EPDM, XLPE)	#M#Adverse localized environment caused by heat, radiation, or moisture#M#	#M#Reduced insulation resistance #*#due to thermal/thermoxidative degradation of organics, radiolysis, and photolysis (UV sensitive materials only) of organics; #*#radiation-induced oxidation; #*#moisture intrusion#M#	#M#Chapter XI.E2, "Insulation Material for Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits"#M#
Various organic polymers (e.g., EPR, SR, EPDM, XLPE)	#M#Adverse localized environment caused by significant moisture#M#	#M#Reduced insulation resistance #*#due to moisture#M#	#M#Chapter XI.E3, "Inaccessible Power Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements"#M#
Various metals used for electrical contacts	Air with borated water leakage	#M#Increased resistance of connection #*#due to corrosion of connector contact surfaces caused by intrusion of borated water#M#	Chapter XI.M10, “Boric Acid Corrosion”
Aluminum; steel	Air – outdoor	#M#Loss of conductor strength #*#due to corrosion#M#	#M#A plant-specific aging management program is to be evaluated for ACSR#M#

Aluminum; copper; bronze; stainless steel; galvanized steel	Air – outdoor	#M#Loss of material #*#due to wind-induced abrasion; #*#Increased resistance of connection #*#due to oxidation or loss of pre-load#M#	A plant-specific aging management program is to be evaluated
Galvanized steel; aluminum	Air – indoor, controlled or uncontrolled	None	None
Galvanized steel; aluminum	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.E4, "Metal Enclosed Bus," or #*#Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, uncontrolled or Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.E4, "Metal Enclosed Bus," or #*#Chapter XI.S6, "Structures Monitoring"
Steel	Air – indoor, controlled	None	None
Aluminum	Air – outdoor	Loss of conductor strength #*#due to corrosion	None - for Aluminum Conductor Aluminum Alloy Reinforced (ACAR)
Aluminum; Steel	Air – outdoor	Loss of material #*#due to wind-induced abrasion	A plant-specific aging management program is to be evaluated for ACAR and ACSR
Aluminum; steel	Air – outdoor	#M#Increased resistance of connection #*#due to oxidation or loss of pre-load#M#	A plant-specific aging management program is to be evaluated
Gray cast iron	Soil	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Soil	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Soil	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Soil	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Soil	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Steel	Air with steam or water leakage	Loss of material #*#due to general corrosion	Chapter XI.M18, "Bolting Integrity"

Steel, high-strength	Air with steam or water leakage	Cracking #*#due to stress corrosion cracking; cyclic loading	Chapter XI.M18, "Bolting Integrity"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to wear	Chapter XI.M23, “Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems”
Steel	Air – indoor, uncontrolled (External)	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation for structural girders of cranes that fall within the scope of 10 CFR 54 (Standard Review Plan, Section 4.7, “Other Plant-Specific Time-Limited Aging Analyses,” for generic guidance for meeting the requirements of 10 CFR 54.21(c)(1))
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M23, “Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems”
Steel	Condensation (Internal)	Loss of material #*#due to general, pitting, crevice, and (for drip pans and drain lines) microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Condensation (Internal)	Loss of material #*#due to general, pitting, crevice, and (for drip pans and drain lines) microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Condensation (Internal)	Loss of material #*#due to general, pitting, crevice, and (for drip pans and drain lines) microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Condensation (Internal)	Loss of material #*#due to general, pitting, crevice, and (for drip pans and drain lines) microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"

Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Treated borated water	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 "Metal Fatigue," for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, "Boric Acid Corrosion"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Elastomers	Air - indoor, uncontrolled	Increased hardness; shrinkage; loss of strength #*#due to weathering	Chapter XI.M26, "Fire Protection"
Elastomers	Air – outdoor	Increased hardness; shrinkage; loss of strength #*#due to weathering	Chapter XI.M26, "Fire Protection"
Steel	Air - indoor, uncontrolled	Loss of material #*#due to wear	Chapter XI.M26, "Fire Protection"
Steel	Air – outdoor	Loss of material #*#due to wear	Chapter XI.M26, "Fire Protection"

Steel	Moist air or condensation (Internal)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Moist air or condensation (Internal)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Air – outdoor (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Condensation (Internal)	Loss of material #*#due to general and pitting corrosion	Chapter XI.M24, "Compressed Air Monitoring"
Steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M27, "Fire Water System"
Steel	Air - indoor, uncontrolled	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 "Metal Fatigue," for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Air - indoor, uncontrolled	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 "Metal Fatigue," for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Copper alloy (>15% Zn or >8% Al)	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, "Selective Leaching"
Copper alloy (>15% Zn or >8% Al)	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, "Selective Leaching"
Copper alloy (>15% Zn or >8% Al)	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, "Selective Leaching"
Copper alloy (>15% Zn or >8% Al)	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, "Selective Leaching"
Gray cast iron	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, "Selective Leaching"

Gray cast iron	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems#M#"
Stainless steel	Raw water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	Loss of material #*#due to pitting and crevice corrosion; fouling that leads to corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	#M#Loss of material #*#due to pitting and crevice corrosion; fouling that leads to corrosion#M#	Chapter XI.M27, "Fire Water System"
Steel (with stainless steel or nickel-alloy cladding)	Treated borated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry”
Stainless steel	Treated borated water	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M7, “BWR Stress Corrosion Cracking,” and #*#Chapter XI.M2, “Water Chemistry”
Stainless steel	Treated water	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).

Stainless steel	Treated water	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Copper alloy (>15% Zn or >8% Al)	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Stainless steel	Treated borated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking; cyclic loading	Chapter XI.M2, “Water Chemistry.” #*#The AMP is to be augmented by verifying the absence of cracking due to stress corrosion cracking and cyclic loading. An acceptable verification program is to include temperature and radioactivity monitoring of the shell side water, and eddy current testing of tubes.
Copper alloy	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – outdoor (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Condensation (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Boraflex	Treated borated water	Reduction of neutron-absorbing capacity #*#due to boraflex degradation	Chapter XI.M22, “Boraflex Monitoring”
Boraflex	Treated water	Reduction of neutron-absorbing capacity #*#due to boraflex degradation	Chapter XI.M22, “Boraflex Monitoring”

Reinforced concrete	Air - indoor, uncontrolled	Concrete cracking and spalling #*#due to aggressive chemical attack, and reaction with aggregates	Chapter XI.M26, “Fire Protection,” and #*#Chapter XI.S6, “Structures Monitoring”
Reinforced concrete	Air - indoor, uncontrolled	Loss of material #*#due to corrosion of embedded steel	Chapter XI.M26, “Fire Protection,” and #*#Chapter XI.S6, “Structures Monitoring”
Reinforced concrete	Air – outdoor	Cracking, loss of material #*#due to freeze-thaw, aggressive chemical attack, and reaction with aggregates	Chapter XI.M26, “Fire Protection,” and #*#Chapter XI.S6, “Structures Monitoring”
Reinforced concrete	Air – outdoor	Loss of material #*#due to corrosion of embedded steel	Chapter XI.M26, “Fire Protection,” and #*#Chapter XI.S6, “Structures Monitoring”
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.S6, "Structures Monitoring"
Steel	Air – outdoor (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M29, “Aboveground Metallic Tanks”
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry”
Stainless steel	Treated borated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry”
Aluminum	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Aluminum	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Elastomers	Treated borated water	Hardening and loss of strength #*#due to elastomer degradation	#M#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#
Elastomers	Treated water	Hardening and loss of strength #*#due to elastomer degradation	#M#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#
Elastomers	Air – indoor, uncontrolled (Internal/External)	Hardening and loss of strength #*#due to elastomer degradation	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#

Elastomers	Air – indoor, uncontrolled (Internal/External)	Hardening and loss of strength #*#due to elastomer degradation	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Elastomers	Air – indoor, uncontrolled (Internal/External)	Hardening and loss of strength #*#due to elastomer degradation	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Elastomers	Air – indoor, uncontrolled (Internal/External)	Hardening and loss of strength #*#due to elastomer degradation	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Elastomers	Air – indoor, uncontrolled (Internal)	Loss of material #*#due to wear	#M#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#
Elastomers	Air – indoor, uncontrolled (Internal)	Loss of material #*#due to wear	#M#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#
Elastomers	Air – indoor, uncontrolled (Internal)	Loss of material #*#due to wear	#M#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#
Elastomers	Air – indoor, uncontrolled (Internal)	Loss of material #*#due to wear	#M#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#
Steel; stainless steel	Diesel exhaust	Loss of material #*#due to general (steel only), pitting, and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Fuel oil	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M30, “Fuel Oil Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
Steel	Fuel oil	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M30, “Fuel Oil Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#

Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel (with elastomer lining)	Treated water	Loss of material #*#due to pitting and crevice corrosion (only for steel after lining/cladding degradation)	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel (with elastomer lining or stainless steel cladding)	Treated water	Loss of material #*#due to pitting and crevice corrosion (only for steel after lining/cladding degradation)	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Condensation (External)	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Copper alloy	Condensation (External)	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Copper alloy	Condensation (External)	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Copper alloy	Condensation (External)	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Copper alloy (≤15% Zn and ≤8% Al)	Air with borated water leakage	None	None
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel; steel with stainless steel cladding	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel; steel with stainless steel cladding	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#

Elastomers	Air – indoor, uncontrolled (External)	Loss of material #*#due to wear	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Elastomers	Air – indoor, uncontrolled (External)	Loss of material #*#due to wear	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Elastomers	Air – indoor, uncontrolled (External)	Loss of material #*#due to wear	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Elastomers	Air – indoor, uncontrolled (External)	Loss of material #*#due to wear	#M#Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"#M#
Stainless steel	Treated borated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated borated water	Cracking #*#due to cyclic loading	Chapter XI.M1, "ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD"
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated borated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated borated water >60°C (>140°F)	Cracking #*#due to cyclic loading	Chapter XI.M1, "ASME Section XI Inservice Inspection, Subsections IWB, IWC,and IWD"
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel; stainless steel	Condensation	Loss of material #*#due to general (steel only), pitting, and crevice corrosion	Chapter XI.M18, "Bolting Integrity"
Steel, high-strength	Air with steam or water leakage	Cracking #*#due to stress corrosion cracking; cyclic loading	#M#Chapter XI.M18, "Bolting Integrity"#M#
Stainless steel	Air – indoor, uncontrolled (Internal/External)	None	None
Steel; stainless steel	Air – indoor, uncontrolled (External)	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"

Steel; stainless steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general (steel only), pitting, and crevice corrosion	Chapter XI.M18, "Bolting Integrity"
Steel; stainless steel	Air – outdoor (External)	Loss of material #*#due to general (steel only), pitting, and crevice corrosion	Chapter XI.M18, "Bolting Integrity"
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Diesel exhaust	Cracking #*#due to stress corrosion cracking	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"

Aluminum	Fuel oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M30, “Fuel Oil Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
Aluminum	Fuel oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M30, “Fuel Oil Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
Galvanized steel	Air - indoor, uncontrolled	None	None
Aluminum	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Aluminum	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Aluminum	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Fuel oil	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M30, “Fuel Oil Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
Copper alloy	Fuel oil	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M30, “Fuel Oil Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
Copper alloy	Fuel oil	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M30, “Fuel Oil Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#

Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, "One-Time Inspection"#M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, "One-Time Inspection"#M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, "One-Time Inspection"#M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, "One-Time Inspection"#M#
Aluminum	Air – dry (Internal/External)	None	None
Aluminum	Air – indoor, uncontrolled (Internal/External)	None	None
Stainless steel	Fuel oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M30, "Fuel Oil Chemistry," and #*#Chapter XI.M32, "One-Time Inspection"
Stainless steel	Fuel oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M30, "Fuel Oil Chemistry," and #*#Chapter XI.M32, "One-Time Inspection"
Stainless steel	Fuel oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M30, "Fuel Oil Chemistry," and #*#Chapter XI.M32, "One-Time Inspection"
Stainless steel	Soil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
Stainless steel	Soil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
Stainless steel	Soil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
Stainless steel	Soil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
Stainless steel	Soil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#

Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Glass	Air – indoor, uncontrolled (External)	None	None
Copper alloy	Treated water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Treated water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Treated water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#

Stainless steel	Sodium pentaborate solution	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Aluminum	Condensation (Internal)	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Aluminum	Condensation (Internal)	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Aluminum	Condensation (Internal)	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Aluminum	Condensation (Internal)	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Copper alloy	Condensation (Internal)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Copper alloy	Air – indoor, uncontrolled (Internal/External)	None	None
Steel	Air – outdoor	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M27, "Fire Water System"
Glass	Lubricating oil	None	None
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M26, "Fire Protection"
Titanium	Air – indoor, uncontrolled or Air – outdoor	None	None
Titanium (ASTM Grades 1,2, 7, 11, or 12 that contains > 5% aluminum or more than 0.20% oxygen or any amount of tin)	Raw water	None	None
Titanium	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"

Aluminum	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Reinforced concrete, asbestos cement	Raw water	Cracking #*#due to aggressive chemical attack and leaching; #*#Changes in material properties#*#due to aggressive chemical attack	Chapter XI.M20, "Open-Cycle Cooling Water System"
Reinforced concrete, asbestos cement	Air – outdoor	Cracking #*#due to aggressive chemical attack and leaching; #*#Changes in material properties#*#due to aggressive chemical attack	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Reinforced concrete, asbestos cement	Soil	Cracking #*#due to aggressive chemical attack and leaching; #*#Changes in material properties#*#due to aggressive chemical attack	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Copper alloy	Air – outdoor (External)	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Nickel alloy	Air – indoor, uncontrolled (External)	None	None
Titanium	Air – indoor, uncontrolled or Air – outdoor	None	None
Titanium (ASTM Grades 1,2, 7, 11, or 12 that contains > 5% aluminum or more than 0.20% oxygen or any amount of tin)	Raw water	None	None
Aluminum	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”#M#
Glass	Closed-cycle cooling water	None	None

Glass	Air – outdoor	None	None
Stainless steel	Air – indoor, uncontrolled (External)	None	None
Titanium	Soil	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Super austenitic	Soil	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Aluminum	Soil	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Copper Alloy	Soil	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M41, "Buried and Underground Piping and Tanks"
HDPE	Soil	Cracking, blistering, change in color #*#due to water absorption	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Fiberglass	Soil	Cracking, blistering, change in color #*#due to water absorption	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Concrete cylinder piping	Soil	Cracking, spalling, corrosion of rebar #*#due to exposure of rebar	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Concrete	Soil	Cracking, spalling, corrosion of rebar #*#due to exposure of rebar	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Copper alloy	Raw water	#M#Loss of material #*#due to general, pitting, crevice, galvanic, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Air with borated water leakage	None	None
Aluminum	Raw water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M27, "Fire Water System"
Stainless steel	Sodium pentaborate solution >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#

Steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, galvanic, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Closed-cycle cooling water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#

Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel	Concrete	None	None
Stainless steel; steel with stainless steel cladding	Closed-cycle cooling water	Loss of material #*#due to microbiologically-influenced corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel; steel with stainless steel cladding	Closed-cycle cooling water	Loss of material #*#due to microbiologically-influenced corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Stainless steel; steel with stainless steel cladding	Closed-cycle cooling water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Raw water	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"

#M#Steel (with coating or lining)#M#	Raw water	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion; lining/coating degradation#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
#M#Steel (with coating or lining)#M#	Raw water	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion; lining/coating degradation#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
#M#Steel (with coating or lining)#M#	Raw water	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion; lining/coating degradation#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Copper alloy	Raw water	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Copper alloy	Raw water	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Copper alloy	Raw water	#M#Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M27, "Fire Water System"
#M#Steel (with coating or wrapping)#M#	Soil	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#

#M#Steel (with coating or wrapping)#M#	Soil	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
#M#Steel (with coating or wrapping)#M#	Soil	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
#M#Steel (with coating or wrapping)#M#	Soil	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#

Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Air – indoor, controlled (External)	None	None
Stainless steel	Air – dry	None	None
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#

Copper alloy	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper Alloy	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper Alloy	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper Alloy	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Copper Alloy	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Nickel alloy	Raw water	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Nickel alloy	Raw water	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Elastomers	Raw water	Hardening and loss of strength #*#due to elastomer degradation	#M#Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"#M#
Elastomers	Raw water	Loss of material #*#due to erosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"

Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Gas	None	None
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"

Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Fuel oil	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M30, "Fuel Oil Chemistry", and #*#Chapter XI.M32, "One-Time Inspection"
#M#Boral; boron steel, and other materials (excluding Boraflex)#M#	Treated borated water	#M#Reduction of neutron-absorbing capacity; change in dimensions and loss of material #*#due to effects of SFP environment#M#	#M#Chapter XI.M40, "Monitoring of Neutron-Absorbing Materials other than Boraflex"#M#

#M#Boral; boron steel, and other materials (excluding Boraflex)#M#	Treated water	#M#Reduction of neutron-absorbing capacity; change in dimensions and loss of material #*#due to effects of SFP environment#M#	#M#Chapter XI.M40, "Monitoring of Neutron-Absorbing Materials other than Boraflex"#M#
Asbestos cement pipe	Soil	Cracking, spalling, corrosion of rebar #*#due to exposure of rebar	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Fiberglass	Raw water (internal)	Cracking, blistering, change in color #*#due to water absorption	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
HDPE	Raw water (internal)	Cracking, blistering, change in color #*#due to water absorption	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Copper alloy	Condensation	Loss of material #*# due to general, pitting, and crevice corrosion	Chapter XI.M24, “Compressed Air Monitoring"
Steel	Soil	Loss of material#*# due to general, pitting and crevice corrosion	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Steel	Soil	Loss of preload	Chapter XI.M18, "Bolting Integrity"
Stainless Steel	Soil	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Stainless Steel	Soil	Loss of preload	Chapter XI.M18, "Bolting Integrity"
Concrete; cementitious material	Raw Water	Cracking #*# due to settling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Concrete; cementitious material	Raw Water	Loss of material #*#due to abrasion, cavitation, aggressive chemical attack, and leaching	Chapter XI.M20, "Open-Cycle Cooling Water System"
Concrete; cementitious material	Raw Water	Changes in material properties #*#due to aggressive chemical attack	Chapter XI.M20, "Open-Cycle Cooling Water System"
Concrete; cementitious material	Air - outdoor	Cracking #*# due to settling	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Concrete; cementitious material	Air - outdoor	Loss of material #*#due to abrasion, cavitation, aggressive chemical attack, and leaching	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"

Concrete; cementitious material	Air - outdoor	Changes in material properties #*#due to aggressive chemical attack	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Aluminum	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Aluminum	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Aluminum	Air - outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Aluminum	Treated water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
Aluminum	Treated water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
Elastomers	Closed-cycle cooling water	Hardening and loss of strength #*#due to elastomer degradation	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Nickel alloy	Air with borated water leakage	None	None
Copper alloy	Any environment	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Nickel alloy	Any environment	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel; stainless steel	Air – outdoor (External)	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel; stainless steel	Raw water	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Stainless steel	Treated borated water	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel; stainless steel	Fuel oil	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"

Steel; stainless steel	Treated water	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
PVC	Air – indoor, uncontrolled	None	None
PVC	Condensation (Internal)	None	None
Steel; stainless steel	Raw water (potable)	Loss of material #*#due to general (steel only), pitting, and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Copper alloy	Raw water (potable)	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Copper alloy	Waste water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Stainless steel	Condensation (Internal)	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Nickel alloy	Condensation (Internal)	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Stainless steel	Waste Water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Nickel alloy	Waste Water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Glass	Waste Water	None	None
Stainless steel	Waste Water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"

Nickel alloy	Waste Water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Condensation (Internal)	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Waste Water	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Concrete	None	#M#None, provided #*#1) attributes of the concrete are consistent with ACI 318 or ACI 349 (low water-to-cement ratio, low permeability, and adequate air entrainment) as cited in NUREG-1557, and #*#2) plant OE indicates no degradation of the concrete#M#
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking, intergranular stress corrosion cracking	#M#Chapter XI.M2, "Water Chemistry," and #*#Chapter XI.M25, “BWR Reactor Water Cleanup System”#M#
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”

Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Aluminum	Air – indoor, controlled (External)	None	None
Aluminum	Gas	None	None
Steel	Air – dry	None	None
Steel	Air – outdoor (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – outdoor (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"

Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Glass	Air	None	None
Glass	Fuel oil	None	None
Glass	Raw water	None	None
Glass	Treated water	None	None

Glass	Treated borated water	None	None
Stainless steel	Raw water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Steel	Gas	None	None
Copper alloy (>15% Zn or >8% Al)	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel (with stainless steel cladding); stainless steel	Treated borated water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry”
Steel (with stainless steel cladding); stainless steel	Treated borated water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry”
Steel (with stainless steel cladding); stainless steel	Treated borated water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M2, “Water Chemistry”
Copper alloy	Air – dry	None	None
Stainless steel	Condensation (Internal)	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M24, “Compressed Air Monitoring”
Stainless steel	Treated borated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M2, “Water Chemistry”
Steel (with stainless steel or nickel-alloy cladding)	Treated borated water	Loss of material#*#due to cladding breach	A plant-specific aging management program is to be evaluated. #*#Reference NRC Information Notice 94-63, “Boric Acid Corrosion of Charging Pump Casings Caused by Cladding Cracks."
Copper alloy	Gas	None	None

Glass	Air with borated water leakage	None	None
Glass	Condensation (Internal/External)	None	None
Glass	Gas	None	None
Stainless steel	Condensation	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Stainless steel	Condensation	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Stainless steel	Condensation	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Air with steam or water leakage	Loss of material #*#due to general corrosion	Chapter XI.M18, "Bolting Integrity"
High-strength steel	Air with steam or water leakage	Cracking #*#due to cyclic loading, stress corrosion cracking	Chapter XI.M18, "Bolting Integrity"
Steel	Steam or Treated water	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Steam or Treated water	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Treated water	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Treated water	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).

Steel	Treated water	Cumulative fatigue damage #*#due to fatigue	Fatigue is a time-limited aging analysis (TLAA) to be evaluated for the period of extended operation. See the SRP, Section 4.3 “Metal Fatigue,” for acceptable methods for meeting the requirements of 10 CFR 54.21(c)(1).
Steel	Steam	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Steam	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Steam	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Steam	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Treated water	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Treated water	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Treated water	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Treated water	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Treated water	Wall thinning #*#due to flow-accelerated corrosion	Chapter XI.M17, “Flow-Accelerated Corrosion”
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M21A, "Closed Treated Water Systems"#M#
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Steel	Closed-cycle cooling water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	Chapter XI.M21A, "Closed Treated Water Systems"

Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Steel	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Steel	Air – indoor, uncontrolled (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air – outdoor (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M29, “Aboveground Metallic Tanks”
Steel	Air – outdoor (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M29, “Aboveground Metallic Tanks”
Steel	Air with borated water leakage	Loss of material #*#due to boric acid corrosion	Chapter XI.M10, “Boric Acid Corrosion”
Steel	Air – outdoor (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Condensation (External)	Loss of material #*#due to general corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Steel	Air – indoor controlled (External)	None	None
Glass	Lubricating oil	None	None
Copper alloy	Treated water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#

Copper alloy	Treated water	Reduction of heat transfer #*#due to fouling	Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”
Copper alloy	Treated water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Steel	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Copper alloy (≤15% Zn and ≤8% Al)	Air with borated water leakage	None	None
Glass	Air – outdoor	None	None
Nickel alloy	Air – indoor, uncontrolled (External)	None	None
Stainless steel	Condensation (Internal)	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Stainless steel	Condensation (Internal)	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Glass	Condensation (Internal/External)	None	None
Aluminum	Lubricating oil	Reduction of heat transfer #*#due to fouling	Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”
Aluminum	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection”
Steel	Soil or Concrete	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M29, “Aboveground Metallic Tanks”
Steel	Soil or Concrete	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M29, “Aboveground Metallic Tanks”

Stainless steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, galvanic, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	#M#Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, galvanic, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"

Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Cracking #*#due to stress corrosion cracking	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – indoor, uncontrolled (External)	None	None
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Air – outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Stainless steel	Concrete	None	None

Steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, galvanic, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Stainless steel	Soil or Concrete	Loss of material #*#due to pitting, and crevice corrosion	Chapter XI.M29, “Aboveground Metallic Tanks”
Stainless Steel	Air – outdoor (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M29, “Aboveground Metallic Tanks”
Aluminum	Soil or Concrete	Loss of material #*#due to pitting, and crevice corrosion	Chapter XI.M29, “Aboveground Metallic Tanks”
Aluminum	Air – outdoor (External)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M29, “Aboveground Metallic Tanks”
Steel	Soil	Loss of material#*# due to general, pitting and crevice corrosion	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Steel	Soil	Loss of preload	Chapter XI.M18, "Bolting Integrity Program"
Stainless Steel	Soil	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M41, "Buried and Underground Piping and Tanks"
Stainless Steel	Soil	Loss of preload	Chapter XI.M18, "Bolting Integrity Program"
#M#Steel (with coating or wrapping)#M#	Soil	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
#M#Steel (with coating or wrapping)#M#	Soil	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
Steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, galvanic, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"

Steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, galvanic, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Steel	Raw water	#M#Loss of material #*#due to general, pitting, crevice, galvanic, and microbiologically-influenced corrosion; fouling that leads to corrosion#M#	Chapter XI.M20, "Open-Cycle Cooling Water System"
Aluminum	Air - outdoor	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M36, "External Surfaces Monitoring of Mechanical Components"
Nickel alloy	Air with borated water leakage	None	None
Copper alloy	Any environment	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Stainless steel	Gas	None	None
Nickel alloy	Any environment	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
Steel; stainless steel	Air – outdoor (External)	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
PVC	Air – indoor, uncontrolled	None	None
PVC	Condensation (Internal)	None	None
Steel	Concrete	None	#M#None, provided #*#1) attributes of the concrete are consistent with ACI 318 or ACI 349 (low water-to-cement ratio, low permeability, and adequate air entrainment) as cited in NUREG-1557, and #*#2) plant OE indicates no degradation of the concrete#M#

Stainless steel	Steam	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Steam	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Steam	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Nickel alloy	Steam	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Steam	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Aluminum	Gas	None	None
Gray cast iron	Soil	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Soil	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Gray cast iron	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Closed-cycle cooling water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”

Copper alloy (>15% Zn or >8% Al)	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Raw water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy	Raw water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Copper alloy	Raw water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Copper alloy	Raw water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Copper alloy	Raw water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Glass	Air	None	None
Glass	Raw water	None	None
Glass	Treated water	None	None
Stainless steel	Raw water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Raw water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"

Stainless steel	Raw water	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	Chapter XI.M20, "Open-Cycle Cooling Water System"
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Stainless steel	Closed-cycle cooling water	Loss of material #*#due to pitting and crevice corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Steel	Gas	None	None
Stainless steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	Chapter XI.M21A, "Closed Treated Water Systems"
Stainless steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	Chapter XI.M21A, "Closed Treated Water Systems"
Stainless steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	Chapter XI.M21A, "Closed Treated Water Systems"
Copper alloy	Gas	None	None
Stainless steel	Closed-cycle cooling water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M21A, "Closed Treated Water Systems"
Stainless steel	Closed-cycle cooling water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M21A, "Closed Treated Water Systems"
Stainless steel	Closed-cycle cooling water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	Chapter XI.M21A, "Closed Treated Water Systems"
Copper alloy (>15% Zn or >8% Al)	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy (>15% Zn or >8% Al)	Treated water	Loss of material #*#due to selective leaching	Chapter XI.M33, “Selective Leaching”
Copper alloy	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"

Copper alloy	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Copper alloy	Raw water	Reduction of heat transfer #*#due to fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"
Copper alloy	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	Chapter XI.M21A, "Closed Treated Water Systems"
Steel	Air – outdoor (Internal)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Copper alloy	Air – indoor, uncontrolled (External)	None	None
Steel	Condensation (Internal)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Condensation (Internal)	Loss of material #*#due to general, pitting, and crevice corrosion	Chapter XI.M38, "Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components"
Steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	Chapter XI.M21A, "Closed Treated Water Systems"
Steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	Chapter XI.M21A, "Closed Treated Water Systems"
Steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	Chapter XI.M21A, "Closed Treated Water Systems"
Steel	Closed-cycle cooling water	Reduction of heat transfer #*#due to fouling	Chapter XI.M21A, "Closed Treated Water Systems"
Glass	Air with borated water leakage	None	None
Glass	Condensation	None	None
Glass	Gas	None	None
Glass	Closed-cycle cooling water	None	None
Steel	Steam	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Steam	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#

Steel	Steam	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel; stainless steel	Treated water	Loss of material #*#due to general (steel only), pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel; stainless steel	Treated water	Loss of material #*#due to general (steel only), pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#

Steel	Treated water	Loss of material #*#due to general, pitting, crevice, and galvanic corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Treated water	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to pitting, crevice, and galvanic corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to pitting, crevice, and galvanic corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Copper alloy	Closed-cycle cooling water	Loss of material #*#due to pitting, crevice, and galvanic corrosion	Chapter XI.M21A, "Closed Treated Water Systems"
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
#M#Steel; stainless steel#M#	Air – outdoor (External)	#M#Loss of material #*#due to general (steel only), pitting, and crevice corrosion#M#	Chapter XI.M18, "Bolting Integrity"
#M#Steel; stainless steel#M#	Air – indoor, uncontrolled (External)	Loss of preload #*#due to thermal effects, gasket creep, and self-loosening	Chapter XI.M18, "Bolting Integrity"
#M#Steel; stainless steel#M#	Air – indoor, uncontrolled (External)	#M#Loss of material #*#due to general (steel only), pitting, and crevice corrosion#M#	Chapter XI.M18, "Bolting Integrity"

Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Air – indoor, uncontrolled (Internal)	None	None
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Glass	Air – indoor, uncontrolled (External)	None	None
Aluminum	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#

Aluminum	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Aluminum	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Aluminum	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Aluminum	Treated water	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Steel	Lubricating oil	Loss of material #*#due to general, pitting, and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Copper alloy	Lubricating oil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Aluminum	Air – indoor, uncontrolled (Internal/External)	None	None

Stainless steel	Soil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
Stainless steel	Soil	Loss of material #*#due to pitting and crevice corrosion	#M#Chapter XI.M41, "Buried and Underground Piping and Tanks"#M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Stainless steel	Lubricating oil	Loss of material #*#due to pitting, crevice, and microbiologically-influenced corrosion	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#
Stainless steel	Treated water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Treated water >60°C (>140°F)	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Steam	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Steam	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Stainless steel	Steam	Cracking #*#due to stress corrosion cracking	#M#Chapter XI.M2, “Water Chemistry,” and #*#Chapter XI.M32, “One-Time Inspection”#M#
Copper alloy	Lubricating oil	Reduction of heat transfer #*#due to fouling	#M#Chapter XI.M39, "Lubricating Oil Analysis," and #*#Chapter XI.M32, “One-Time Inspection” #M#

FurtherEvaluation	Type
Yes, if a de-watering system is relied upon to control settlement	PWR
Yes, if a de-watering system is relied upon to control settlement	PWR
Yes, if a de-watering system is relied upon to control settlement	BWR
Yes, if a de-watering system is relied upon to control settlement	BWR
Yes, if a de-watering system is relied upon to control settlement	BWR
Yes, if a de-watering system is relied upon to control settlement	BWR

No	PWR
No	BWR
Yes, TLAA	PWR
Yes, TLAA	BWR
Yes, TLAA	PWR
Yes, TLAA	BWR
No	PWR

No	BWR
Yes, TLAA	BWR
No	BWR
No	BWR
No	BWR
No	BWR
No	BWR
No	BWR
Yes, TLAA	BWR
Yes, TLAA	BWR
No	BWR

No	BWR
#M#No#M#	PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	PWR
#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	PWR

#M#Yes, if concrete is not constructed as stated#M#	PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR

#M#No#M#	BWR
#M#No#M#	BWR
#M#No#M#	BWR
Yes, if temperature limits are exceeded	BWR

#M#Yes, if corrosion is significant #M#	BWR
#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR
#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR

#M#Yes, if corrosion is indicated from the IWE examinations#M#	BWR
No	BWR
No	BWR
No	BWR
No	BWR
#M#No#M#	BWR
#M#No#M#	BWR
#M#Yes, if concrete is not constructed as stated#M#	BWR

#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR
#M#Yes, for plants located in moderate to severe weathering conditions #M#	BWR
#M#No#M#	BWR

#M#Yes, for plants located in moderate to severe weathering conditions #M#	PWR
No	PWR
No	BWR
No	PWR
No	BWR
No	PWR
No	BWR

#M#No#M#	PWR
#M#No#M#	BWR
Yes, if corrosion is significant	BWR
#M#No#M#	PWR
#M#No#M#	PWR
#M#No#M#	PWR

Yes, if temperature limits are exceeded	PWR
#M#No#M#	PWR
#M#No#M#	PWR
#M#No#M#	BWR
No	PWR
No	BWR

#M#No#M#	PWR
#M#No#M#	BWR
Yes, detection of aging effects is to be evaluated	PWR
Yes, detection of aging effects is to be evaluated	PWR
No	PWR
No	BWR
No	PWR
No	BWR
No	PWR
No	BWR
#M#No#M#	BWR

#M#No#M#	BWR
No	BWR
#M#No#M#	BWR
#M#No#M#	BWR
#M#No#M#	BWR
#M#Yes, if corrosion is significant #*#Recoating of the torus is recommended.#M#	BWR
#M#No#M#	BWR

#M#No#M#	BWR
#M#No#M#	PWR
#M#No#M#	BWR
#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	PWR
#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR

#M#No#M#	BWR
#M#No#M#	BWR
#M#No#M#	BWR

Yes, if temperature limits are exceeded	BWR

Yes, if temperature limits are exceeded	BWR
#M#No#M#	PWR
#M#No#M#	BWR
#M#No#M#	BWR
#M#No#M#	BWR

#M#Yes, if corrosion is indicated from the IWE examinations#M#	BWR

Yes, if corrosion is indicated from the IWE examinations	BWR

#M#Yes, if corrosion is indicated from the IWE examinations#M#	BWR
#M#No#M#	BWR

Yes, if temperature limits are exceeded	BWR
#M#No#M#	BWR

#M#Yes, if concrete is not constructed as stated#M#	PWR
No	PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR

#M#Yes, for plants located in moderate to severe weathering conditions #M#	PWR
#M#No#M#	BWR
#M#No#M#	BWR
#M#No#M#	PWR

#M#No#M#	BWR
#M#No#M#	BWR
#M#No#M#	PWR
#M#No#M#	BWR
#M#No#M#	PWR
#M#No#M#	BWR
#M#No#M#	BWR
#M#No#M#	BWR
#M#No#M#	BWR

#M#No#M#	BWR
#M#Yes, if concrete is not constructed as stated#M#	BWR
No	BWR
No	BWR
#M#No#M#	BWR
#M#No#M#	BWR

#M#No#M#	PWR
#M#Yes, if corrosion is indicated from the IWE examinations#M#	PWR

#M#Yes, if corrosion is indicated from the IWE examinations#M#	PWR

#M#Yes, if corrosion is indicated from the IWE examinations#M#	BWR

#M#Yes, if concrete is not constructed as stated#M#	BWR
#M#Yes, if concrete is not constructed as stated#M#	BWR
No	BWR/PWR
No	BWR

No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No, unless leakages have been detected through the SFP liner that cannot be accounted for from the leak chase channels	BWR/PWR
No	BWR/PWR
No	BWR/PWR
Yes, plant-specific	BWR/PWR
Yes, plant-specific	BWR/PWR
No	BWR/PWR

No	BWR/PWR
No	BWR/PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
Yes, TLAA	BWR/PWR

Yes, TLAA	BWR/PWR
Yes, TLAA	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR

No	BWR/PWR
No	BWR/PWR
#M#No#M#	BWR/PWR
#M#No#M#	BWR/PWR
#M#Yes, for plants located in moderate to severe weathering conditions #M#	BWR/PWR

#M#Yes, for plants located in moderate to severe weathering conditions #M#	BWR

#M#Yes, for plants located in moderate to severe weathering conditions #M#	BWR

#M#Yes, for plants located in moderate to severe weathering conditions #M#	BWR

#M#Yes, for plants located in moderate to severe weathering conditions #M#	BWR

#M#Yes, for plants located in moderate to severe weathering conditions #M#	BWR

#M#Yes, for plants located in moderate to severe weathering conditions #M#	BWR
#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR/PWR

#M#Yes, for plants located in moderate to severe weathering conditions #M#	BWR/PWR
Yes, if temperature limits are exceeded	BWR/PWR

Yes, if temperature limits are exceeded	BWR
Yes, if temperature limits are exceeded	BWR/PWR

Yes, if temperature limits are exceeded	BWR/PWR
Yes, if temperature limits are exceeded	BWR/PWR

#M#Yes, if concrete is not constructed as stated#M#	BWR/PWR
#M#Yes, if concrete is not constructed as stated#M#	BWR

#M#Yes, if concrete is not constructed as stated#M#	BWR/PWR
#M#Yes, if concrete is not constructed as stated#M#	BWR/PWR

#M#Yes, if concrete is not constructed as stated#M#	BWR/PWR
#M#Yes, if concrete is not constructed as stated#M#	BWR/PWR

#M#Yes, if concrete is not constructed as stated#M#	BWR/PWR
#M#Yes, if concrete is not constructed as stated#M#	BWR
#M#No#M#	BWR/PWR

#M#No#M#	BWR
#M#No#M#	BWR/PWR
#M#No#M#	BWR/PWR
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No	BWR/PWR

#M#Yes, if concrete is not constructed as stated#M#	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR

No	BWR/PWR
No	BWR/PWR
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No	BWR/PWR

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#M#No#M#	BWR
No	PWR
No	PWR
No	PWR

No	PWR
No	PWR
No	PWR
No	PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR/PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR/PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR/PWR

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No	BWR/PWR
No	BWR
No	BWR/PWR

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No	BWR
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No	BWR/PWR

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No	BWR/PWR
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#M#No#M#	BWR/PWR
#M#No#M#	BWR/PWR

#M#No#M#	BWR/PWR
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#M#No#M#	BWR/PWR
Yes, if a de-watering system is relied upon to control settlement	BWR/PWR
Yes, if leaching is observed in accessible areas that impact intended function	BWR/PWR

#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR/PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR/PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR/PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR/PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR/PWR
#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR/PWR

#M#Yes, if a de-watering system is relied upon to control settlement#M#	BWR
No	BWR/PWR
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No	BWR/PWR
No	BWR/PWR
No	BWR/PWR

No	BWR/PWR
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No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
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No	BWR/PWR
No	BWR/PWR

No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR/PWR

#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR
#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR/PWR

#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR/PWR
#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR/PWR

#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR/PWR
#M#Yes, if leaching is observed in accessible areas that impact intended function#M#	BWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR

No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
Yes, TLAA	BWR
Yes, plant-specific	PWR

No	BWR
No	PWR
No	PWR
No	PWR
No	BWR
No	BWR
No	BWR

No	PWR
No	PWR
Yes, TLAA	PWR
Yes, detection of aging effects is to be evaluated	BWR
No	PWR
No	PWR
No	PWR
No	PWR
Yes, TLAA	PWR

No	PWR
No	BWR
No	BWR
No	PWR
Yes, TLAA	PWR
Yes, TLAA	BWR
Yes, TLAA	PWR
Yes, TLAA	PWR

Yes, TLAA	PWR
Yes, detection of aging effects is to be evaluated	BWR
No	PWR
No	BWR
No	PWR
No	PWR
No	PWR

Yes, TLAA	PWR
Yes, TLAA	PWR
No	PWR
No	PWR
No	PWR
Yes, plant-specific	PWR
No	PWR
No	PWR
No	PWR
No	PWR

No	PWR
No	PWR
No	PWR
Yes, TLAA	PWR
Yes, TLAA	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	BWR
No	PWR

Yes, TLAA	BWR
Yes, TLAA	PWR
No	PWR
No	PWR
Yes, plant-specific	BWR

Yes, TLAA	BWR
No	BWR
No	BWR
No	BWR

Yes, TLAA	BWR
No	BWR
Yes, TLAA	BWR
Yes, TLAA	PWR

Yes, plant-specific	PWR
No	PWR
No	PWR
No	PWR
No	PWR
Yes, TLAA	PWR

Yes, TLAA	PWR
Yes, TLAA	PWR
No	PWR

No	PWR
No	BWR
No	BWR
No	BWR
No	BWR
No	BWR

No	BWR
No	BWR
No	BWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	PWR
#M#No#M#	PWR
Yes, plant-specific	PWR
#M#No#M#	BWR

#M#No#M#	PWR
#M#No#M#	BWR
#M#No#M#	BWR
No	PWR
No	PWR
No	PWR
No	BWR
No	PWR
No	PWR

No	PWR
No	BWR
No	PWR
No	BWR
Yes, TLAA	BWR
No	BWR
No	BWR
No	PWR
No	PWR

No	PWR
No	PWR
#M#Yes, plant specific or integrated surveillance program#M#	BWR
#M#Yes, plant specific or integrated surveillance program#M#	PWR
#M#Yes, plant specific or integrated surveillance program#M#	PWR
No	PWR
No	BWR
No	PWR
No	PWR

No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR

Yes, if accessible Primary, Expansion or Existing program components indicate aging effects that need management	PWR
Yes, if accessible Primary, Expansion or Existing program components indicate aging effects that need management	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR

No	PWR
No	PWR
No	PWR
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No	PWR
No	PWR

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No	PWR

No	PWR
No	PWR
No	PWR
No	BWR
No	PWR
No	PWR
No	PWR

No	PWR
No	PWR
Yes, if accessible Primary, Expansion or Existing program components indicate aging effects that need management	PWR
Yes, if accessible Primary, Expansion or Existing program components indicate aging effects that need management	PWR
No	PWR

No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR

No	PWR
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No	PWR

No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR

Yes, TLAA	PWR
No	PWR
No	PWR
Yes, if accessible Primary, Expansion or Existing program components indicate aging effects that need management	PWR
Yes, if accessible Primary, Expansion or Existing program components indicate aging effects that need management	PWR

No	PWR
No	PWR
No	PWR
No	PWR
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No	PWR

No	PWR
No	PWR
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No	PWR
No	PWR

No	PWR
No	PWR
Yes, TLAA	PWR
No	PWR
No	PWR
No	PWR
No	PWR

Yes, TLAA	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
#M#No, if conditions are met.#M#	BWR/PWR

No	PWR
Yes, plant-specific	PWR
Yes, plant-specific	PWR
Yes, plant-specific	PWR
No	PWR
No	PWR
#M#No#M#	PWR
#M#No#M#	PWR

No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
No	PWR
#M#Yes, detection of aging effects is to be evaluated#M#	PWR

Yes, detection of aging effects is to be evaluated	PWR
No	BWR
No	PWR
No	BWR
No	PWR

No	PWR
Yes, TLAA	PWR
No	BWR
No	BWR/PWR
No	PWR
No	PWR
No	BWR
No	PWR
No	PWR

No	PWR
No	PWR
No	PWR
#M#Yes, detection of aging effects is to be evaluated#M#	PWR
No	PWR
No	PWR
No	PWR
#M#No#M#	BWR

#M#No#M#	PWR
#M#No#M#	PWR
No	BWR
No	BWR
Yes, TLAA	BWR
No	PWR
No	PWR
#M#No#M#	PWR
No	PWR
#M#No#M#	PWR
#M#No#M#	BWR

No	BWR
No	PWR
No	PWR
Yes, TLAA	PWR
#M#No#M#	PWR
#M#No#M#	PWR
#M#No#M#	PWR
Yes, plant-specific	PWR

No	BWR/PWR
No	BWR/PWR
No	BWR
No	BWR
Yes, TLAA	BWR
No	BWR
No	PWR
No	PWR
Yes, TLAA	PWR
No	PWR
No	PWR
No	BWR
No	BWR/PWR

No	BWR
Yes, plant-specific	PWR
No	BWR
No	PWR
No	BWR
No	BWR
No	BWR
No	PWR
No	PWR
No	PWR
No	PWR
No	BWR
No	BWR/PWR
No	BWR/PWR

No	BWR/PWR
No	BWR
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No	PWR
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No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	PWR
No	BWR/PWR
No	PWR
No	PWR
Yes, environmental conditions need to be evaluated	BWR/PWR

Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
#M#No#M#	BWR/PWR
#M#No, if conditions are met.#M#	BWR/PWR
Yes, plant-specific	BWR
No	BWR/PWR
No	BWR/PWR

No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	PWR
No	PWR
No	BWR/PWR
No	BWR/PWR
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No	BWR/PWR
No	BWR/PWR

No	BWR/PWR
No	PWR
No	BWR
No	PWR
No	BWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	PWR
No	BWR
No	PWR
No	BWR
No	PWR
No	BWR/PWR
No	PWR
No	PWR

No	PWR
No	PWR
Yes, verify that plant-specific program addresses clad breach	PWR
No	PWR
No	BWR
No	PWR
No	BWR
No	PWR
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No	BWR/PWR
No	BWR/PWR
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No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
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No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
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No	PWR
No	PWR

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No	PWR
No	BWR
No	PWR
No	BWR
No	PWR
No	BWR/PWR
No	PWR
No	BWR
No	BWR/PWR

Yes, TLAA	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR

No	BWR/PWR
Yes, plant-specific	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR

Yes, plant-specific	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	PWR
Yes, plant-specific	BWR/PWR

Yes, plant-specific	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
None	BWR/PWR
Yes, plant-specific	BWR/PWR
Yes, plant-specific	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR

No	BWR/PWR
No	BWR/PWR
Yes, TLAA	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR

No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
Yes, TLAA	PWR
No	PWR
No	BWR/PWR
No	BWR/PWR
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No	BWR/PWR
No	BWR/PWR

No	BWR/PW R
No	BWR/PW R
No	BWR/PW R
No	BWR/PW R
No	BWR/PW R
Yes, TLAA	PWR
Yes, TLAA	BWR/PW R
No	BWR/PW R
No	BWR/PW R
No	BWR/PW R
No	BWR/PW R
No	BWR/PW R

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No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	PWR
Yes, TLAA	PWR
No	BWR
Yes, TLAA	BWR/PWR

Yes, TLAA	BWR
No	BWR/PW R
Yes, plant-specific	PWR
No	BWR/PW R
No	BWR/PW R
No	BWR/PW R
No	PWR
No	PWR
No	PWR
No	BWR/PW R
No	BWR/PW R
No	PWR
No	BWR

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No	BWR/PWR
#m#No#m#	BWR/PWR
No	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR

Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
No	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR

Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
#m#No#m#	BWR/PWR
No	PWR

No	BWR
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No	BWR/PWR
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No	BWR/PWR

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No	BWR/PWR
#m#No, if conditions are met.#m#	BWR/PWR
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No	BWR
No	BWR/PWR
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No	BWR/PWR
No	BWR/PWR
No	PWR
No	BWR/PWR
No	PWR
No	PWR
No	BWR/PWR
No	BWR/PWR
No	PWR
Yes, verify that plant-specific program addresses clad cracking	PWR
No	BWR/PWR

No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
Yes, TLAA	PWR
Yes, TLAA	BWR
Yes, TLAA	PWR
Yes, TLAA	BWR

Yes, TLAA	PWR
No	BWR/PWR
No	PWR
No	BWR
No	BWR/PWR
No	PWR
No	BWR
No	BWR/PWR
No	PWR
No	PWR
No	BWR/PWR
No	BWR/PWR
No	PWR
No	PWR

No	BWR/PWR
No	PWR
No	PWR
No	PWR
No	BWR/PWR
No	PWR
No	PWR
No	BWR/PWR
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No	BWR/PWR
No	PWR
No	PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
#M#No#M#	BWR/PWR

No	PWR
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#M#No#M#	BWR/PWR
#M#No#M#	PWR
#M#No#M#	PWR
#M#No#M#	PWR
No	PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	PWR
No	PWR
No	BWR/PWR
No	PWR

No	BWR/PWR
No	PWR
No	PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR

Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
No	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
Yes, environmental conditions need to be evaluated	BWR/PWR
No	BWR/PWR

No	PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
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No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
#M#No#M#	BWR/PWR
#M#No#M#	BWR/PWR
No	BWR/PWR

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No	BWR/PWR
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No	BWR/PWR
No	BWR/PWR
#M#No, if conditions are met.#M#	BWR/PWR

No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	PWR
No	BWR
No	BWR/PWR
No	BWR/PWR
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No	BWR/PWR
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No	BWR/PWR
No	PWR
No	PWR

No	BWR/PWR
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No	PWR

No	PWR
No	BWR/PWR
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No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
No	BWR/PWR
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No	PWR

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No	BWR/PWR
No	PWR
No	PWR
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No	BWR/PWR
No	BWR/PWR
No	BWR/PWR

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No	BWR/PWR
#M#No#M#	PWR

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#M#No#M#	BWR/PW R
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#M#No#M#	BWR/PW R
#M#No#M#	PWR
No	BWR/PW R

#M#No#M#	BWR/PWR
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#M#No#M#	BWR/PWR
#M#No#M#	PWR
#M#No#M#	BWR
#M#No#M#	BWR/PWR
#M#No#M#	PWR
#M#No#M#	BWR/PWR
#M#No#M#	PWR
#M#No#M#	BWR/PWR
#M#No#M#	BWR/PWR
No	PWR
#M#No#M#	BWR
#M#No#M#	PWR