

**TABLE 3.1.2-1 REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Top Head Enclosure (Top Head)	M-1	Low Alloy Steel	Indoor Air (External)	None	None			G, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.A1.1-a	<a href="#">3.1.1-34</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.1-b	<a href="#">3.1.1-01</a>	
	M-4	Low Alloy Steel	Indoor Air (External)	None	None			G, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.A1.1-a	<a href="#">3.1.1-34</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.1-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Top Head Enclosure (Nozzles (Vent, Top Head Spray or Reactor Core Isolation Cooling [RCIC], and Spare))	M-1	Low Alloy Steel	Indoor Air (External)	None	None			G, 109
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.A1.1-a	<a href="#">3.1.1-34</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.1-b	<a href="#">3.1.1-01</a>	
Top Head Enclosure (Head Flange)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, 109
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.1-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Top Head Enclosure (Closure Studs and Nuts)	M-1	Carbon Steel - Low Alloy Steel	Indoor Air Leaking Treated Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Reactor Head Closure Studs</a>			H, <a href="#">113</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC	<a href="#">Reactor Head Closure Studs</a>	IV.A1.1-c	<a href="#">3.1.1-22</a>	A
Vessel Shell (Vessel Flange)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.2-a	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Vessel Shell (Upper Shell)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.2-a	<a href="#">3.1.1-01</a>	
Vessel Shell (Intermediate Nozzle Shell)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.2-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Vessel Shell (Intermediate Beltline Shell)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, 109
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.2-b	3.1.1-01	
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H
				Reduction of Fracture Toughness due to Neutron Irradiation Embrittlement	TLAA, evaluated in accordance with Appendix G of 10 CFR 50 and RG 1.99	IV.A1.2-c	3.1.1-04	
					Reactor Vessel Surveillance	IV.A1.2-d	3.1.1-05	A
Vessel Shell (Lower Shell)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, 109
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.2-b	3.1.1-01	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Vessel Shell (Beltline Welds)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, 109
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.2-b	3.1.1-01	
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Reduction of Fracture Toughness due to Neutron Irradiation Embrittlement	TLAA, evaluated in accordance with Appendix G of 10 CFR 50 and RG 1.99	IV.A1.2-c	3.1.1-04	
					<a href="#">Reactor Vessel Surveillance</a>	IV.A1.2-d	3.1.1-05	A
Vessel Shell (Attachment Welds)	M-1	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and Reactor Vessel and Internals Structural Integrity</a>			H, 103
				Cracking due to SCC	<a href="#">Water Chemistry and Reactor Vessel and Internals Structural Integrity</a>	IV.A1.2-e	3.1.1-28	E

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Vessel Shell (Attachment Welds) (continued)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.A1.2-e	<a href="#">3.1.1-28</a>	E
Nozzles (Main Steam)	M-1	Low Alloy Steel	Indoor Air (External)	None	None			G, <a href="#">109</a> , <a href="#">120</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection</a> and <a href="#">Water Chemistry</a>	IV.A1.1-a	<a href="#">3.1.1-34</a>	D, <a href="#">120</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.3-a	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles (Main Steam) (continued)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, 109, 120
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, 120
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.3-a	<a href="#">3.1.1-01</a>	
Nozzles (Feedwater)	M-1	Low Alloy Steel	Indoor Air (External)	None	None			G, 109, 120
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.A1.1-a	<a href="#">3.1.1-34</a>	D, 120
				Cracking due to Cyclic Loading	<a href="#">Reactor Vessel and Internals Structural Integrity Program</a>	IV.A1.3-b	<a href="#">3.1.1-27</a>	E, 120
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.3-d	<a href="#">3.1.1-01</a>	



**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles (Feedwater) (continued)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, 109, 120
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 120
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.3-d	3.1.1-01	
Nozzles (Control Rod Drive (CRD) Return Line)	M-1	Low Alloy Steel	Indoor Air (External)	None	None			G, 109, 120
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry	IV.A1.1-a	3.1.1-34	D, 120
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.3-d	3.1.1-01	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles (Control Rod Drive (CRD) Return Line) (continued)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, <a href="#">109</a> , <a href="#">120</a>
			Treated Water (Includes Steam) (Internal)	AERMs in NUREG-1801 were not determined - See Notes & Referenced NUREG-1801, Volume 2 Item	None - NUREG-1801 AERM(s) is N/A	IV.A1.3-c	3.1.1-27	I, <a href="#">120</a> , <a href="#">126</a>
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, <a href="#">120</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.3-d	<a href="#">3.1.1-01</a>	
Nozzles (Recirculation Outlet)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			J, <a href="#">109</a> , <a href="#">128</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J, <a href="#">128</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles (Recirculation Outlet) (continued)	M-1	Nickel Based Alloys	Indoor Air (External)	None	None			J, <a href="#">101</a> , <a href="#">128</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J, <a href="#">128</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
Nozzles (Recirculation Inlet)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			J, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles (Low Pressure Core Spray (LPCS) - Unit 1)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			J, 109
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
Nozzles (Low Pressure Core Spray (LPCS) - Unit 2)	M-1	Low Alloy Steel with Stainless Steel and Nickel-based Alloy Cladding	Indoor Air (External)	None	None			J, 109
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles (Shell Flange)	M-1	Nickel Based Alloys	Indoor Air (External)	None	None			J, 101
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking			J
Nozzles Safe Ends (Low Pressure Core Spray (LPCS))	M-1	Nickel Based Alloys	Indoor Air (External)	None	None			G, 101, 129
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 103, 129
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking	IV.A1.4-a	3.1.1-29	B, 129

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles Safe Ends (Low Pressure Core Spray (LPCS)) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			G, 101, 129
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 103, 129
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking	IV.A1.4-a	3.1.1-29	B, 129
	M-8	Nickel Based Alloys	Indoor Air (External)	None	None			G, 101, 129
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 103, 129
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking	IV.A1.4-a	3.1.1-29	B, 129

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles Safe Ends (Low Pressure Core Spray (LPCS)) (continued)	M-8	Stainless Steel	Indoor Air (External)	None	None			G, <a href="#">101</a> , <a href="#">129</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection</a> and <a href="#">Water Chemistry</a>			H, <a href="#">103</a> , <a href="#">129</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	IV.A1.4-a	<a href="#">3.1.1-29</a>	B, <a href="#">129</a>

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles Safe Ends (CRD Return Line)	M-1	Stainless Steel	Indoor Air (External)	None	None			G, 101
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 103
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking	IV.A1.4-a	3.1.1-29	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.4-b	3.1.1-01	
Nozzles Safe Ends (Recirculating Water (Inlet and Outlet))	M-1	Stainless Steel	Indoor Air (External)	None	None			G, 101
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 103
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking	IV.A1.4-a	3.1.1-29	B



**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles Safe Ends (Feedwater - Unit 1)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">109</a> , <a href="#">130</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, <a href="#">113</a> , <a href="#">130</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	IV.C1.1-c	3.1.1-25	D, <a href="#">130</a>
		Nickel Based Alloys	Indoor Air (External)	None	None			J, <a href="#">101</a> , <a href="#">130</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J, <a href="#">121</a> , <a href="#">130</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles Safe Ends (Feedwater - Unit 2)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 109
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, 113
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	IV.C1.1-c	<a href="#">3.1.1-25</a>	D
Nozzles Safe Ends (Standby Liquid Control)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Nozzles Safe Ends (Instrumentation)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
Penetrations (CRD Stub Tubes)	M-1	Nickel Based Alloys	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel Internals Structural Integrity</a>			H, 103
				Cracking due to Cyclic Loading	<a href="#">Reactor Vessel Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.5-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Penetrations (Instrumentation)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, <a href="#">109</a> , <a href="#">128</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel Internals Structural Integrity</a>			H, <a href="#">103</a> , <a href="#">128</a>
				Cracking due to Cyclic Loading	<a href="#">Reactor Vessel Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.5-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Penetrations (Instrumentation) (continued)	M-1	Nickel Based Alloys	Indoor Air (External)	None	None			G, <a href="#">101</a> , <a href="#">128</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel Internals Structural Integrity</a>			H, <a href="#">103</a> , <a href="#">128</a>
				Cracking due to Cyclic Loading	<a href="#">Reactor Vessel Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.5-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Penetrations (Jet Pump Instrument)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a> , <a href="#">128</a>
				Cracking due to Cyclic Loading	<a href="#">Reactor Vessel Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.5-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Penetrations (Jet Pump Instrument) (continued)	M-1	Nickel Based Alloys	Indoor Air (External)	None	None			G, <a href="#">101</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a> , <a href="#">128</a>
				Cracking due to Cyclic Loading	<a href="#">Reactor Vessel Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.5-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Penetrations (Standby Liquid Control)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a> , <a href="#">128</a>
				Cracking due to Cyclic Loading	<a href="#">Reactor Vessel Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.5-b	<a href="#">3.1.1-01</a>	



**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Penetrations (Standby Liquid Control) (continued)	M-1	Nickel Based Alloys	Indoor Air (External)	None	None			G, <a href="#">101</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a> , <a href="#">128</a>
				Cracking due to Cyclic Loading	<a href="#">Reactor Vessel Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E, <a href="#">128</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.5-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Penetrations (Flux Monitor)	M-1	Stainless Steel	Indoor Air (External)	None	None			G, <a href="#">101</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to Cyclic Loading	<a href="#">Reactor Vessel Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.A1.5-a	<a href="#">3.1.1-30</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.5-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Penetrations (Drain Line)	M-1	Low Alloy Steel	Indoor Air (External)	None	None			G, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.A1.1-a	<a href="#">3.1.1-34</a>	D
				Cracking due to Cyclic Loading	<a href="#">Reactor Vessel Internals Structural Integrity</a>			F
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.5-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Reactor Vessel (Boiling Water Reactor) (Bottom Head)	M-1	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.6-a	<a href="#">3.1.1-01</a>	
	M-4	Low Alloy Steel with Stainless Steel cladding	Indoor Air (External)	None	None			G, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.6-a	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Reactor Vessel (Boiling Water Reactor) (Support Skirt and Attachment Welds)	M-1	Low Alloy Steel	Indoor Air (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.7-a	<a href="#">3.1.1-01</a>	<a href="#">135</a>
	M-4	Low Alloy Steel	Indoor Air (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.A1.7-a	<a href="#">3.1.1-01</a>	<a href="#">135</a>
Thermal Sleeves (Feedwater – Unit 1)	M-4	Nickel Based Alloys	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	IV.A1.4-a	<a href="#">3.1.1-29</a>	D
Thermal Sleeves (Feedwater – Unit 2)	M-4	Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	IV.A1.4-a	<a href="#">3.1.1-29</a>	D

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Thermal Sleeves (Low Pressure Core Spray (LPCS))	M-4	Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	IV.A1.4-a	<a href="#">3.1.1-29</a>	D
Core Shroud and Core Plate (Core Shroud (Upper, Central, Lower))	M-1	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to IASCC Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.1-a	<a href="#">3.1.1-31</a>	E

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Core Shroud and Core Plate (Core Shroud (Upper, Central, Lower)) (continued)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to IASCC Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.1-a	<a href="#">3.1.1-31</a>	E
Core Shroud and Core Plate (Core Plate)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to IASCC Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.1-b	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.1-c	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Core Shroud and Core Plate (Core Plate Bolts)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.1-b	<a href="#">3.1.1-31</a>	E
Core Shroud and Core Plate (Access Hole Cover)	M-1	Nickel Based Alloys	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">122</a> , <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.1-d	<a href="#">3.1.1-32</a>	E, <a href="#">122</a>



**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Core Shroud and Core Plate (Access Hole Cover) (continued)	M-4	Nickel Based Alloys	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">122</a> , <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.1-d	<a href="#">3.1.1-32</a>	E, <a href="#">122</a>
Core Shroud and Core Plate (Shroud Support Structure)	M-4	Nickel Based Alloys	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.1-f	<a href="#">3.1.1-31</a>	E

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Core Shroud and Core Plate (Core Shroud Repair Hardware)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Loss of Pre-load due to Stress Relaxation	<a href="#">Reactor Vessel and Internals Structural Integrity</a>			J, 123
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to IASCC Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J, 123

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Core Shroud and Core Plate (Core Plate Plugs)	M-1	Nickel Based Alloys	Treated Water (Includes Steam) (External)	Loss of Pre-load due to Stress Relaxation	<a href="#">Reactor Vessel and Internals Structural Integrity Program</a>			J, 124
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to IASCC Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J, 124
		Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Cracking due to IASCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J, 124

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Core Shroud and Core Plate (Core Plate Plugs) (continued)	M-4	Nickel Based Alloys	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to IASCC Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J, 124
		Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Cracking due to IASCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J, 124

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Reactor Vessel Internals (Boiling Water Reactor) (Top Guide)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to IASCC Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.2-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.2-b	<a href="#">3.1.1-01</a>	
Core Spray Lines and Spargers (Core Spray Lines (Headers))	M-1	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.3-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.3-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Core Spray Lines and Spargers (Core Spray Lines (Headers)) (continued)	M-4	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.3-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.3-b	<a href="#">3.1.1-01</a>	
	M-8	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.3-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.3-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Core Spray Lines and Spargers (Spray Rings)	M-1	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry and Reactor Vessel and Internals Structural Integrity</a>	IV.B1.3-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.3-b	<a href="#">3.1.1-01</a>	
	M-4	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry and Reactor Vessel and Internals Structural Integrity</a>	IV.B1.3-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.3-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Core Spray Lines and Spargers (Spray Rings) (continued)	M-8	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.3-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.3-b	<a href="#">3.1.1-01</a>	
Core Spray Lines and Spargers (Spray Nozzles)	M-8	Stainless Steel	Treated Water (Includes Steam) (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a> , <a href="#">114</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.3-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.3-b	<a href="#">3.1.1-01</a>	



**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Core Spray Lines and Spargers (Thermal Sleeves)	M-1	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.3-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.3-b	<a href="#">3.1.1-01</a>	
	M-4	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.3-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.3-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Core Spray Lines and Spargers (Thermal Sleeves) (continued)	M-8	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry and Reactor Vessel and Internals Structural Integrity</a>	IV.B1.3-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.3-b	<a href="#">3.1.1-01</a>	
Jet Pump Assemblies (Thermal Sleeve)	M-4	Nickel Based Alloys	Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry and Reactor Vessel and Internals Structural Integrity</a>	IV.B1.4-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.4-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Jet Pump Assemblies (Thermal Sleeve) (continued)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.4-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.4-b	<a href="#">3.1.1-01</a>	
Jet Pump Assemblies (Inlet Header)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.4-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.4-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Jet Pump Assemblies (Riser Brace Arm)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.4-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.4-b	<a href="#">3.1.1-01</a>	
Jet Pump Assemblies (Holddown Beams)	M-4	Nickel Based Alloys	Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.4-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.4-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Jet Pump Assemblies (Inlet Elbow)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.4-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.4-b	<a href="#">3.1.1-01</a>	
Jet Pump Assemblies (Mixing Assembly)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.4-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.4-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Jet Pump Assemblies (Diffuser)	M-4	Nickel Based Alloys	Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.4-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.4-b	<a href="#">3.1.1-01</a>	
		Stainless Steel	Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.4-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.4-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Jet Pump Assemblies (Castings)	M-4	Cast Austenitic Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to IASCC Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.4-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.4-b	<a href="#">3.1.1-01</a>	
				Reduction of Fracture Toughness due to Neutron Irradiation Embrittlement Reduction of Fracture Toughness due to Thermal Embrittlement	<a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.4-c	<a href="#">3.1.1-33</a>	E

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Jet Pump Assemblies (Jet Pump Sensing Line)	M-4	Stainless Steel	Treated Water (Includes Steam) (Internal)	AERMs in NUREG-1801 were not determined - See Notes & Referenced NUREG-1801, Volume 2 Item	None - NUREG-1801 AERM(s) is N/A	IV.B1.4-d	<a href="#">3.1.1-08</a>	I, <a href="#">125</a>
			Treated Water (Includes Steam) (External)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Not Applicable			<a href="#">125</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
Jet Pump Assemblies (Jet Pump Holddown Beam Keeper, Lock Plate, and Bolt)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J



**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Fuel Supports and Control Rod Drive (CRD) Assemblies (Orificed Fuel Support)	M-4	Cast Austenitic Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to IASCC Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Reduction of Fracture Toughness due to Neutron Irradiation Embrittlement Reduction of Fracture Toughness due to Thermal Embrittlement	<a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.5-a	<a href="#">3.1.1-33</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.5-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Fuel Supports and Control Rod Drive (CRD) Assemblies (CRD Housing)	M-1	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, 103
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.5-c	3.1.1-31	E
	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, 103
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.5-c	3.1.1-31	E

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Instrumentation (Intermediate Range Monitor (IRM) Dry Tubes)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			G, <a href="#">104</a>
			Indoor Air (Internal)	None	None			G, <a href="#">101</a>
			Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to IASCC Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.6-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.6-b	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Instrumentation (Source Range Monitor (SRM) Dry Tubes)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			G, <a href="#">104</a>
			Indoor Air (Internal)	None	None			G, <a href="#">101</a>
			Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to IASCC Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.6-a	<a href="#">3.1.1-31</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.6-b	<a href="#">3.1.1-01</a>	
Reactor Vessel Internals (Boiling Water Reactor - Non-safety Related) (Steam Dryer)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Cyclic Loading	<a href="#">Reactor Vessel and Internals Structural Integrity Program</a>			J, <a href="#">117</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Reactor Vessel Internals (Boiling Water Reactor - Non-safety Related) (Shroud Head and Separators)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J
Reactor Vessel Internals (Boiling Water Reactor - Non-safety Related) (Feedwater Spargers)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J
Reactor Vessel Internals (Boiling Water Reactor - Non-safety Related) (Surveillance Capsule Holder)	M-4	Stainless Steel	Treated Water (Includes Steam) (External)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			J

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Main Steam)	M-1	Carbon Steel	Indoor Air (External)	None	None			G, 109
			Treated Water (Includes Steam) (Internal)	AERMs in NUREG-1801 were not determined - See Notes & Referenced NUREG-1801, Volume 2 Item	None - NUREG-1801 AERM(s) is N/A	IV.C1.1-a	3.1.1-25	I, 115
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 113
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-b	3.1.1-01	
	M-3	Cast Austenitic Stainless Steel	Treated Water (Includes Steam) (Internal)	Reduction of Fracture Toughness due to Thermal Embrittlement	One-Time Inspection			J, 116
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			J, 116
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Feedwater)	M-1	Carbon Steel	Indoor Air (External)	None	None			G, 109
			Treated Water (Includes Steam) (Internal)	Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	IV.C1.1-c	<a href="#">3.1.1-25</a>	B
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, 113
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-d	<a href="#">3.1.1-01</a>	
		Stainless Steel	Indoor Air (External)	None	None			G, 101
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			F, 119

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Small Bore Piping Less than NPS 4)	M-1	Stainless Steel	Indoor Air (External)	None	None			G, 101
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, 103, 118
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
				Cracking due to SCC	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	E, 118
				Cracking due to Thermal and Mechanical Loading	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	I, 118
	M-3	Stainless Steel	Indoor Air (External)	None	None			G, 101
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, 103, 118
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
				Cracking due to SCC	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	E, 118
				Cracking due to Thermal and Mechanical Loading	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	I, 118



**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Reactor Vessel Head Vent Components)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection</a> and <a href="#">Water Chemistry</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	IV.C1.1-a	<a href="#">3.1.1-25</a>	D

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body)	M-1	Carbon Steel	Indoor Air (External)	None	None			G, 109
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 113
				Loss of Material due to FAC	Flow-Accelerated Corrosion	IV.C1.3-a	3.1.1-25	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	3.1.1-01	
		Stainless Steel	Indoor Air (External)	None	None			G, 101
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 103
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking	IV.C1.3-c	3.1.1-29	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	3.1.1-01	

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body) (continued)	M-7	Carbon Steel	Indoor Air (External)	None	None			G, <a href="#">109</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection</a> and <a href="#">Water Chemistry</a>			H, <a href="#">113</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	<a href="#">3.1.1-01</a>	
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping and Fittings)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>			J, <a href="#">127</a>
			Treated Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping and Fittings) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-7	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Valves)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>			J, <a href="#">127</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">101</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-7	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">101</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping Specialties)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-3	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping Specialties) (continued)	M-4	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">101</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Piping (Piping and Fittings)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			G, <a href="#">105</a>
			Indoor Air (External)	None	None			J, <a href="#">101</a>
Valves (including check valves and containment isolation) (Body and Bonnet)	M-1	Aluminum Alloys	Dry Air / Gas (Internal)	None	None			G, <a href="#">105</a>
			Indoor Air (External)	None	None			J, <a href="#">106</a>
		Carbon Steel	Dry Air / Gas (Internal)	None	None			G, <a href="#">105</a>
		Copper Alloys	Dry Air / Gas (Internal)	None	None			G, <a href="#">105</a>
			Indoor Air (External)	None	None			J, <a href="#">106</a>

**TABLE 3.1.2-1 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION - REACTOR VESSEL AND INTERNALS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Air Receiver (Shell and Access Cover)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			G, <a href="#">105</a>
			Indoor Air (External)	None	None			J, <a href="#">101</a>
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E



**TABLE 3.1.2-2 REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – NEUTRON MONITORING SYSTEM (NMS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Instrumentation (Incore Neutron Flux Monitor Guide Tubes)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			J, <a href="#">104</a>
			Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>			H, <a href="#">103</a>
				Cracking due to SCC Cracking due to IASCC	<a href="#">Water Chemistry</a> and <a href="#">Reactor Vessel and Internals Structural Integrity</a>	IV.B1.6-a	<a href="#">3.1.1-31</a>	E, <a href="#">102</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.B1.6-b	<a href="#">3.1.1-01</a>	
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping and Fittings)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			J, <a href="#">104</a>
			Indoor Air (External)	None	None			J, <a href="#">101</a>
			Indoor Air (Internal)	None	None			J, <a href="#">101</a>
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Valves)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			J, <a href="#">104</a>
			Indoor Air (External)	None	None			J, <a href="#">101</a>

**TABLE 3.1.2-2 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – NEUTRON MONITORING SYSTEM (NMS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping Specialties)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			J, <a href="#">104</a>
			Indoor Air (External)	None	None			J, <a href="#">101</a>

**TABLE 3.1.2-3 REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR MANUAL CONTROL SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping and Fittings)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J

**TABLE 3.1.2-4 REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL ROD DRIVE (CRD) HYDRAULIC SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping and Fittings)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Copper Alloys	Dry Air / Gas (Internal)	None	None			J, <a href="#">105</a>
			Indoor Air (External)	None	None			J, <a href="#">106</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">101</a>
			Treated Water (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J

**TABLE 3.1.2-4 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL ROD DRIVE (CRD) HYDRAULIC SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping and Fittings) (continued)	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Valves)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J

**TABLE 3.1.2-4 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL ROD DRIVE (CRD) HYDRAULIC SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping Specialties)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">101</a>
			Treated Water (Internal)	Loss of Material due to Erosion	<a href="#">One-Time Inspection</a>			J
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J

**TABLE 3.1.2-4 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL ROD DRIVE (CRD) HYDRAULIC SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Hydraulic Control Units (Tanks)	M-1	Carbon Steel	Dry Air / Gas (Internal)	None	None			J, 107
			Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
		Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 104
			Indoor Air (External)	None	None			J, 101
			Treated Water (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
Hydraulic Control Units (Rupture Disks)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 104
			Indoor Air (External)	None	None			J, 101
Hydraulic Control Units (Nitrogen Fittings)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 104
			Indoor Air (External)	None	None			J, 101

**TABLE 3.1.2-4 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL ROD DRIVE (CRD) HYDRAULIC SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Hydraulic Control Units (Filters)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
	M-2	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Internal)	Cracking due to SCC Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J, 114



**TABLE 3.1.2-4 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL ROD DRIVE (CRD) HYDRAULIC SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Hydraulic Control Units (Miscellaneous Piping)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-4	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
CRD Pumps (CRD Pump Casing)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Treated Water (Internal)	Loss of Material due to Erosion	<a href="#">One-Time Inspection</a>			J, 131
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J, 131
		Nickel Based Alloys	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J, 131

**TABLE 3.1.2-4 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL ROD DRIVE (CRD) HYDRAULIC SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
CRD Pumps (CRD Pump Gearbox Coolers)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Lube Oil (Internal)	None	None			J, <a href="#">108</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			J
CRD Pumps (CRD Pump Skid Piping and Valves)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Piping (Piping and Fittings)	M-4	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">106</a>

**TABLE 3.1.2-4 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL ROD DRIVE (CRD) HYDRAULIC SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (including check valves and containment isolation) (Body and Bonnet)	M-1	Copper Alloys	Dry Air / Gas (Internal)	None	None			J, <a href="#">105</a>
			Indoor Air (External)	None	None			J, <a href="#">106</a>
		Stainless Steel	Dry Air / Gas (Internal)	None	None			J, <a href="#">105</a>
			Indoor Air (External)	None	None			J, <a href="#">101</a>
	M-4	Copper Alloys	Dry Air / Gas (Internal)	None	None			J, <a href="#">105</a>
			Indoor Air (External)	None	None			J, <a href="#">106</a>
		Stainless Steel	Dry Air / Gas (Internal)	None	None			J, <a href="#">105</a>
			Indoor Air (External)	None	None			J, <a href="#">101</a>

**TABLE 3.1.2-5 REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR COOLANT RECIRCULATION SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Recirculation)	M-1	Cast Austenitic Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, <a href="#">103</a> , <a href="#">132</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	IV.C1.1-f	<a href="#">3.1.1-29</a>	B, <a href="#">132</a>
				Reduction of Fracture Toughness due to Thermal Embrittlement	<a href="#">One-Time Inspection</a>	IV.C1.1-g	<a href="#">3.1.1-24</a>	E, <a href="#">111</a> , <a href="#">132</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
		Stainless Steel	Indoor Air (External)	None	None			G, <a href="#">101</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, <a href="#">103</a>
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	IV.C1.1-f	<a href="#">3.1.1-29</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-5 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR COOLANT RECIRCULATION SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Small Bore Piping Less than NPS 4)	M-1	Carbon Steel	Indoor Air (External)	None	None			G, 109, 134
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 113, 134
				Loss of Material due to FAC	Flow-Accelerated Corrosion	IV.C1.1-a	3.1.1-25	D, 134
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	3.1.1-01	
				Cracking due to Thermal and Mechanical Loading	Section XI Inservice Inspection and Water Chemistry	IV.C1.1-i	3.1.1-07	I, 118, 134

**TABLE 3.1.2-5 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR COOLANT RECIRCULATION SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Small Bore Piping Less than NPS 4) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			G, 101
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, 103
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
				Cracking due to SCC	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	E, 118
				Cracking due to Thermal and Mechanical Loading	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	I, 118

**TABLE 3.1.2-5 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR COOLANT RECIRCULATION SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Recirculation Pump (Casing)	M-1	Cast Austenitic Stainless Steel	Indoor Air (External)	None	None			G, 101
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.2-a	3.1.1-01	
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 103
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking	IV.C1.2-b	3.1.1-29	B
				Reduction of Fracture Toughness due to Thermal Embrittlement	ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD	IV.C1.2-c	3.1.1-23	A, 110
Recirculation Pump (Cover)	M-1	Stainless Steel	Indoor Air (External)	None	None			G, 101
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, 103
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.2-a	3.1.1-01	
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking	IV.C1.2-b	3.1.1-29	D

**TABLE 3.1.2-5 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR COOLANT RECIRCULATION SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Recirculation Pump (Seal Flange)	M-1	Stainless Steel	Indoor Air (External)	None	None			G, <a href="#">101</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, <a href="#">103</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.2-a	<a href="#">3.1.1-01</a>	
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	IV.C1.2-b	<a href="#">3.1.1-29</a>	D
Recirculation Pump (Closure Bolting)	M-1	Low Alloy Steel	Indoor Air (External)	Loss of Material due to Wear	<a href="#">Bolting Integrity</a>	IV.C1.2-d	<a href="#">3.1.1-26</a>	B
				Loss of Pre-load due to Stress Relaxation	<a href="#">Bolting Integrity</a>	IV.C1.2-e	<a href="#">3.1.1-26</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.2-f	<a href="#">3.1.1-01</a>	



**TABLE 3.1.2-5 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR COOLANT RECIRCULATION SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body)	M-1	Cast Austenitic Stainless Steel	Indoor Air (External)	None	None			G, 101
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, 103
				Reduction of Fracture Toughness due to Thermal Embrittlement	<a href="#">ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD</a>	IV.C1.3-b	<a href="#">3.1.1-23</a>	A, 110
				Cracking due to SCC	<a href="#">Water Chemistry and BWR Stress Corrosion Cracking</a>	IV.C1.3-c	<a href="#">3.1.1-29</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	<a href="#">3.1.1-01</a>	
		Stainless Steel	Indoor Air (External)	None	None			G, 101
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, 103
				Cracking due to SCC	<a href="#">Water Chemistry and BWR Stress Corrosion Cracking</a>	IV.C1.3-c	<a href="#">3.1.1-29</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	<a href="#">3.1.1-01</a>	

**TABLE 3.1.2-5 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR COOLANT RECIRCULATION SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping and Fittings)	M-1	Carbon Steel	Indoor Air (External)	None	None	VII.I.1-b	3.3.1-05	I, 109
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
		Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J, 103

**TABLE 3.1.2-5 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR COOLANT RECIRCULATION SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping and Fittings) (continued)	M-4	Carbon Steel	Indoor Air (External)	None	None	VII.I.1-b	3.3.1-05	I, 109
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Valves)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 101
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J, 103
	M-4	Copper Alloys	Dry Air / Gas (Internal)	None	None			J, 105
			Indoor Air (External)	None	None			J, 112

**TABLE 3.1.2-5 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR COOLANT RECIRCULATION SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping Specialties)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">101</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J, <a href="#">103</a>
	M-4	Copper Alloys	Dry Air / Gas (Internal)	None	None			J, <a href="#">105</a>
			Indoor Air (External)	None	None			J, <a href="#">112</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">101</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J, <a href="#">103</a>

**TABLE 3.1.2-5 (continued) REACTOR VESSEL, INTERNALS, AND REACTOR COOLANT SYSTEM - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR COOLANT RECIRCULATION SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Reactor Coolant Pressure Boundary (Boiling Water Reactor) (Piping and Fittings (Closed Cooling Water))	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E, <a href="#">133</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C2.1-a	<a href="#">3.3.1-15</a>	C, <a href="#">113</a> , <a href="#">133</a>

Notes for Tables 3.1.2-1 through 3.1.2-4:

Generic Notes:

- A. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- B. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- C. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- D. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- E. Consistent with NUREG-1801 for material, environment, and aging effect, but a different AMP is credited.
- F. Material not in NUREG-1801 for this component.
- G. Environment not in NUREG-1801 for this component and material.
- H. Aging effect not in NUREG 1801 for this component, material, and environment combination.
- I. Aging effect in NUREG-1801 for this component, material, and environment combination is not applicable.
- J. Neither the component nor the material and environment combination is evaluated in NUREG-1801.

Plant-specific Notes:

- 101. The BSEP AMR methodology concluded that stainless steel and nickel-based alloy components in Indoor Air and not subject to aggressive chemical species have no aging effects.
- 102. NUREG-1801 recommends a combination of XI.M9, "BWR Vessel Internals" and XI.M2, "Water Chemistry" to manage cracking due to SCC, IGSCC, and IASCC. BSEP will use a different combination of programs than recommended by NUREG-1801: (1) the Reactor Vessel and Internals Structural Integrity Program, which is a plant-specific program, and (2) the Water Chemistry Program, which is consistent with NUREG-1801 with exceptions.
- 103. Loss of material due to crevice and pitting corrosion is predicted by the BSEP AMR methodology but not by NUREG-1801.
- 104. The BSEP AMR methodology concluded that stainless steel in a nitrogen environment has no aging effects.
- 105. This commodity identifies the compressed air/gas portion of compressed air systems used for pneumatic controls. The BSEP design includes air dryers to ensure that moisture does not cause corrosion for the components in this item (Ref. NUREG-1801, Section VII.D). The BSEP AMR methodology predicts no aging effects for the subject material in a dry air/gas environment.
- 106. The BSEP AMR methodology concluded that copper or aluminum alloy components in Indoor Air and not subject to aggressive chemical species have no aging effects.
- 107. The BSEP AMR methodology concluded that carbon steel in a nitrogen environment has no aging effects.
- 108. The BSEP AMR methodology concluded that carbon steel in a lube oil environment has no aging effects.
- 109. The BSEP AMR methodology does not predict loss of material due to general corrosion on the external surfaces of carbon and low-alloy steel structures and components exposed to operating temperatures greater than 212 °F.

110. From the discussion on page XI.M-44 of NUREG-1801:

"For pump casings and valve bodies, based on the assessment documented in the letter dated May 19, 2000, from Christopher Grimes, Nuclear Regulatory Commission (NRC), to Douglas Walters, Nuclear Energy Institute (NEI), screening for susceptibility to thermal aging is not required. The existing ASME Section XI inspection requirements, including the alternative requirements of ASME Code Case N-481 for pump casings, are adequate for all pump casings and valve bodies."

Since this component credits ASME Section XI inspection requirements for loss of material due to crevice and pitting corrosion, screening for susceptibility is not performed.

- 111. The Reactor Coolant Recirculation Pump Discharge Line Flow Elements have been assumed to be susceptible to thermal embrittlement. However, the specified one-time inspection may be obviated based on a formal screening for susceptibility.
- 112. The BSEP AMR methodology concluded that copper alloys in an indoor environment have no aging effects in the absence of sustained wetting.
- 113. Loss of material due to general, crevice, and pitting corrosion is predicted by the BSEP AMR methodology but not by NUREG-1801.
- 114. Flow blockage due to fouling is predicted by the BSEP AMR methodology but not by NUREG-1801.
- 115. Components exposed to steam with a quality greater than 99.5% are considered resistant to loss of material due to flow-accelerated corrosion by the BSEP AMR methodology.
- 116. The cast austenitic stainless steel material is only applicable to the Main Steam Flow Limiters.
- 117. Based on a review of industry operating experience, steam dryers are deemed susceptible to flow-induced vibration. Therefore, cracking due to cyclic loading is an applicable aging effect.
- 118. BSEP requested and received approval to implement Risk-Informed ISI. In support of the submittal, evaluations of degradation mechanisms were performed; and cracking due to thermal and mechanical loadings was evaluated and dispositioned as not applicable. The risk associated with cracking due to SCC is bounded by those components selected for inservice inspection as part of the Risk-Informed ISI Program. Therefore, the current inspection methods as detailed in the ASME Section XI Inservice Inspection, Subsections IWB, IWC and IWD Program, supplemented by the Water Chemistry Program, will manage cracking of small bore piping.
- 119. The stainless steel material is only applicable to thermowells installed in the feedwater piping.
- 120. This component is partially clad with stainless steel.
- 121. The feedwater nozzle safe end on Unit 1 was replaced with a new safe end which allowed welding the feedwater sparger to the safe end. Previously there had been a gap between the nozzle and its thermal sleeve that appeared to be related to feedwater sparger cracking.
- 122. The Access Hole Covers at BSEP are of a welded design.
- 123. During In-vessel Visual Inspections of the Unit 1 and 2 shrouds, cracking was discovered at various shroud locations. The cracking was severe enough in the H2/H3 weld regions to warrant repair. The H2 and H3 welds join the upper cylindrical shroud section to the slightly smaller diameter middle shroud section via attachment to the outside and inside of the top guide support ring respectively. Plant modifications installed mechanical clamps that will ensure structural integrity to the core shroud at the H2 and H3 welds. The clamps are designed to structurally link the upper shroud section, top guide support ring, and middle shroud section interface, and thereby eliminate the reliance on the H2 and H3 welds for structural integrity.
- 124. The Unit 1 plugs are of a welded design but the Unit 2 plugs are of a mechanical design. The Unit 2 plug is constructed from SA-276 TP304 for the latch, A276 TP304 for the body, shaft, and pin, and Inconel X-750 for the spring.

- 125. The jet pump sensing lines were evaluated for flow induced vibration as part of the Extended Power Uprate (EPU). This evaluation determined that the sensing line natural frequency of interest is well separated from vane passing frequency of the recirculation pumps at EPU conditions. The failure of a sensing line at any location would be detectable during jet pump surveillance that is done at least daily. Failure of a sensing line does not affect the pressure measurement taken for post-accident water level monitoring. If one or more jet pumps are inoperable, the plant must be brought to Mode 3 within 12 hours. Therefore, no aging management program is required.
- 126. The Control Rod Drive (CRD) Return Line has been cut and capped and is therefore not susceptible to cracking due to cyclic loading as discussed in NUREG-0619. NRC Information Notice 2004-08, Reactor Coolant Pressure Boundary Leakage Attributable to Propagation of Cracking in Reactor Vessel Nozzle Welds, was reviewed by BSEP for applicability. The design at BSEP differs significantly from that of the Pilgrim Station. However, recent industry events (particularly at PWRs) regarding Inconel weldments indicated that a review of BSEP programs is appropriate to evaluate possible inclusion in an augmented inspection program. An inspection of the Unit 1 nozzle was performed during the B115R1 outage (Spring 2004) with no indications found. An inspection of the Unit 2 nozzle is planned during the next Unit 2 outage.
- 127. The SRV Discharge Lines and associated vacuum breaker valves will use the One-Time Inspection Program to manage this aging effect. The one-time inspection will be an ultrasonic examination of the discharge piping section around the suppression chamber waterline.
- 128. This component is fabricated from low-alloy steel clad with stainless steel and buttered with Inconel.
- 129. The Unit 1 safe end is fabricated from stainless steel, and the Unit 2 safe end is fabricated from nickel-based alloy.
- 130. The Unit 1 safe end is bi-metallic and is fabricated from carbon steel and nickel-based alloy.
- 131. The 1A and 2A CRD Pumps have been replaced with rebuilt pumps with Inconel overlays on the casing to mitigate between-stage erosion degradation.
- 132. The Reactor Coolant Recirculation Pump Discharge Line Flow Elements are fabricated from Cast Austenitic Stainless Steel.
- 133. This commodity represents the Reactor Coolant Recirculation Pump Coolers and associated piping that are within the scope of License Renewal due to consideration of spatial interactions.
- 134. The carbon steel components in this commodity group are associated with the Reactor Vessel drain line.
- 135. The support skirt is attached to a stainless steel pad on the vessel by stainless steel weld material.
- 136. Standard Note E applies to Cracking due to SCC, and Standard Note I and Plant-specific Note 118 apply to Cracking due to Thermal and Mechanical Loading.



**TABLE 3.2.2-1 ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION –  
RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Low Pressure Coolant Injection (LPCI) System)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to SCC	<a href="#">Water Chemistry and BWR Stress Corrosion Cracking</a>	IV.C1.1-f	<a href="#">3.1.1-29</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
Valves (Body)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	<a href="#">3.1.1-01</a>	

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Low-Pressure Coolant Injection (LPCI) and Residual Heat Removal (RHR))	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			H
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	V.D2.1-c	<a href="#">3.2.1-16</a>	B
	M-4	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Lines to Suppression Chamber (SC))	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
Piping and Fittings (Lines to Drywell and Suppression Chamber Spray System (DSCSS))	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Piping specialties)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-3	Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-4	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">215</a>
	M-6	Insulation	Indoor Air (External)	None	None			J, <a href="#">228</a>

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Misc. auxiliary and drain piping and valves)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-4	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Piping and Fittings (restrictive orifices / flow elements)	M-1	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	V.D2.1-c	<a href="#">3.2.1-16</a>	D

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (restrictive orifices / flow elements) (continued)	M-3	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	V.D2.1-c	<a href="#">3.2.1-16</a>	D
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Bowl/Casing)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.2-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Suction Head)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.2-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Discharge Head)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.2-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
Valves (Check, Control, Hand, Motor Operated, and Relief Valves) (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.3-b	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
				Loss of Material due to Erosion	<a href="#">One-Time Inspection</a>			J, 218
		Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			H
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	V.D2.3-c	<a href="#">3.2.1-16</a>	B

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Check, Control, Hand, Motor Operated, and Relief Valves) (Body and Bonnet) (continued)	M-4	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.3-b	3.2.1-02 3.2.1-04	B
Heat Exchangers (RHR and LPCI) (Tubes)	M-1	Copper Alloys	Raw Water (Internal)	Loss of Material due to Erosion Loss of Material due to MIC	Open-Cycle Cooling Water System			J
			Treated Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Open-Cycle Cooling Water System			J
				Loss of Material due to Selective Leaching	Selective Leaching of Materials			J
	M-5	Copper Alloys	Raw Water (Internal)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	Open-Cycle Cooling Water System			J
			Treated Water (External)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	Open-Cycle Cooling Water System			J



**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Heat Exchangers (RHR and LPCI) (Tubesheet)	M-1	Copper Alloys	Raw Water (Internal)	Loss of Material due to Erosion Loss of Material due to MIC	Open-Cycle Cooling Water System			J
			Treated Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Open-Cycle Cooling Water System			J
				Loss of Material due to Selective Leaching	Selective Leaching of Materials			J
	M-5	Copper Alloys	Raw Water (Internal)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	Open-Cycle Cooling Water System			J
			Treated Water (External)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	Open-Cycle Cooling Water System			J
Heat Exchangers (RHR and LPCI) (Channel Head)	M-1	Copper Alloys	Raw Water (Internal)	Loss of Material due to Erosion Loss of Material due to MIC	Open-Cycle Cooling Water System			J
Heat Exchangers (RHR and LPCI) (Shell)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Heat Exchangers (RHR and LPCI) (Shell) (continued)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	V.D2.4-a	<a href="#">3.2.1-12</a>	A
Drywell and Suppression Chamber Spray System (DSCSS) (Piping and Fittings)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Drywell and Suppression Chamber Spray System (DSCSS) (Spray Nozzles)	M-1	Carbon Steel	Dry Air/Gas (Internal)	None	<a href="#">None</a>			J
	M-8	Carbon Steel	Dry Air/Gas (Internal)	None	<a href="#">None</a>			J, <a href="#">229</a>
Emergency Core Cooling System (BWR) (ECCS Pump Suction Strainers)	M-1	Carbon Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J, <a href="#">203</a>
				Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Emergency Core Cooling System (BWR) (ECCS Pump Suction Strainers) (continued)	M-1	Stainless Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
	M-2	Carbon Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J, 203
				Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J, 203
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	V.E.1-b	<a href="#">3.2.1-10</a>	E
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	V.E.1-b	<a href="#">3.2.1-10</a>	E
Piping (Piping and Fittings)	M-1	Carbon Steel	Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings) (continued)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">217</a>
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>	VII.C1.1-a	<a href="#">3.3.1-29</a>	B
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">215</a>
	Raw Water (Internal)		Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A	
	M-4	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">215</a>
Raw Water (Internal)			Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A	

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, 217
			Raw Water (Internal)	Loss of Material due to Erosion	Open-Cycle Cooling Water System			H
				Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Open-Cycle Cooling Water System	VII.C1.2-a	3.3.1-17	E
				Loss of Material due to Selective Leaching	Selective Leaching of Materials	VII.C1.2-a	3.3.1-29	E
		Stainless Steel	Indoor Air (External)	None	None			J, 215
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Open-Cycle Cooling Water System	VII.C1.2-a	3.3.1-17	E

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Heat Exchanger (Shell)	M-1	Grey Cast Iron	Treated Water (Internal)	Loss of Material due to Galvanic Corrosion	<a href="#">Preventive Maintenance</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Heat Exchanger (Channel Head and Access Cover)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">223</a>
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.3-a	<a href="#">3.3.1-17</a>	A
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>	VII.C1.3-a	<a href="#">3.3.1-29</a>	B

**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Heat Exchanger (Tubes)	M-1	Copper Alloys	Raw Water (Internal)	Loss of Material due to MIC	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.3-a	<a href="#">3.3.1-17</a>	A
				Loss of Material due to Erosion Loss of Material due to Galvanic Corrosion	<a href="#">Open-Cycle Cooling Water System</a>			H
		Stainless Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>			J
			Treated Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
	M-5	Copper Alloys	Indoor Air (External)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Preventive Maintenance</a>			J
			Raw Water (Internal)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.3-b	<a href="#">3.3.1-17</a>	A
		Stainless Steel	Raw Water (Internal)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Open-Cycle Cooling Water System</a>			J



**TABLE 3.2.2-1 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – RESIDUAL HEAT REMOVAL (RHR) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pump (Casing)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Open-Cycle Cooling Water System			F

**TABLE 3.2.2-2 ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION –  
CONTAINMENT ATMOSPHERE CONTROL (CAC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Containment Atmospheric Dilution/Control System (Valves)	M-1	Carbon Steel	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection			J
		Copper Alloys	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (External)	None	None			J, 223
			Indoor Air (Internal)	None	None			J, 223
		Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (External)	None	None			J, 215
			Treated Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
	M-4	Carbon Steel	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection			J

**TABLE 3.2.2-2 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CONTAINMENT ATMOSPHERE CONTROL (CAC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Containment Atmospheric Dilution/Control System (Valves) (continued)	M-4	Copper Alloys	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (External)	None	None			J, 223
		Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (External)	None	None			J, 215
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
Containment Atmospheric Dilution/Control System (Piping and Fittings)	M-1	Carbon Steel	Dry Air / Gas (Internal)	None	None			J, 221
		Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (External)	None	None			J, 215
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
	M-4	Carbon Steel	Dry Air / Gas (Internal)	None	None			J, 221
		Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (External)	None	None			J, 215

**TABLE 3.2.2-2 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CONTAINMENT ATMOSPHERE CONTROL (CAC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Containment Atmospheric Dilution/Control System (Piping Specialties)	M-1	Carbon Steel	Dry Air / Gas (Internal)	None	None			J, 221
		Glass	Indoor Air (External)	None	None			J, 202
			Treated Water (Internal)	None	None			J, 222
		Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (External)	None	None			J, 215
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
	M-2	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection			J
	M-3	Carbon Steel	Dry Air / Gas (Internal)	None	None			J, 221
	M-4	Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (External)	None	None			J, 215

**TABLE 3.2.2-2 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CONTAINMENT ATMOSPHERE CONTROL (CAC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Containment Atmospheric Dilution/Control System (Tanks)	M-1	Carbon Steel	Dry Air / Gas (Internal)	None	None			J, 221
		Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (External)	None	None			J, 215
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
Containment Atmospheric Dilution/Control System (Pumps)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 221
			Indoor Air (External)	None	None			J, 215
Containment Atmospheric Dilution/Control System (Heat Exchangers)	M-1	Carbon Steel	Dry Air / Gas (Internal)	None	None			J, 207, 221
		Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 208, 221
			Indoor Air (External)	None	None			J, 208, 215
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	V.E.1-b	3.2.1-10	E
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	V.E.1-b	3.2.1-10	E

**TABLE 3.2.2-3 ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION –  
HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (High Pressure Coolant Injection (HPCI) System)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H
				Loss of Material due to FAC	Flow-Accelerated Corrosion	IV.C1.1-a	3.1.1-25	D
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-e	3.1.1-01	
		Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			F
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking	IV.C1.1-f	3.1.1-29	D

**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (High Pressure Coolant Injection (HPCI) System) (continued)	M-3	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			F
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	IV.C1.1-f	<a href="#">3.1.1-29</a>	D
Piping and Fittings (Steam Line to HPCI and RCIC Pump Turbine)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H

**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Small Bore Piping Less than NPS 4)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	3.1.1-01	
				Cracking due to Thermal and Mechanical Loading	Section XI Inservice Inspection and Water Chemistry	IV.C1.1-i	3.1.1-07	I, 226
		Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H, J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	3.1.1-01	
				Cracking due to SCC	Section XI Inservice Inspection and Water Chemistry	IV.C1.1-i	3.1.1-07	E, 226
				Cracking due to Thermal and Mechanical Loading	Section XI Inservice Inspection and Water Chemistry	IV.C1.1-i	3.1.1-07	I, 226



**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">219</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	IV.C1.3-a	<a href="#">3.1.1-25</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	<a href="#">3.1.1-01</a>	
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">215</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to SCC	<a href="#">Water Chemistry and BWR Stress Corrosion Cracking</a>	IV.C1.3-c	<a href="#">3.1.1-29</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	<a href="#">3.1.1-01</a>	

**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (High Pressure Coolant Injection (HPCI))	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.1-a	3.2.1-02 3.2.1-04	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	3.2.1-01	
		Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	3.2.1-01	
				Cracking due to SCC	Water Chemistry and One-Time Inspection	V.D2.1-c	3.2.1-16	E, 230
Piping and Fittings (Lines to Suppression Chamber (SC))	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.1-a	3.2.1-02 3.2.1-04	B

**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Lines to HPCI and RCIC Pump Turbine)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.1-a	3.2.1-02 3.2.1-04	D
Piping and Fittings (Lines from HPCI and RCIC Pump Turbines to Torus or Wetwell)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.1-a	3.2.1-02 3.2.1-04	D
Piping and Fittings (Piping specialties)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Lube Oil (Internal)	None	None			J, 220
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J

**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Piping specialties) (continued)	M-1	Glass	Indoor Air (External)	None	None			J, 202
			Treated Water (Internal)	None	None			J, 222
		Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
	M-2	Carbon Steel	Lube Oil (Internal)	None	None			J, 220
	M-6	Insulation	Indoor Air (External)	None	None			J, 228
Piping and Fittings (Misc. auxiliary and drain piping and valves)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Lube Oil (Internal)	None	None			J, 220
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J

**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Misc. auxiliary and drain piping and valves) (continued)	M-4	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Piping and Fittings (restrictive orifices / flow elements)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			J
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	IV.C1.1-a	<a href="#">3.1.1-25</a>	D
		Stainless Steel	Indoor Air (External)	None	None			J, 215
			Lube Oil (Internal)	None	None			J, 220
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J

**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (restrictive orifices / flow elements) (continued)	M-3	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Lube Oil (Internal)	None	None			J, 220
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Bow/Casing)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.2-a	3.2.1-02 3.2.1-04	B
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Suction Head)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.2-a	3.2.1-02 3.2.1-04	B
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Discharge Head)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.2-a	3.2.1-02 3.2.1-04	B

**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Check, Control, Hand, Motor Operated, and Relief Valves) (Body and Bonnet)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Lube Oil (Internal)	None	None			J, 220
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated per 10 CFR 54.21(c)			
				Loss of Material due to FAC	Flow-Accelerated Corrosion	V.D2.3-a	3.2.1-14	B
		Stainless Steel	Indoor Air (External)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.3-b	3.2.1-02 3.2.1-04	B
								J, 215
	M-4	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			F
			Strainer Element	Flow Blockage due to Fouling	Preventive Maintenance			J, 225
		Carbon Steel	Indoor Air (External)	None	None			J, 219
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.3-b	3.2.1-02 3.2.1-04	B

**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Emergency Core Cooling System (BWR) (Auxiliary Pumps)	M-1	Carbon Steel	Lube Oil (Internal)	None	None			J, 220
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Emergency Core Cooling System (BWR) (Misc. Tanks and Vessels)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Lube Oil (Internal)	None	None			J, 220
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	IV.C1.1-a	<a href="#">3.1.1-25</a>	D
	M-4	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J



**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Emergency Core Cooling System (BWR) (Steam Turbines)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
Auxiliary Heat Exchangers (Auxiliary Heat Exchanger tubing)	M-1	Copper Alloys	Lube Oil (External)	None	None			J, 220
			Lube Oil (Internal)	None	None			J, 220
	M-5	Copper Alloys	Lube Oil (External)	None	None			J, 220
			Lube Oil (Internal)	None	None			J, 220
Auxiliary Heat Exchangers (Auxiliary Heat Exchanger shell / housing)	M-1	Carbon Steel	Lube Oil (Internal)	None	None			J, 220
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J

**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Auxiliary Strainers/Filters (Auxiliary Strainer Element)	M-2	Strainer Element	Lube Oil (Internal)	Flow Blockage due to Fouling	<a href="#">Preventive Maintenance</a>			J
Auxiliary Strainers/Filters (Auxiliary Strainer Housing)	M-1	Carbon Steel	Lube Oil (Internal)	None	None			J, 220
Emergency Core Cooling System (BWR) (ECCS Pump Suction Strainers)	M-1	Carbon Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J, 203
				Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J

**TABLE 3.2.2-3 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HIGH PRESSURE COOLANT INJECTION (HPCI) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Emergency Core Cooling System (BWR) (ECCS Pump Suction Strainers) (continued)	M-2	Carbon Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J, 203
				Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	V.E.1-b	<a href="#">3.2.1-10</a>	E
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	V.E.1-b	<a href="#">3.2.1-10</a>	E

**TABLE 3.2.2-4 ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION –  
AUTOMATIC DEPRESSURIZATION SYSTEM (ADS)**

<b>Component Commodity</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Program</b>	<b>NUREG-1801 Volume 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
Valves (including check valves and containment isolation) (Body and Bonnet)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			F, <a href="#">214</a>
Non-Carbon Steel Components (External Surfaces)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">201</a>

**TABLE 3.2.2-5 ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION –  
CORE SPRAY (CS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Low Pressure Core Spray (LPCS) System)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">215</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to SCC	<a href="#">Water Chemistry and BWR Stress Corrosion Cracking</a>	IV.C1.1-f	<a href="#">3.1.1-29</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	

**TABLE 3.2.2-5 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CORE SPRAY (CS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Low Pressure Core Spray (LPCS) System) (continued)	M-3	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking	IV.C1.1-f	3.1.1-29	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	3.1.1-01	
Piping and Fittings (Small Bore Piping Less than NPS 4)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	3.1.1-01	
				Cracking due to SCC	Section XI Inservice Inspection and Water Chemistry	IV.C1.1-i	3.1.1-07	E, 226
				Cracking due to Thermal and Mechanical Loading	Section XI Inservice Inspection and Water Chemistry	IV.C1.1-i	3.1.1-07	I, 226

**TABLE 3.2.2-5 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CORE SPRAY (CS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 219
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	3.1.1-01	
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H
		Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H

**TABLE 3.2.2-5 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CORE SPRAY (CS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body) (continued)	M-1	Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	IV.C1.3-c	<a href="#">3.1.1-29</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	<a href="#">3.1.1-01</a>	
	M-4	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">219</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection</a> and <a href="#">Water Chemistry</a>			H
Piping and Fittings (Low-Pressure Core Spray (LPCS))	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B



**TABLE 3.2.2-5 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CORE SPRAY (CS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Low-Pressure Core Spray (LPCS)) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	V.D2.1-c	<a href="#">3.2.1-16</a>	B
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
Piping and Fittings (Lines to Suppression Chamber (SC))	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
Piping and Fittings (Piping specialties)	M-4	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F

**TABLE 3.2.2-5 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CORE SPRAY (CS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Misc. auxiliary and drain piping and valves)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>			J, 205
	M-4	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>			J, 205
Piping and Fittings (restrictive orifices / flow elements)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			F
	M-3	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			F

**TABLE 3.2.2-5 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CORE SPRAY (CS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Bowl/Casing)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.2-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Suction Head)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.2-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Discharge Head)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.2-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B

**TABLE 3.2.2-5 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CORE SPRAY (CS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Check, Control, Hand, Motor Operated, and Relief Valves) (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.3-b	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">215</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
	M-4	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.3-b	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B

**TABLE 3.2.2-5 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CORE SPRAY (CS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Emergency Core Cooling System (BWR) (ECCS Pump Suction Strainers)	M-1	Carbon Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J, 203
				Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J, 203
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
	M-2	Carbon Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J, 203
				Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J

**TABLE 3.2.2-5 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – CORE SPRAY (CS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Emergency Core Cooling System (BWR) (ECCS Pump Suction Strainers) (continued)	M-2	Stainless Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J, 203
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	V.E.1-b	<a href="#">3.2.1-10</a>	E
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	V.E.1-b	<a href="#">3.2.1-10</a>	E

**TABLE 3.2.2-6 ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT – EVALUATION  
STANDBY GAS TREATMENT SYSTEM (SGTS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Ductwork (Equipment Frames and Housing)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance	V.B.1-a	3.2.1-03	E
Filters (Housing and Supports)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance	V.B.2-a	3.2.1-03	E
Filters (Elastomer Seals)	M-1	Elastomers	Indoor Air (External)	Loss of Material due to Wear	Systems Monitoring			H
				Cracking due to Various Degradation Mechanisms	Systems Monitoring	V.B.2-b	3.2.1-07	E
			Indoor Air (Internal)	Loss of Material due to Wear	Preventive Maintenance			H
				Cracking due to Various Degradation Mechanisms	Preventive Maintenance	V.B.2-b	3.2.1-07	E
Standby Gas Treatment System (Boiling Water Reactor) (Piping)	M-1	Carbon Steel	Buried (External)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Buried Piping and Tanks Inspection			J
			Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection			J
	M-4	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection			J

**TABLE 3.2.2-6 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT –  
EVALUATION STANDBY GAS TREATMENT SYSTEM (SGTS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Standby Gas Treatment System (Boiling Water Reactor) (Valves)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>			J
	M-4	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>			J
Standby Gas Treatment System (Boiling Water Reactor) (Piping Specialties)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">215</a>
			Indoor Air (Internal)	None	None			J, <a href="#">215</a>
	M-3	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">215</a>
			Indoor Air (Internal)	None	None			J, <a href="#">215</a>
	M-4	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">215</a>
			Indoor Air (Internal)	None	None			J, <a href="#">215</a>
Standby Gas Treatment System (Boiling Water Reactor) (Instrument Tubing)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">215</a>
			Indoor Air (Internal)	None	None			J, <a href="#">215</a>
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	V.E.1-b	<a href="#">3.2.1-10</a>	E
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	V.E.1-b	<a href="#">3.2.1-10</a>	E



**TABLE 3.2.2-7 ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION –  
STANDBY LIQUID CONTROL (SLC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Lines to Reactor Water Cleanup (RWC) and Standby Liquid Control (SLC) Systems)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to SCC	<a href="#">Water Chemistry and BWR Stress Corrosion Cracking</a>	IV.C1.1-f	<a href="#">3.1.1-29</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
Piping and Fittings (Small Bore Piping Less than NPS 4)	M-1	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to SCC	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	E, 226
				Cracking due to Thermal and Mechanical Loading	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	I, 226
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-i	<a href="#">3.1.1-07</a>	

**TABLE 3.2.2-7 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – STANDBY LIQUID CONTROL (SLC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Section XI Inservice Inspection and Water Chemistry			H
				Cracking due to SCC	Water Chemistry and BWR Stress Corrosion Cracking	IV.C1.3-c	3.1.1-29	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	3.1.1-01	
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	V.E.1-b	3.2.1-10	E
Piping (Piping and Fittings)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			H
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			H

**TABLE 3.2.2-7 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – STANDBY LIQUID CONTROL (SLC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings) (continued)	M-4	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			H
Piping (Piping specialties)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Preventive Maintenance			J, 206
		Glass	Indoor Air (External)	None	None			J, 202
			Treated Water (Internal)	None	None			J, 222
		Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			H
Solution Storage (Tank)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			H

**TABLE 3.2.2-7 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – STANDBY LIQUID CONTROL (SLC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Pump Suction, Relief, Injection, Containment Isolation, and Explosive Actuated Discharge) (Body and Bonnet)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			H
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			H
Injection Pumps (Casing)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 215
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			H
Standby Liquid Control System (Boiling Water Reactor) (Hydraulic Accumulator Tank)	M-1	Plastics / Polymers	Indoor Air (Internal)	Cracking due to Various Degradation Mechanisms	Preventive Maintenance			J, 227
			Treated Water (External)	Change in Material Properties due to Various Degradation Mechanisms	Preventive Maintenance			J, 227

**TABLE 3.2.2-8 ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION –  
HVAC CONTROL BUILDING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>	VII.D.1-a	<a href="#">3.3.1-19</a>	E, <a href="#">209</a>
		Carbon Steel - Galvanized	Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>			F
		Copper Alloys	Dry Air/Gas (Internal)	None	None			G, <a href="#">216</a> , <a href="#">214</a>
		Plastics / Polymers	Indoor Air (Internal)	Cracking due to Various Degradation Mechanisms	<a href="#">Preventive Maintenance</a>			F
		Stainless Steel	Dry Air/Gas (Internal)	None	None			G, <a href="#">214</a>
	M-3	Copper Alloys	Dry Air/Gas (Internal)	None	None			G, <a href="#">214</a>
Valves (including check valves and containment isolation) (Body and Bonnet)	M-1	Aluminum Alloys	Dry Air/Gas (Internal)	None	None			J, <a href="#">214</a>
		Copper Alloys	Dry Air/Gas (Internal)	None	None			J, <a href="#">216</a> , <a href="#">214</a>
		Plastics / Polymers	Indoor Air (Internal)	Cracking due to Various Degradation Mechanisms	<a href="#">Preventive Maintenance</a>			F
		Stainless Steel	Dry Air/Gas (Internal)	None	None			J, <a href="#">214</a>

**TABLE 3.2.2-8 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC CONTROL BUILDING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (including check valves and containment isolation) (Body and Bonnet) (continued)	M-4	Copper Alloys	Dry Air/Gas (Internal)	None	None			J, 216, 214
Air Receiver (Shell and Access Cover)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection	VII.D.3-a	3.3.1-19	E, 209
Filter (Shell and Access Cover)	M-1	Copper Alloys	Dry Air/Gas (Internal)	None	None			G, 214
Dryer (Shell and Access Cover)	M-1	Copper Alloys	Dry Air/Gas (Internal)	None	None			J, 214
Duct (Duct Fittings, Access Doors, Damper Housings and Closure Bolts)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.F1.1-a	3.3.1-05	E, 210
			Outdoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance			G, 210

**TABLE 3.2.2-8 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC CONTROL BUILDING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Duct (Duct Fittings, Access Doors, Damper Housings and Closure Bolts) (continued)	M-1	Carbon Steel - Galvanized	Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>	VII.F1.1-a	<a href="#">3.3.1-05</a>	E, <a href="#">210</a>
			Outdoor Air (Internal)	Loss of Material due to Aggressive Chemical Attack Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>			G
		Stainless Steel	Indoor Air (Internal)	None	None			F, <a href="#">201</a>
Duct (Equipment Frames and Housings, including Fan Housings)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>	VII.F1.1-a	<a href="#">3.3.1-05</a>	E, <a href="#">210</a>
			Outdoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>			G
	M-4	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>	VII.F1.1-a	<a href="#">3.3.1-05</a>	E, <a href="#">210</a>
Duct (Flexible Collars between Ducts and Fans)	M-1	Elastomers	Indoor Air (Internal)	Cracking due to Various Degradation Mechanisms	<a href="#">Preventive Maintenance</a>	VII.F1.1-b	<a href="#">3.3.1-02</a>	E
				Loss of Material due to Wear	<a href="#">Preventive Maintenance</a>	VII.F1.1-c	<a href="#">3.3.1-02</a>	E

**TABLE 3.2.2-8 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC CONTROL BUILDING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Duct (Seals in Dampers and Doors)	M-1	Elastomers	Indoor Air (Internal)	Cracking due to Various Degradation Mechanisms	Preventive Maintenance	VII.F1.1-b	3.3.1-02	E
				Loss of Material due to Wear	Preventive Maintenance	VII.F1.1-c	3.3.1-02	E
Air Handler Heating/Cooling (Heating/Cooling Coils)	M-1	Copper Alloys	Dry Air/Gas (Internal)	None	None			G, 216
	M-4	Carbon Steel - Galvanized	Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance			F
	M-5	Copper Alloys	Dry Air/Gas (Internal)	None	None			G, 216
Piping (Piping and Fittings)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection			G
		Copper Alloys	Dry Air/Gas (Internal)	None	None			G, 216, 214
		Glass	Dry Air/Gas (Internal)	None	None			F, 216
		Plastics/ Polymers	Indoor Air (Internal)	Cracking due to Various Degradation Mechanisms	One-Time Inspection			F



**TABLE 3.2.2-8 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC CONTROL BUILDING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings) (continued)	M-1	Stainless Steel	Indoor Air (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>			F
	M-4	Copper Alloys	Dry Air/Gas (Internal)	None	None			G, <a href="#">216</a> , <a href="#">214</a>
Filters (Housing and Supports)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>	VII.F1.4-a	<a href="#">3.3.1-05</a>	E, <a href="#">210</a>
		Carbon Steel - Galvanized	Indoor Air (Internal)	None	None			F, <a href="#">211</a>
		Copper Alloys	Indoor Air (Internal)	None	None			F, <a href="#">201</a>
		Stainless Steel	Indoor Air (Internal)	None	None			F, <a href="#">201</a>
	M-4	Carbon Steel - Galvanized	Indoor Air (Internal)	None	None			F, <a href="#">201</a>
			Outdoor Air (Internal)	Loss of Material due to Aggressive Chemical Attack Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>			G

**TABLE 3.2.2-8 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC CONTROL BUILDING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Filters (Elastomer Seals)	M-1	Elastomers	Indoor Air (Internal)	Loss of Material due to Wear	<a href="#">Preventive Maintenance</a>			H
				Cracking due to Various Degradation Mechanisms	<a href="#">Preventive Maintenance</a>	VII.F1.4-b	<a href="#">3.3.1-02</a>	E
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Outdoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>			G
				Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>			G
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
Non-Carbon Steel Components (External Surfaces)	M-1	Aluminum Alloys	Indoor Air (External)	None	None			J, <a href="#">201</a>
		Carbon Steel - Galvanized	Indoor Air (External)	None	None			J, <a href="#">201</a>
		Copper Alloys	Dry Air/Gas (External)	None	None			J, <a href="#">201</a>
			Indoor Air (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Preventive Maintenance</a>			J, <a href="#">207</a>

**TABLE 3.2.2-8 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC CONTROL BUILDING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Carbon Steel Components (External Surfaces) (continued)	M-1	Elastomers	Indoor Air (External)	Cracking due to Various Degradation Mechanisms Loss of Material due to Wear	<a href="#">Systems Monitoring</a>			J
		Glass	Indoor Air (External)	None	None			J, 201
		Plastics / Polymers	Indoor Air (External)	Cracking due to Various Degradation Mechanisms	<a href="#">Systems Monitoring</a>			J
		Stainless Steel	Indoor Air (External)	None	None			J, 201
	M-4	Carbon Steel - Galvanized	Indoor Air (External)	None	None			J, 201
		Copper Alloys	Indoor Air (External)	None	None			J, 201
	M-5	Copper Alloys	Indoor Air (External)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Preventive Maintenance</a>			J, 207
			Outdoor Air (External)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Preventive Maintenance</a>			J, 207
	M-6	Insulation	Indoor Air (External)	None	None			J, 201

**TABLE 3.2.2-8 (continued) ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC CONTROL BUILDING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Carbon Steel Components (External Surfaces) (Heat Exchanger)	M-5	Aluminum Alloys	Indoor Air (External)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	Preventive Maintenance			J, 207
			Outdoor Air (External)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	Preventive Maintenance			J, 207

**TABLE 3.2.2-9 ENGINEERED SAFETY FEATURES – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR PROTECTION SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Engineered Safety Features (Misc. Non-GALL Components (Inside))	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 201
			Indoor Air (Internal)	None	None			J, 201

Notes for Tables 3.2.2-1 through 3.2.2-9:

Generic Notes:

- A. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- B. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- C. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- D. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- E. Consistent with NUREG-1801 for material, environment, and aging effect, but a different AMP is credited.
- F. Material not in NUREG-1801 for this component.
- G. Environment not in NUREG-1801 for this component and material.
- H. Aging effect not in NUREG 1801 for this component, material, and environment combination.
- I. Aging effect in NUREG-1801 for this component, material, and environment combination is not applicable.
- J. Neither the component nor the material and environment combination is evaluated in NUREG-1801.

Plant-specific Notes:

201. The BSEP AMR methodology concluded that the subject material in an Indoor Air environment, and in the absence of moisture, has no aging effects.
202. The BSEP methodology concluded that glass components in an Indoor Air environment have no aging effects.
203. Potential for fouling associated with failed coatings is managed by the Protective Coating Monitoring and Maintenance Program.
204. The BSEP AMR methodology concluded that the subject non-metallic material in an Indoor Air environment has no aging effects.
205. The One-Time Inspection Program will include elements to verify the integrity of spatial interaction piping.
206. Internal inspection of the phenolic-lined carbon steel accumulator tanks is performed under the Preventive Maintenance Program.
207. This commodity represents surface of heat exchanger coils.
208. Heat exchangers in this category are in scope for spatial interaction with safety related components. Therefore, only the external surfaces require aging management review.
209. NUREG-1801 identified potential aging effects/mechanisms. The BSEP AMR methodology predicted that pitting corrosion is not applicable due to the lack of sustained wetting and aggressive chemical species required to produce this aging mechanism.
210. NUREG-1801 identified potential aging effects/mechanisms that were not predicted by BSEP AMR methodology. Crevice and pitting corrosion are not applicable due to the lack of sustained wetting and aggressive chemical species required to produce these aging mechanisms. MIC has not been observed in BSEP HVAC environments.
211. NUREG-1801 identified potential aging effects/mechanisms that were not predicted by BSEP AMR methodology. General, crevice, and pitting corrosion are not applicable due to the lack of sustained wetting and aggressive chemical species required to produce these aging mechanisms. MIC has not been observed in BSEP HVAC environments.
212. Short-lived, a PM activity will inspect/replace filter media periodically.
213. NUREG-1801 identified SCC as a potential aging effect. The BSEP methodology does not predict SCC at the temperatures at which components in this group operate.
214. Commodity identifies compressed air/gas components used for pneumatic controls. The BSEP design includes air dryers to ensure that moisture does not cause general and pitting corrosion for the components in this item (Ref. Gall VII.D). The BSEP AMR methodology predicts no aging effects for the subject material in a dry air/gas environment.
215. The BSEP methodology predicts no aging effects for stainless steel in an Indoor Air environment.
216. Commodity identifies a non-corrosive refrigerant portion of the HVAC system. The BSEP AMR methodology predicts no aging effects.
217. The BSEP AMR methodology predicts no aging effects for the subject material and environment. Crevice and pitting corrosion are not applicable due to the lack of sustained wetting and aggressive chemical species required to produce these aging mechanisms.
218. Erosion has been identified as a potential aging mechanism in specific ECCS valves and is to be addressed by one time inspections of these valves and adjacent piping.
219. These components operate at temperatures substantially above ambient, such that moisture-related external corrosion is not expected.
220. The BSEP AMR methodology predicts no aging effects for the subject material in a lube oil environment without moisture intrusion.
221. The BSEP AMR methodology predicts no aging effects at ambient temperatures in a dry air/gas environment.
222. The BSEP AMR methodology predicts no aging effects for glass in a treated water environment.
223. The BSEP AMR methodology predicts no aging effects for copper alloys in an Indoor Air environment without the presence of sustained wetting.

- 224. The ECCS strainers have a carbon steel base with a stainless steel strainer element. The commodity is treated as carbon steel with a potential for galvanic corrosion for aging management review.
- 225. The HPCI mini-flow bypass valves have cage trim with smaller openings than the Torus Strainers. Potential for fouling of these cages will be managed by periodic flow verification under the Preventive Maintenance Program.
- 226. BSEP requested and received approval to implement Risk-Informed ISI. In support of the submittal, evaluations of degradation mechanisms were performed; and cracking due to thermal and mechanical loadings was evaluated and dispositioned as not applicable. The risk associated with cracking due to SCC is bounded by those components selected for inservice inspection as part of the Risk-Informed ISI Program. Therefore, the current inspection methods as detailed in the ASME Section XI Inservice Inspection, Subsections IWB, IWC and IWD Program, supplemented by the Water Chemistry Program, will manage cracking of small bore piping.
- 227. Aging effects are conservatively assumed for the bladder in the hydraulic accumulator. The integrity of this bladder is regularly monitored through the Preventive Maintenance Program.
- 228. Thermal insulation is credited in room cooler evaluations. Applicable insulation classes are glass fiber or calcium silicate, depending on temperature. No aging effects are predicted for these materials in an indoor environment.
- 229. Suppression Pool spray is not required for design basis events. Drywell spray nozzles/piping is required but is normally isolated and not subject to plugging or fouling.
- 230. Instrument piping in this line item is not addressed by the BWR Stress Corrosion Cracking Program due to its size (less than 4 inch).





**TABLE 3.3.2-1 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR WATER CLEANUP (RWCU) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Lines to Reactor Water Cleanup (RWC) and Standby Liquid Control (SLC) Systems)	M-1	Carbon Steel	Indoor Air (External)	None	None			G, <a href="#">326</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			F
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	IV.C1.1-a	<a href="#">3.1.1-25</a>	D
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
		Stainless Steel	Indoor Air (External)	None	None			G, <a href="#">325</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, <a href="#">314</a>
				Cracking due to SCC	<a href="#">Water Chemistry and BWR Stress Corrosion Cracking</a>	IV.C1.1-f	<a href="#">3.1.1-29</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	

**TABLE 3.3.2-1 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR WATER CLEANUP (RWCU) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Small Bore Piping Less than NPS 4)	M-1	Carbon Steel	Indoor Air (External)	None	None			G, <a href="#">326</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	IV.C1.1-a	<a href="#">3.1.1-25</a>	D
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
				Cracking due to Thermal and Mechanical Loading	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	I, <a href="#">348</a>

**TABLE 3.3.2-1 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR WATER CLEANUP (RWCU) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Small Bore Piping Less than NPS 4) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			G, <a href="#">325</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection</a> and <a href="#">Water Chemistry</a>			H, <a href="#">314</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
				Cracking due to SCC	<a href="#">Section XI Inservice Inspection</a> and <a href="#">Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	E, <a href="#">348</a>
				Cracking due to Thermal and Mechanical Loading	<a href="#">Section XI Inservice Inspection</a> and <a href="#">Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	I, <a href="#">348</a>

**TABLE 3.3.2-1 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR WATER CLEANUP (RWCU) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body)	M-1	Carbon Steel	Indoor Air (External)	None	None			G, <a href="#">326</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	<a href="#">3.1.1-01</a>	
		Stainless Steel	Indoor Air (External)	None	None			G, <a href="#">325</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H, <a href="#">314</a>
				Cracking due to SCC	<a href="#">Water Chemistry and BWR Stress Corrosion Cracking</a>	IV.C1.3-c	<a href="#">3.1.1-29</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	<a href="#">3.1.1-01</a>	

**TABLE 3.3.2-1 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR WATER CLEANUP (RWCU) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings (Beyond Second Isolation Valves))	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VII.E3.1-b	<a href="#">3.3.1-03</a>	
		Stainless Steel	Indoor Air (External)	None	None			G, <a href="#">325</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			H, <a href="#">314</a>
				Cracking due to SCC	<a href="#">Section XI Inservice Inspection</a> and <a href="#">Water Chemistry</a>	VII.E3.1-a	<a href="#">3.3.1-26</a>	E, <a href="#">328</a>
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VII.E3.1-b	<a href="#">3.3.1-03</a>	
	M-4	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VII.E3.1-b	<a href="#">3.3.1-03</a>	

**TABLE 3.3.2-1 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR WATER CLEANUP (RWCU) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Regenerative Heat Exchanger (Shell and Access Cover)	M-4	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VII.E3.1-b	<a href="#">3.3.1-03</a>	
Reactor Water Cleanup System (BWR) (Valves (Beyond Second Isolation Valves))	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VII.E3.1-b	<a href="#">3.3.1-03</a>	
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VII.E3.1-b	<a href="#">3.3.1-03</a>	

**TABLE 3.3.2-1 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR WATER CLEANUP (RWCU) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Reactor Water Cleanup System (BWR) (Valves (Beyond Second Isolation Valves)) (continued)	M-4	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VII.E3.1-b	<a href="#">3.3.1-03</a>	
Reactor Water Cleanup System (BWR) (Tanks, Pumps, and Piping Specialties (Beyond Second Isolation Valves))	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
		Glass	Indoor Air (External)	None	None			J, <a href="#">319</a>
			Treated Water (Internal)	None	None			J, <a href="#">329</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VII.E3.1-b	<a href="#">3.3.1-03</a>	

**TABLE 3.3.2-1 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR WATER CLEANUP (RWCU) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Reactor Water Cleanup System (BWR) (Tanks, Pumps, and Piping Specialties (Beyond Second Isolation Valves)) (continued)	M-3	Stainless Steel	Indoor Air (External)	None	None			J, 325
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VII.E3.1-b	<a href="#">3.3.1-03</a>	
	M-4	Stainless Steel	Indoor Air (External)	None	None			J, 325
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VII.E3.1-b	<a href="#">3.3.1-03</a>	
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E



**TABLE 3.3.2-2 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Reactor Core Isolation Cooling (RCIC) System)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 331
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	IV.C1.1-a	<a href="#">3.1.1-25</a>	D
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-e	<a href="#">3.1.1-01</a>	
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-e	<a href="#">3.1.1-01</a>	
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	IV.C1.1-f	<a href="#">3.1.1-29</a>	D

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Reactor Core Isolation Cooling (RCIC) System) (continued)	M-3	Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-e	<a href="#">3.1.1-01</a>	
				Cracking due to SCC	<a href="#">Water Chemistry</a> and <a href="#">BWR Stress Corrosion Cracking</a>	IV.C1.1-f	<a href="#">3.1.1-29</a>	D
Piping and Fittings (Steam Line to HPCI and RCIC Pump Turbine)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">331</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-e	<a href="#">3.1.1-01</a>	

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Small Bore Piping Less than NPS 4)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 331
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
				Cracking due to Thermal and Mechanical Loading	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	I, 348
		Stainless Steel	Indoor Air (External)	None	None			J, 325
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	<a href="#">3.1.1-01</a>	
				Cracking due to SCC	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	E, 348
				Cracking due to Thermal and Mechanical Loading	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>	IV.C1.1-i	<a href="#">3.1.1-07</a>	I, 348

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, 331
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	IV.C1.3-a	<a href="#">3.1.1-25</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	<a href="#">3.1.1-01</a>	
		Stainless Steel	Indoor Air (External)	None	None			J, 325
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Section XI Inservice Inspection and Water Chemistry</a>			J
				Cracking due to SCC	<a href="#">Water Chemistry and BWR Stress Corrosion Cracking</a>	IV.C1.3-c	<a href="#">3.1.1-29</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.3-d	<a href="#">3.1.1-01</a>	

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Reactor Core Isolation Cooling (RCIC))	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	<a href="#">3.2.1-01</a>	
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	V.D2.1-f	<a href="#">3.2.1-14</a>	D
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			F
				Cracking due to SCC	<a href="#">Water Chemistry and BWR Stress Corrosion Cracking</a>	V.D2.1-c	<a href="#">3.2.1-16</a>	B
Piping and Fittings (Lines to Suppression Chamber (SC))	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
Piping and Fittings (Lines to HPCI and RCIC Pump Turbine)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	<a href="#">3.2.1-01</a>	

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Lines from HPCI and RCIC Pump Turbines to Torus or Wetwell)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	<a href="#">3.2.1-01</a>	
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	V.D2.1-f	<a href="#">3.2.1-14</a>	B
Piping and Fittings (Piping specialties)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">331</a>
			Lube Oil (Internal)	None	None			J, <a href="#">334</a>
			Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	D
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	<a href="#">3.2.1-01</a>	

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Piping specialties) (continued)	M-1	Glass	Indoor Air (External)	None	None			J, <a href="#">319</a>
			Lube Oil (Internal)	None	None			J, <a href="#">334</a>
			Treated Water (Internal)	None	None			J, <a href="#">329</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-6	Insulation	Indoor Air (External)	None	None			J, <a href="#">335</a>
Piping and Fittings (Misc. auxiliary and drain piping and valves)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	D
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	<a href="#">3.2.1-01</a>	
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	V.D2.1-f	<a href="#">3.2.1-14</a>	D

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Misc. auxiliary and drain piping and valves) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 325
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-4	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	D
Piping and Fittings (restrictive orifices / flow elements)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	D
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	<a href="#">3.2.1-01</a>	
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	V.D2.1-f	<a href="#">3.2.1-14</a>	D



**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (restrictive orifices / flow elements) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Lube Oil (Internal)	None	None			J, <a href="#">334</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	<a href="#">3.2.1-01</a>	
	M-3	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Lube Oil (Internal)	None	None			J, <a href="#">334</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Bowl/Casing)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.2-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Suction Head)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.2-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
Pumps (HPCS or HPCI Main and Booster, LPCS, LPCI or RHR, and RCIC) (Discharge Head)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.2-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Check, Control, Hand, Motor Operated, and Relief Valves) (Body and Bonnet)	M-1	Carbon Steel	Lube Oil (Internal)	None	None			J, <a href="#">334</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	<a href="#">3.2.1-01</a>	
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	V.D2.3-a	<a href="#">3.2.1-14</a>	B
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.3-b	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-4	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.3-b	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	B
		Copper Alloys	Dry Air / Gas (Internal)	None	None			J, <a href="#">318</a>
			Indoor Air (External)	None	None			J, <a href="#">332</a>

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Emergency Core Cooling System (BWR) (Auxiliary Pumps)	M-1	Carbon Steel	Lube Oil (Internal)	None	None			J, 334
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.2-a	3.2.1-02 3.2.1-04	D
		Grey Cast Iron	Treated Water (Internal)	Loss of Material due to Selective Leaching	Selective Leaching of Materials			J
				Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection			J
Emergency Core Cooling System (BWR) (Misc. Tanks and Vessels)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Water Chemistry and One-Time Inspection	V.D2.1-a	3.2.1-02 3.2.1-04	D
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	3.2.1-01	
				Loss of Material due to FAC	Flow-Accelerated Corrosion	V.D2.1-f	3.2.1-14	D

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Emergency Core Cooling System (BWR) (Steam Turbines)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	V.D2.1-a	<a href="#">3.2.1-02</a> <a href="#">3.2.1-04</a>	D
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	V.D2.1-b	<a href="#">3.2.1-01</a>	
Auxiliary Heat Exchangers (Auxiliary Heat Exchanger tubing)	M-1	Copper Alloys	Lube Oil (External)	None	None			J, <a href="#">334</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion Loss of Material due to Selective Leaching	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-5	Copper Alloys	Lube Oil (External)	None	None			J, <a href="#">334</a>
			Treated Water (Internal)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Auxiliary Heat Exchangers (Auxiliary Heat Exchanger shell / housing)	M-1	Carbon Steel	Lube Oil (Internal)	None	None			J, <a href="#">334</a>

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Auxiliary Strainers/Filters (Auxiliary Strainer Housing)	M-1	Carbon Steel	Lube Oil (Internal)	None	None			J
Emergency Core Cooling System (BWR) (ECCS Pump Suction Strainers)	M-1	Carbon Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J, 330
				Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J

**TABLE 3.3.2-2 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Emergency Core Cooling System (BWR) (ECCS Pump Suction Strainers) (continued)	M-2	Carbon Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J, <a href="#">330</a>
				Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Flow Blockage due to Fouling	<a href="#">Protective Coating Monitoring and Maintenance</a>			J
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	V.E.1-b	<a href="#">3.2.1-10</a>	E
Pressure Regulators (Body and Bonnet)	M-4	Copper Alloys	Dry Air / Gas (Internal)	None	None			J, <a href="#">318</a>
			Indoor Air (External)	None	None			J, <a href="#">332</a>

**TABLE 3.3.2-3 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR BUILDING SAMPLING (RXS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Sample Lines)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 325
			Treated Water (Includes Steam) (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">Section XI Inservice Inspection</a>			J, 348
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	IV.C1.1-h	3.1.1-01	
				Cracking due to Thermal and Mechanical Loading	<a href="#">Water Chemistry</a> and <a href="#">Section XI Inservice Inspection</a>	IV.C1.1-i	3.1.1-07	I, 348
Piping (Piping and Fittings)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 325
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J



**TABLE 3.3.2-3 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR BUILDING SAMPLING (RXS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, 301
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
		Stainless Steel	Indoor Air (External)	None	None			J, 325
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Heat Exchanger (Shell and Access Cover)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 325
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J, 309

**TABLE 3.3.2-3 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR BUILDING SAMPLING (RXS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Flow Orifice (Body)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Pump (Casing)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Filters (Shell and Access Cover)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J

**TABLE 3.3.2-3 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR BUILDING SAMPLING (RXS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Immersion Element (Pressure Retaining Housing)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Tank (Shell)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J

**TABLE 3.3.2-4 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – POST ACCIDENT SAMPLING SYSTEM (PASS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Indoor Air (Internal)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-4	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Valves (Body and Bonnet)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Indoor Air (Internal)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J

**TABLE 3.3.2-4 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – POST  
ACCIDENT SAMPLING SYSTEM (PASS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Heat Exchanger (Shell and Access Cover)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">322</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J

**TABLE 3.3.2-5 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – SCREEN WASH  
WATER (SCW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, 322
			Raw Water (Internal)	Loss of Material due to Erosion Loss of Material due to MIC	One-Time Inspection			J
		Plastics / Polymers	Indoor Air (External)	Cracking due to Various Degradation Mechanisms	Systems Monitoring			J
			Raw Water (Internal)	Cracking due to Various Degradation Mechanisms	One-Time Inspection			J
		Stainless Steel	Indoor Air (External)	None	None			J, 322
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J

**TABLE 3.3.2-5 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
SCREEN WASH WATER (SCW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>			J
		Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">322</a>
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Erosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J

**TABLE 3.3.2-5 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
SCREEN WASH WATER (SCW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pump (Casing)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">322</a>
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>			J
Strainer (Body)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>			J



**TABLE 3.3.2-6 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT – SERVICE WATER (SW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings)	M-1	Carbon Steel	Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A
		Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">332</a>
			Raw Water (Internal)	Loss of Material due to Erosion	<a href="#">Open-Cycle Cooling Water System</a>			H
				Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>	VII.C1.1-a	<a href="#">3.3.1-29</a>	B

**TABLE 3.3.2-6 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT – SERVICE WATER (SW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A
	M-4	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">332</a>
			Raw Water (Internal)	Loss of Material due to Erosion	<a href="#">Open-Cycle Cooling Water System</a>			H
				Loss of Material due to MIC	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A
Piping (Underground Piping and Fittings)	M-1	Carbon Steel	Buried (External)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Buried Piping and Tanks Inspection</a>	VII.C1.1-b	<a href="#">3.3.1-18</a>	B

**TABLE 3.3.2-6 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT – SERVICE WATER (SW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Underground Piping and Fittings) (continued)	M-1	Carbon Steel	Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A
		Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">332</a>
			Raw Water (Internal)	Loss of Material due to Erosion	<a href="#">Open-Cycle Cooling Water System</a>			H
				Flow Blockage due to Fouling Loss of Material due to MIC	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A
Piping (Piping Specialties)	M-1	Plastics / Polymers	Indoor Air (External)	Cracking due to Various Degradation Mechanisms	<a href="#">Systems Monitoring</a>			J
			Raw Water (Internal)	Cracking due to Various Degradation Mechanisms	<a href="#">Open-Cycle Cooling Water System</a>			J

**TABLE 3.3.2-6 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT – SERVICE WATER (SW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping Specialties) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>			J
Valves (Body and Bonnet)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">332</a>
			Raw Water (Internal)	Loss of Material due to Erosion	<a href="#">Open-Cycle Cooling Water System</a>			H
				Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.2-a	<a href="#">3.3.1-17</a>	A
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>	VII.C1.2-a	<a href="#">3.3.1-29</a>	B

**TABLE 3.3.2-6 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT – SERVICE WATER (SW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 325
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Open-Cycle Cooling Water System	VII.C1.2-a	3.3.1-17	A
Heat Exchanger (Service Water Pump Motor Cooler Coils)	M-1	Copper Alloys	Lube Oil (External)	None	None			J, 334
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to MIC	Open-Cycle Cooling Water System	VII.C1.3-b	3.3.1-17	C
	M-5	Copper Alloys	Lube Oil (External)	None	None			J, 334
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	Open-Cycle Cooling Water System	VII.C1.3-b	3.3.1-17	C

**TABLE 3.3.2-6 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT – SERVICE WATER (SW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Flow Orifice (Body)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 325
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Open-Cycle Cooling Water System	VII.C1.4-a	3.3.1-17	A
	M-3	Stainless Steel	Indoor Air (External)	None	None			J, 325
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Open-Cycle Cooling Water System	VII.C1.4-a	3.3.1-17	A
Pump (Casing)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 325
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Open-Cycle Cooling Water System			F

**TABLE 3.3.2-6 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT – SERVICE WATER (SW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Basket Strainer (Body)	M-1	Carbon Steel	Raw Water (Internal)	Loss of Material due to Galvanic Corrosion	<a href="#">Open-Cycle Cooling Water System</a>			H
				Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.6-a	<a href="#">3.3.1-17</a>	A
	M-2	Carbon Steel	Raw Water (Internal)	Loss of Material due to Galvanic Corrosion	<a href="#">Open-Cycle Cooling Water System</a>			H
				Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.6-a	<a href="#">3.3.1-17</a>	A

**TABLE 3.3.2-6 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT – SERVICE WATER (SW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
CW Strainer (Body Only)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">332</a>
			Raw Water (Internal)	Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>	VII.C1.1-a	<a href="#">3.3.1-29</a>	D
				Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.6-a	<a href="#">3.3.1-17</a>	C



**TABLE 3.3.2-7 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR BUILDING CLOSED COOLING WATER (RBCCW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
<b>Reactor Building Closed Cooling Water System</b>								
Piping (Pipe, Fittings, and Flanges)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C2.1-a	<a href="#">3.3.1-15</a>	A
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			F, <a href="#">324</a>
Piping (Piping Specialties)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			F, <a href="#">324</a>
Valves (Check, Hand, Control, Relief, Solenoid, and Containment Isolation) (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C2.2-a	<a href="#">3.3.1-15</a>	A

**TABLE 3.3.2-7 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR BUILDING CLOSED COOLING WATER (RBCCW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Check, Hand, Control, Relief, Solenoid, and Containment Isolation) (Body and Bonnet) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			F, <a href="#">324</a>
Pump (Casing)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C2.3-a	<a href="#">3.3.1-15</a>	A
Tank (Shell)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C2.4-a	<a href="#">3.3.1-15</a>	A
Flow Orifice (Body)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C2.5-a	<a href="#">3.3.1-15</a>	A
Closed-Cycle Cooling Water System (Strainers)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C2.1-a	<a href="#">3.3.1-15</a>	C

**TABLE 3.3.2-7 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR BUILDING CLOSED COOLING WATER (RBCCW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Closed-Cycle Cooling Water System (Heat Exchangers)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C2.1-a	<a href="#">3.3.1-15</a>	C, <a href="#">309</a>
Closed-Cycle Cooling Water System (Piping Specialties)	M-1	Glass	Indoor Air (External)	None	None			J, <a href="#">319</a>
			Treated Water (Internal)	None	None			J, <a href="#">329</a>
Valves (including check valves and containment isolation) (Body and Bonnet)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			J, <a href="#">318</a>
			Indoor Air (External)	None	None			J, <a href="#">325</a>
Pressure Regulators (Body and Bonnet)	M-1	Copper Alloys	Dry Air / Gas (Internal)	None	None			J, <a href="#">318</a>
			Indoor Air (External)	None	None			J, <a href="#">332</a>
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
<b>Penetration Cooling System</b>								
Piping (Pipe, Fittings, and Flanges)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C2.1-a	<a href="#">3.3.1-15</a>	A

**TABLE 3.3.2-7 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
REACTOR BUILDING CLOSED COOLING WATER (RBCCW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Check, Hand, Control, Relief, Solenoid, and Containment Isolation) (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C2.2-a	<a href="#">3.3.1-15</a>	A
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
				Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E

**TABLE 3.3.2-8 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
<b>Diesel Generator</b>								
Valves, Connected Pipe, Tubing & Fittings	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>	VII.H2.2-a	<a href="#">3.3.1-05</a>	E, <a href="#">323</a>
			Lube Oil (Internal)	None	None			J, <a href="#">334</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.H2.1-a	<a href="#">3.3.1-15</a>	C
		Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">301</a>
			Lube Oil (Internal)	None	None			J, <a href="#">334</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">301</a>
			Lube Oil (Internal)	None	None			J, <a href="#">334</a>

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
<b>Diesel Fuel Oil</b>								
Piping (Aboveground Pipe and Fittings)	M-1	Carbon Steel	Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry</a>	VII.H2.5-a	<a href="#">3.3.1-07</a>	E, <a href="#">306</a>
			Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>			G, <a href="#">323</a>
			Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>	VII.H2.2-a	<a href="#">3.3.1-05</a>	E, <a href="#">323</a>
		Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">332</a>
			Indoor Air (Internal)	None	None			J, <a href="#">332</a>
Piping (Underground Pipe and Fittings)	M-1	Carbon Steel	Buried (External)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Buried Piping and Tanks Inspection</a>	VII.H1.1-b	<a href="#">3.3.1-18</a>	B, <a href="#">310</a>
			Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry</a>	VII.H2.5-a	<a href="#">3.3.1-07</a>	E, <a href="#">306</a>

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet)	M-1	Carbon Steel	Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry</a>	VII.H2.5-a	<a href="#">3.3.1-07</a>	E, <a href="#">306</a>
			Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>			G, <a href="#">323</a>
		Copper Alloys	Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry</a>			J
			Indoor Air (External)	None	None			J, <a href="#">332</a>
		Stainless Steel	Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry</a>			J
				Loss of Material due to MIC	<a href="#">Preventive Maintenance</a>			J
			Indoor Air (External)	None	None			J, <a href="#">325</a>
Pump (Casing)	M-1	Carbon Steel	Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry</a>	VII.H2.5-a	<a href="#">3.3.1-07</a>	E, <a href="#">306</a>
			Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>			G, <a href="#">323</a>
Tank (Internal Surface)	M-1	Carbon Steel	Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry</a> and <a href="#">One Time Inspection</a>	VII.H1.4-a	<a href="#">3.3.1-07</a>	B, <a href="#">306</a>
Tank (External Surface)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>			G, <a href="#">323</a>
Immersion Element (Pressure Retaining Housing)	M-1	Stainless Steel	Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry</a>			J
			Indoor Air (External)	None	None			J, <a href="#">325</a>

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Strainer (Body)	M-1	Carbon Steel	Fuel Oil (Internal)	Loss of Material due to MIC	Fuel Oil Chemistry	VII.H2.5-a	3.3.1-07	E, 306
			Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
Tanks (Day and Drip)	M-1	Carbon Steel	Fuel Oil (Internal)	Loss of Material due to MIC	Fuel Oil Chemistry and One Time Inspection	VII.H2.5-a	3.3.1-07	B, 306
			Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
Filters (Shell)	M-1	Carbon Steel	Fuel Oil (Internal)	Loss of Material due to MIC	Fuel Oil Chemistry	VII.H2.5-a	3.3.1-07	E, 306
			Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
Diesel Lube Oil System								
Valves, Connected Pipe, Tubing & Fittings	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection	VII.H2.2-a	3.3.1-05	E, 323
			Lube Oil (Internal)	None	None			J, 334
		Copper Alloys	Indoor Air (External)	None	None			J, 301
			Lube Oil (Internal)	None	None			J, 334



**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Heaters & Thermowells (Housing)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Lube Oil (Internal)	None	None			J, <a href="#">334</a>
Filter (Shell)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Lube Oil (Internal)	None	None			J, <a href="#">334</a>
Pump (Casing)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Lube Oil (Internal)	None	None			J, <a href="#">334</a>
Gauge Glass	M-1	Glass	Indoor Air (External)	None	None			J, <a href="#">301</a>
			Lube Oil (Internal)	None	None			J, <a href="#">334</a>
Heat Exchanger (Tubes)	M-1	Copper Alloys	Lube Oil (External)	None	None			J, <a href="#">334</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Heat Exchanger (Tubes) (continued)	M-5	Copper Alloys	Lube Oil (External)	None	None			J, 334
			Treated Water (Internal)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	Closed-Cycle Cooling Water System			J
Heat Exchanger (Shell)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Lube Oil (Internal)	None	None			J, 334
Heat Exchanger (Tube Sheet & Channel Head)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Closed-Cycle Cooling Water System			J
Strainer (Casing)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Lube Oil (Internal)	None	None			J, 334
Strainer (Screen)	M-2	Strainer Element	Lube Oil (External)	Change in Material Properties due to Various Degradation Mechanisms Flow Blockage due to Fouling	Preventive Maintenance			J

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
<b>Diesel Jacket Water System</b>								
Heat Exchanger (Shell)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C1.3-a	<a href="#">3.3.1-17</a>	E
Heat Exchanger (Channel)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C1.3-a	<a href="#">3.3.1-17</a>	E
Heat Exchanger (Channel Head and Access Cover)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C1.3-a	<a href="#">3.3.1-17</a>	E
		Copper Alloys	Raw Water (Internal)	Loss of Material due to MIC	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.3-a	<a href="#">3.3.1-17</a>	A
Heat Exchanger (Tubesheet)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C1.3-a	<a href="#">3.3.1-17</a>	E

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Heat Exchanger (Tubesheet) (continued)	M-1	Copper Alloys	Raw Water (Internal)	Loss of Material due to Erosion	<a href="#">Open-Cycle Cooling Water System</a>			H
				Loss of Material due to Galvanic Corrosion Loss of Material due to MIC	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.3-a	<a href="#">3.3.1-17</a>	A
	M-5	Copper Alloys	Raw Water (Internal)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Open-Cycle Cooling Water System</a>			H
Heat Exchanger (Tubes)	M-1	Copper Alloys	Raw Water (Internal)	Loss of Material due to Erosion	<a href="#">Open-Cycle Cooling Water System</a>			H
				Loss of Material due to MIC	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.3-a	<a href="#">3.3.1-17</a>	A
				Loss of Material due to Galvanic Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.3-b	<a href="#">3.3.1-17</a>	A
	M-5	Copper Alloys	Raw Water (Internal)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.3-b	<a href="#">3.3.1-17</a>	A
Piping (Pipe, Fittings, and Flanges)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
	M-4	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Check, Hand, Control, Relief, Solenoid, and Containment Isolation) (Body and Bonnet)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
Closed-Cycle Cooling Water System (Piping Specialties)	M-1	Glass	Indoor Air (External)	None	None			J, <a href="#">319</a>
			Treated Water (Internal)	None	None			J, <a href="#">329</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
Diesel Engine Cooling Water Subsystem (Pipe and Fittings)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Galvanic Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			H
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.H2.1-a	<a href="#">3.3.1-15</a>	A
		Glass	Indoor Air (External)	None	None			J, <a href="#">319</a>
			Treated Water (Internal)	None	None			J, <a href="#">329</a>

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Diesel Engine Cooling Water Subsystem (Pipe and Fittings) (continued)	M-1	Grey Cast Iron	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			F, <a href="#">324</a>
	M-3	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			F, <a href="#">324</a>
	M-4	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			F, <a href="#">324</a>

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Diesel Engine Cooling Water Subsystem (Tanks and Vessels)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			J
		Stainless Steel	Indoor Air (External)	None	None			J
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			J
Diesel Engine Cooling Water Subsystem (Heat Exchangers)	M-1	Copper Alloys	Indoor Air (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Preventive Maintenance</a>			J
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Diesel Engine Cooling Water Subsystem (Heat Exchangers) (continued)	M-5	Copper Alloys	Indoor Air (External)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Preventive Maintenance</a>			J
			Treated Water (Internal)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Closed-Cycle Cooling Water System</a>			J
Diesel Engine Cooling Water Subsystem (Pumps)	M-1	Grey Cast Iron	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J
Diesel Engine Cooling Water Subsystem (Piping Specialties)	M-1	Glass	Indoor Air (External)	None	None			J, <a href="#">319</a>
			Treated Water (Internal)	None	None			J, <a href="#">329</a>
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E



**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
<b>DG Service Water System</b>								
Piping (Piping and Fittings)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A
		Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">332</a>
			Raw Water (Internal)	Loss of Material due to Erosion	<a href="#">Open-Cycle Cooling Water System</a>			H
				Flow Blockage due to Fouling Loss of Material due to MIC	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	A

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping Specialties)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.1-a	<a href="#">3.3.1-17</a>	C
Valves (Body and Bonnet)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">332</a>
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Open-Cycle Cooling Water System</a>	VII.C1.2-a	<a href="#">3.3.1-17</a>	A
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>	VII.C1.2-a	<a href="#">3.3.1-29</a>	B

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 325
			Raw Water (Internal)	Flow Blockage due to Fouling Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Open-Cycle Cooling Water System	VII.C1.2-a	3.3.1-17	A
DG Starting Air System								
Pipe and Fittings	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection	VII.H2.2-a	3.3.1-05	E, 323
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection	VII.H2.2-a	3.3.1-05	E, 323
Valves (Hand and Check)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.I.1-b	3.3.1-05	E
				Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection	VII.H2.2-a	3.3.1-05	E, 323
				Loss of Material due to General Corrosion	Preventive Maintenance	VII.H2.2-a	3.3.1-05	E, 323

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Hand and Check) (continued)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, 322
			Indoor Air (Internal)	None	None			J, 322
		Stainless Steel	Indoor Air (External)	None	None			J, 322
			Indoor Air (Internal)	None	None			J, 322
Drain Trap	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.I.1-b	3.3.1-05	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.H2.2-a	3.3.1-05	E, 323
		Copper Alloys	Indoor Air (External)	None	None			J, 322
			Indoor Air (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Preventive Maintenance			F
				Loss of Material due to Selective Leaching	Selective Leaching of Materials			F
Air Accumulator Vessel	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection	VII.H2.2-a	3.3.1-05	E, 323
Filter (Shell)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.I.1-b	3.3.1-05	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.H2.2-a	3.3.1-05	E, 323

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Strainer (Shell)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>	VII.H2.2-a	<a href="#">3.3.1-05</a>	E, <a href="#">323</a>
Strainer (Basket)	M-2	Filter Media	Dry Air / Gas (External)	Flow Blockage due to Fouling	<a href="#">Preventive Maintenance</a>			J, <a href="#">336</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">322</a>
DG Intake/Exhaust System								
Piping and Fittings	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>	VII.H2.3-a	<a href="#">3.3.1-05</a>	E, <a href="#">323</a>
Filter	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>	VII.H2.3-a	<a href="#">3.3.1-05</a>	E, <a href="#">323</a>
Muffler (Intake Silencer)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>	VII.H2.3-a	<a href="#">3.3.1-05</a>	E, <a href="#">323</a>
Turbo Charger (inlet-housing)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>	VII.H2.3-a	<a href="#">3.3.1-05</a>	E, <a href="#">323</a>

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valve (Body), connected piping, tubing and fittings	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection	VII.H2.3-a	3.3.1-05	E, 323
Turbo Charger (inlet-bellows)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 322
			Indoor Air (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	One-Time Inspection			J
Filter (media)	M-2	Strainer Element	Lube Oil (External)	Change in Material Properties due to Various Degradation Mechanisms Flow Blockage due to Fouling	Preventive Maintenance			J
Piping and Fittings	M-1	Carbon Steel	Diesel Exhaust Gas (Internal)	Loss of Material due to General, Crevice and Pitting Corrosion	One-Time Inspection	VII.H2.4-a	3.3.1-05	E
			Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Muffler (Exhaust)	M-4	Carbon Steel	Diesel Exhaust Gas (Internal)	Loss of Material due to General, Crevice and Pitting Corrosion	One-Time Inspection	VII.H2.4-a	3.3.1-05	E
			Outdoor Air (External)	Loss of Material due to Aggressive Chemical Attack Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Systems Monitoring			J
Fans (Housing)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Lube Oil (Internal)	None	None			J, 334
Oil Separator (Housing)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Lube Oil (Internal)	None	None			J, 334

**TABLE 3.3.2-8 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR (DG) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valve (body), Connected Pipe & Fittings	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
			Lube Oil (Internal)	None	None			J, 334
Turbo Charger (exhaust-housing)	M-1	Carbon Steel	Diesel Exhaust Gas (Internal)	Loss of Material due to General, Crevice and Pitting Corrosion	One-Time Inspection	VII.H2.4-a	3.3.1-05	E
			Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
Turbo Charger (exhaust-bellows)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 322
			Indoor Air (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	One-Time Inspection			J



**TABLE 3.3.2-9 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – HEAT TRACING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Steam Drains)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>	VIII.B2.1-a	<a href="#">3.4.1-07</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.B2.1-c	<a href="#">3.4.1-01</a>	
Valves (Check, Control, Hand, Motor Operated, Safety Valves) (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.B2.1-c	<a href="#">3.4.1-01</a>	
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>	VIII.B2.2-b	<a href="#">3.4.1-07</a>	E
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VIII.H.1-b	<a href="#">3.4.1-05</a>	E

**TABLE 3.3.2-10 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – INSTRUMENT AIR  
(IA) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings)	M-1	Carbon Steel	Dry Air / Gas (Internal)	None	None			G, 308
		Copper Alloys	Dry Air / Gas (Internal)	None	None			F, 308
		Stainless Steel	Dry Air / Gas (Internal)	None	None			F, 308
	M-4	Carbon Steel	Dry Air / Gas (Internal)	None	None			G, 308
			Indoor Air (Internal)	Loss of Material due to General Corrosion	One-Time Inspection	VII.D.1-a	3.3.1-19	E
		Stainless Steel	Dry Air / Gas (Internal)	None	None			F, 308
Valves (including check valves and containment isolation) (Body and Bonnet)	M-1	Aluminum Alloys	Dry Air / Gas (Internal)	None	None			F, 308
		Carbon Steel	Dry Air / Gas (Internal)	None	None			G, 308
		Carbon Steel - Galvanized	Indoor Air (Internal)	None	None			F, 301
		Copper Alloys	Dry Air / Gas (Internal)	None	None			F, 308
		Stainless Steel	Dry Air / Gas (Internal)	None	None			F, 308
	M-4	Carbon Steel	Dry Air / Gas (Internal)	None	None			G, 308
		Stainless Steel	Dry Air / Gas (Internal)	None	None			F, 308

**TABLE 3.3.2-10 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
INSTRUMENT AIR (IA) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Air Receiver (Shell and Access Cover)	M-1	Carbon Steel	Dry Air / Gas (Internal)	None	None			G, <a href="#">308</a>
Pressure Regulators (Body and Bonnet)	M-4	Carbon Steel - Galvanized	Indoor Air (Internal)	None	None			F, <a href="#">301</a>
Filter (Shell and Access Cover)	M-1	Stainless Steel	Dry Air / Gas (Internal)	None	None			F, <a href="#">308</a>
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
Non-Carbon Steel Components (External Surfaces)	M-1	Aluminum Alloys	Indoor Air (External)	None	None			J, <a href="#">301</a>
		Carbon Steel - Galvanized	Indoor Air (External)	None	None			J, <a href="#">301</a>
		Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">301</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">301</a>
	M-4	Carbon Steel - Galvanized	Indoor Air (External)	None	None			J, <a href="#">301</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">301</a>

**TABLE 3.3.2-11 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – PNEUMATIC NITROGEN SYSTEM (PNS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings)	M-4	Stainless Steel	Dry Air / Gas (Internal)	None	None			F, <a href="#">308</a>
Valves (including check valves and containment isolation) (Body and Bonnet)	M-4	Stainless Steel	Dry Air / Gas (Internal)	None	None			F, <a href="#">308</a>
Filter (Shell and Access Cover)	M-4	Aluminum Alloys	Dry Air / Gas (Internal)	None	None			F, <a href="#">308</a>
Non-Carbon Steel Components (External Surfaces)	M-4	Aluminum Alloys	Indoor Air (External)	None	None			J, <a href="#">301</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">301</a>

**TABLE 3.3.2-12 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FIRE PROTECTION (FP) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
<b>Fire Protection Water</b>								
Piping and Fittings (Includes Carbon Steel Fire Water Tank)	M-1	Aluminum Alloys	Raw Water (Internal)	Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Fire Water System</a>			F
		Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Fire Water System</a>	VII.G.6-a	<a href="#">3.3.1-21</a>	A, <a href="#">343</a>
		Glass	Raw Water (Internal)	None	None			F, <a href="#">320</a>
		Stainless Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Fire Water System</a>	VII.G.6-a	<a href="#">3.3.1-21</a>	A

**TABLE 3.3.2-12 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FIRE PROTECTION (FP) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (continued)	M-3	Stainless Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Fire Water System</a>	VII.G.6-a	<a href="#">3.3.1-21</a>	A
Filter, Fire Hydrants, Mulsifier, Pump Casing, Sprinkler, Strainer, and Valve Bodies (including containment isolation valves)	M-1	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Fire Water System</a>	VII.G.6-b	<a href="#">3.3.1-21</a>	A, <a href="#">342</a>
		Copper Alloys	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Fire Water System</a>	VII.G.6-b	<a href="#">3.3.1-21</a>	A, <a href="#">342</a> , <a href="#">343</a>
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			H

**TABLE 3.3.2-12 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FIRE PROTECTION (FP) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Filter, Fire Hydrants, Mulsifier, Pump Casing, Sprinkler, Strainer, and Valve Bodies (including containment isolation valves) (continued)	M-1	Grey Cast Iron	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Fire Water System</a>	VII.G.6-b	<a href="#">3.3.1-21</a>	A, <a href="#">342</a>
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			H
	M-8	Stainless Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Fire Water System</a>	VII.G.6-b	<a href="#">3.3.1-21</a>	A, <a href="#">342</a>
		Copper Alloys	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Fire Water System</a>	VII.G.6-b	<a href="#">3.3.1-21</a>	A, <a href="#">342</a> , <a href="#">343</a>
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			H

**TABLE 3.3.2-12 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FIRE PROTECTION (FP) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
HTX - Heat Exchanger Shell and Access Cover	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Fire Protection</a>			J
HTX - Heat Exchanger Tubes	M-1	Copper Alloys	Raw Water (Internal)	Loss of Material due to Erosion Loss of Material due to Galvanic Corrosion Loss of Material due to MIC	<a href="#">Fire Water System</a>	VII.G.6-b	<a href="#">3.3.1-21</a>	C
			Treated Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Fire Protection</a>			J
	M-5	Copper Alloys	Raw Water (Internal)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Fire Water System</a>			J
			Treated Water (External)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	<a href="#">Fire Protection</a>			J



**TABLE 3.3.2-12 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FIRE PROTECTION (FP) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Diesel-Driven Fire Pump and Fuel Supply Line	M-1	Grey Cast Iron	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Fire Water System</a>	VII.G.6-b	3.3.1-21	C, <a href="#">344</a>
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			H, <a href="#">344</a>
Carbon Steel Components (External Surfaces) (Includes Carbon Steel Fire Water Tank)	M-1	Carbon Steel	Buried (External)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Buried Piping and Tanks Inspection</a>			G
			Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Outdoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Aboveground Carbon Steel Tanks</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E

**TABLE 3.3.2-12 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FIRE PROTECTION (FP) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Carbon Steel Components (External Surfaces) (continued)	M-1	Carbon Steel - Galvanized	Indoor Air (External)	None	None			J, <a href="#">322</a>
			Outdoor Air (External)	Loss of Material due to Aggressive Chemical Attack Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E, <a href="#">345</a>
		Grey Cast Iron	Buried (External)	Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Buried Piping and Tanks Inspection</a>			G
Non-Carbon Steel Components (External Surfaces)	M-1	Aluminum Alloys	Indoor Air (External)	None	None			J, <a href="#">322</a>
		Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">322</a>
		Glass	Indoor Air (External)	None	None			J, <a href="#">319</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">322</a>

**TABLE 3.3.2-12 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FIRE PROTECTION (FP) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
<b>Fire Protection CO<sub>2</sub></b>								
CO2 Fire Suppression (HPCI)	M-1	Carbon Steel	Dry Air / Gas (Internal)	None	None			J, 318
		Copper Alloys	Dry Air / Gas (Internal)	None	None			J, 318
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
		Carbon Steel - Galvanized	Indoor Air (External)	None	None			J, 322
Non-Carbon Steel Components (External Surfaces)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, 322
<b>Halon System</b>								
Halon Fire Suppression (DGB)	M-1	Aluminum Alloys	Dry Air / Gas (Internal)	None	None			J, 318
		Carbon Steel	Dry Air / Gas (Internal)	None	None			J, 318
		Copper Alloys	Dry Air / Gas (Internal)	None	None			J, 318
		Stainless Steel	Dry Air / Gas (Internal)	None	None			J, 318

**TABLE 3.3.2-12 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FIRE PROTECTION (FP) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
Non-Carbon Steel Components (External Surfaces)	M-1	Aluminum Alloys	Indoor Air (External)	None	None			J, <a href="#">322</a>
		Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">322</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">322</a>

**TABLE 3.3.2-13 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
FUEL OIL (FO) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Diesel-Driven Fire Pump and Fuel Supply Line	M-1	Carbon Steel	Buried (External)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Buried Piping and Tanks Inspection</a>			J, <a href="#">310</a>
			Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry</a>	VII.H2.5-a	<a href="#">3.3.1-07</a>	E, <a href="#">306</a>
			Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
Valves Body and Tubing	M-1	Copper Alloys	Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry and Fire Protection</a>			J, <a href="#">347</a>
			Indoor Air (External)	None	None			J, <a href="#">332</a>
Diesel Fuel Tank	M-1	Carbon Steel	Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry and One Time Inspection</a>	VII.H1.4-a	<a href="#">3.3.1-07</a>	D, <a href="#">306</a>
			Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E

**TABLE 3.3.2-13 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FUEL OIL (FO) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Aboveground Pipe and Fittings)	M-1	Carbon Steel	Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry</a>	VII.H2.5-a	<a href="#">3.3.1-07</a>	E, <a href="#">306</a>
			Outdoor Air (External)	Loss of Material due to Aggressive Chemical Attack Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Systems Monitoring</a>	VII.H1.1-a	<a href="#">3.3.1-05</a>	E, <a href="#">346</a>
Valves (Body and Bonnet)	M-1	Carbon Steel	Fuel Oil (Internal)	Loss of Material due to MIC	<a href="#">Fuel Oil Chemistry</a>	VII.H2.5-a	<a href="#">3.3.1-07</a>	E, <a href="#">306</a>
			Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Outdoor Air (External)	Loss of Material due to Aggressive Chemical Attack Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Systems Monitoring</a>	VII.H1.2-a	<a href="#">3.3.1-05</a>	E, <a href="#">346</a>

**TABLE 3.3.2-13 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
FUEL OIL (FO) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Tank (Internal Surface)	M-1	Carbon Steel	Fuel Oil (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Fuel Oil Chemistry</a> and <a href="#">One Time Inspection</a>	VII.H1.4-a	<a href="#">3.3.1-07</a>	B
Tank (External Surface)	M-1	Carbon Steel	Outdoor Air (External)	Loss of Material due to Aggressive Chemical Attack Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Aboveground Carbon Steel Tanks</a>	VII.H1.4-b	<a href="#">3.3.1-23</a>	A, <a href="#">346</a>

**TABLE 3.3.2-14 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – RADIOACTIVE FLOOR DRAINS SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
Drain System Sump Pumps	M-1	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J
		Grey Cast Iron	Raw Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J
				Loss of Material due to Selective Leaching	Selective Leaching of Materials			J



**TABLE 3.3.2-14 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
RADIOACTIVE FLOOR DRAINS SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Drain System Sump Pumps (continued)	M-1	Grey Cast Iron	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J
Piping (Piping and Fittings)	M-1	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>			J

**TABLE 3.3.2-14 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
RADIOACTIVE FLOOR DRAINS SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings) (continued)	M-1	Stainless Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J
	M-4	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J
Valves (Body and Bonnet)	M-1	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J

**TABLE 3.3.2-14 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
RADIOACTIVE FLOOR DRAINS SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet) (continued)	M-1	Copper Alloys	Dry Air / Gas (Internal)	None	None			J, 318
		Stainless Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J
	M-4	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J

**TABLE 3.3.2-14 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
RADIOACTIVE FLOOR DRAINS SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Flow Orifice (Body)	M-1	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J, 340
		Stainless Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J, 340
	M-4	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J, 340
		Stainless Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J, 340

**TABLE 3.3.2-14 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
RADIOACTIVE FLOOR DRAINS SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pump (Casing)	M-1	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J
		Grey Cast Iron	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J
				Loss of Material due to Selective Leaching	Selective Leaching of Materials			J
		Stainless Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J

**TABLE 3.3.2-14 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
RADIOACTIVE FLOOR DRAINS SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Tank (Shell)	M-1	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>			J
Non-Carbon Steel Components (External Surfaces)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">322</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">322</a>
	M-4	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">322</a>

**TABLE 3.3.2-15 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – RADIOACTIVE EQUIPMENT DRAINS SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
Piping (Piping and Fittings)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Valves (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Copper Alloys	Dry Air / Gas (Internal)	None	None			J, 318
		Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J

**TABLE 3.3.2-15 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
RADIOACTIVE EQUIPMENT DRAINS SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Heat Exchanger (Shell and Access Cover)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J, 309
Flow Orifice (Body)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
	M-3	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J



**TABLE 3.3.2-15 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
RADIOACTIVE EQUIPMENT DRAINS SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pump (Casing)	M-1	Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Tank (Shell)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Non-Carbon Steel Components (External Surfaces)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">322</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">322</a>

**TABLE 3.3.2-16 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – MAKEUP WATER TREATMENT SYSTEM (MWTS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
<b>Water Treatment System</b>								
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Systems Monitoring	VII.I.1-b	3.3.1-05	E
Piping (Piping and Fittings)	M-1	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J
Valves (Body and Bonnet)	M-1	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J
		Stainless Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	One-Time Inspection			J

**TABLE 3.3.2-16 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
MAKEUP WATER TREATMENT SYSTEM (MWTS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Carbon Steel Components (External Surfaces)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 322
<b>Demineralized Water System</b>								
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
Piping (Piping and Fittings)	M-1	Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Valves (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Grey Cast Iron	Treated Water (Internal)	Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J

**TABLE 3.3.2-16 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
MAKEUP WATER TREATMENT SYSTEM (MWTS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet) (continued)	M-1	Grey Cast Iron	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Tank (Shell)	M-1	Aluminum Alloys	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Galvanic Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
Non-Carbon Steel Components (External Surfaces)	M-1	Aluminum Alloys	Outdoor Air (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Systems Monitoring</a>			J
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">322</a>

**TABLE 3.3.2-17 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – POTABLE WATER SYSTEM (PWS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings)	M-1	Copper Alloys	Raw Water (Internal)	Loss of Material due to MIC	<a href="#">One-Time Inspection</a>			J
Valves (Body and Bonnet)	M-1	Copper Alloys	Raw Water (Internal)	Loss of Material due to MIC	<a href="#">One-Time Inspection</a>			J
Tank (Shell)	M-1	Copper Alloys	Raw Water (Internal)	Loss of Material due to MIC	<a href="#">One-Time Inspection</a>			J
Non-Carbon Steel Components (External Surfaces)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">322</a>

**TABLE 3.3.2-18 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – PROCESS  
RADIATION MONITORING (PRM) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Closed-Cycle Cooling Water System (Piping Specialties)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.C2.1-a	<a href="#">3.3.1-15</a>	C
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">341</a>

**TABLE 3.3.2-19 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – LIQUID WASTE PROCESSING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
Piping (Piping and Fittings)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
		Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J
	M-4	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			J

**TABLE 3.3.2-19 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION –  
LIQUID WASTE PROCESSING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet)	M-1	Carbon Steel	Dry Air / Gas (Internal)	None	None			J, <a href="#">318</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Immersion Element (Pressure Retaining Housing)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Tank (Shell)	M-1	Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Non-Carbon Steel Components (External Surfaces)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">322</a>



**TABLE 3.3.2-20 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FUEL POOL COOLING AND CLEANUP SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping, Fittings, and Flanges)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
		Glass	Treated Water (Internal)	None	None			F, <a href="#">329</a>
		Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VII.A4.1-a	<a href="#">3.3.1-01</a>	B
	M-3	Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VII.A4.1-a	<a href="#">3.3.1-01</a>	B
Valves (Check and Hand Valves) (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
		Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VII.A4.3-a	<a href="#">3.3.1-01</a>	B

**TABLE 3.3.2-20 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FUEL POOL COOLING AND CLEANUP SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Heat Exchanger (Shell and Access Cover)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Closed-Cycle Cooling Water System</a>	VII.A4.4-a	<a href="#">3.3.1-15</a>	A. 309
Heat Exchanger (Channel Head and Access Cover)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>	VII.A4.4-b	<a href="#">3.3.1-01</a>	B, 309
Pump (Casing)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			F
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E

**TABLE 3.3.2-20 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FUEL  
POOL COOLING AND CLEANUP SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Carbon Steel Components (External Surfaces)	M-1	Glass	Indoor Air (External)	None	None			J, <a href="#">319</a>
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">322</a>
			Treated Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VII.A4.1-a	<a href="#">3.3.1-01</a>	D, <a href="#">339</a>

**TABLE 3.3.2-21 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC DIESEL GENERATOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings)	M-1	Copper Alloys	Dry Air / Gas (Internal)	None	None			G, 308
		Plastics / Polymers	Indoor Air (Internal)	Cracking due to Various Degradation Mechanisms	Preventive Maintenance			F
	M-4	Copper Alloys	Dry Air / Gas (Internal)	None	None			G, 308
Valves (including check valves and containment isolation) (Body and Bonnet)	M-1	Aluminum Alloys	Dry Air / Gas (Internal)	None	None			F, 308
	M-4	Copper Alloys	Dry Air / Gas (Internal)	None	None			J, 308
Air Receiver (Shell and Access Cover)	M-4	Carbon Steel	Dry Air / Gas (Internal)	None	None			G, 304
		Copper Alloys	Dry Air / Gas (Internal)	None	None			G, 304
Duct (Duct, Fittings, Fan Housings, Damper Housings, Access Doors, and Closure Bolts)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.F4.1-a	3.3.1-05	E, 302
		Carbon Steel - Galvanized	Indoor Air (Internal)	None	None	VII.F4.1-a	3.3.1-05	I, 303
		Plastics / Polymers	Indoor Air (Internal)	None	None			F, 305
		Stainless Steel	Outdoor Air (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Preventive Maintenance			F
	M-4	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.F4.1-a	3.3.1-05	E, 302

**TABLE 3.3.2-21 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC  
DIESEL GENERATOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Duct (Equipment Frames and Housing)	M-1	Carbon Steel - Galvanized	Outdoor Air (Internal)	Loss of Material due to Aggressive Chemical Attack Loss of Material due to General Corrosion	<a href="#">Preventive Maintenance</a>			G, <a href="#">302</a>
Duct (Seals in Dampers and Doors)	M-1	Elastomers	Indoor Air (Internal)	Cracking due to Various Degradation Mechanisms	<a href="#">Preventive Maintenance</a>	VII.F4.1-b	<a href="#">3.3.1-02</a>	E
				Loss of Material due to Wear	<a href="#">Preventive Maintenance</a>	VII.F4.1-c	<a href="#">3.3.1-02</a>	E
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Outdoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>			J
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
Non-Carbon Steel Components (External Surfaces)	M-1	Aluminum Alloys	Indoor Air (External)	None	None			J, <a href="#">301</a>
		Carbon Steel - Galvanized	Indoor Air (External)	None	None			J, <a href="#">303</a>
		Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">313</a>
		Elastomers	Indoor Air (External)	Cracking due to Various Degradation Mechanisms Loss of Material due to Wear	<a href="#">Systems Monitoring</a>			J

**TABLE 3.3.2-21 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC  
DIESEL GENERATOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Carbon Steel Components (External Surfaces) (continued)	M-1	Plastics / Polymers	Indoor Air (External)	Cracking due to Various Degradation Mechanisms	<a href="#">Systems Monitoring</a>			J
	M-4	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">313</a>

**TABLE 3.3.2-22 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC REACTOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings)	M-1	Copper Alloys	Dry Air / Gas (Internal)	None	None			J, 308
Valves (including check valves and containment isolation) (Body and Bonnet)	M-1	Aluminum Alloys	Dry Air / Gas (Internal)	None	None			F, 308
		Copper Alloys	Dry Air / Gas (Internal)	None	None			J, 308
	M-4	Aluminum Alloys	Dry Air / Gas (Internal)	None	None			F, 308
Air Receiver (Shell and Access Cover)	M-1	Carbon Steel	Dry Air / Gas (Internal)	None	None			G, 308
Duct (Duct Fittings, Access Doors, Damper Housings and Closure Bolts)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.F3.1-a	3.3.1-05	E, 302
		Carbon Steel - Galvanized	Indoor Air (Internal)	None	None			J, 303
				Loss of Material due to General Corrosion	Preventive Maintenance			E, 302
		Plastics / Polymers	Indoor Air (Internal)	None	None			F, 305
	M-4	Carbon Steel - Galvanized	Indoor Air (Internal)	None	None			J, 303
Duct (Equipment Frames and Housing, including Fan Housings)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.F3.1-a	3.3.1-05	E, 302

**TABLE 3.3.2-22 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC REACTOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Duct (Flexible Collars between Ducts and Fans)	M-1	Elastomers	Indoor Air (Internal)	Cracking due to Various Degradation Mechanisms	Preventive Maintenance	VII.F3.1-b	3.3.1-02	E
				Loss of Material due to Wear	Preventive Maintenance	VII.F3.1-c	3.3.1-02	E
		Stainless Steel	Indoor Air (Internal)	None	None			F, 301
Duct (Seals in Dampers and Doors)	M-1	Elastomers	Indoor Air (Internal)	Cracking due to Various Degradation Mechanisms	Preventive Maintenance	VII.F3.1-b	3.3.1-02	E
				Loss of Material due to Wear	Preventive Maintenance	VII.F3.1-c	3.3.1-02	E
Air Handler Heating/Cooling (Heating/Cooling Coils)	M-1	Copper Alloys	Raw Water (Internal)	Loss of Material due to Erosion Loss of Material due to Galvanic Corrosion Loss of Material due to MIC	Open-Cycle Cooling Water System			G
	M-5	Copper Alloys	Raw Water (Internal)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	Open-Cycle Cooling Water System			G
Piping (Piping and Fittings)	M-4	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance			G
Filters (Housing and Supports)	M-1	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.F3.4-a	3.3.1-05	E, 315



**TABLE 3.3.2-22 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC REACTOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Filters (Elastomer Seals)	M-1	Elastomers	Indoor Air (Internal)	Loss of Material due to Wear	<a href="#">Preventive Maintenance</a>			J
				Cracking due to Various Degradation Mechanisms	<a href="#">Preventive Maintenance</a>	VII.F3.4-b	<a href="#">3.3.1-02</a>	E
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
			Outdoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>			G
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E
Non-Carbon Steel Components (External Surfaces)	M-1	Aluminum Alloys	Indoor Air (External)	None	None			J, <a href="#">301</a>
		Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>			J, <a href="#">312</a>
		Carbon Steel - Galvanized	Indoor Air (External)	None	None			J, <a href="#">301</a>
		Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">313</a>
		Elastomers	Indoor Air (External)	Cracking due to Various Degradation Mechanisms Loss of Material due to Wear	<a href="#">Systems Monitoring</a>			J
		Plastics / Polymers	Indoor Air (External)	None	None			J, <a href="#">301</a>

**TABLE 3.3.2-22 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – HVAC  
REACTOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Carbon Steel Components (External Surfaces) (continued)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, 301
			Outdoor Air (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Systems Monitoring			J
	M-4	Aluminum Alloys	Indoor Air (External)	None	None			J, 301
		Carbon Steel - Galvanized	Indoor Air (External)	None	None			J, 303
Non-Carbon Steel Components (External Surfaces) (Heat Exchanger)	M-1	Copper Alloys	Indoor Air (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Preventive Maintenance			J
	M-5	Copper Alloys	Indoor Air (External)	Loss of Heat Transfer Effectiveness due to Fouling of Heat Transfer Surfaces	Preventive Maintenance			J

**TABLE 3.3.2-23 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – TORUS DRAIN SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Misc. auxiliary and drain piping and valves)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
		Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">325</a>
			Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			J
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	V.E.1-b	<a href="#">3.2.1-10</a>	E

**TABLE 3.3.2-24 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – CIVIL STRUCTURE  
AUXILIARY SYSTEMS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Primary Containment Auxiliary Systems								
Piping (Piping and Fittings)	M-1	Stainless Steel	Indoor Air (External)	None	None	V.C.1-b	<a href="#">3.2.1-05</a> <a href="#">3.2.1-06</a>	I, <a href="#">322</a> , <a href="#">338</a>
			Indoor Air (Internal)	None	None	V.C.1-b	<a href="#">3.2.1-05</a> <a href="#">3.2.1-06</a>	I, <a href="#">322</a> , <a href="#">338</a>
Valves (Body and Bonnet)	M-1	Stainless Steel	Indoor Air (External)	None	None	V.C.1-b	<a href="#">3.2.1-05</a> <a href="#">3.2.1-06</a>	I, <a href="#">322</a> , <a href="#">338</a>
			Indoor Air (Internal)	None	None	V.C.1-b	<a href="#">3.2.1-05</a> <a href="#">3.2.1-06</a>	I, <a href="#">322</a> , <a href="#">338</a>
Service Water Intake Structure Auxiliary Systems								
Piping (Piping and Fittings)	M-1	Plastics / Polymers	Indoor Air (External)	None	None			J, <a href="#">322</a>
			Raw Water (Internal)	None	None			J, <a href="#">320</a>
Valves (Body and Bonnet)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">322</a>
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Preventive Maintenance</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J

**TABLE 3.3.2-24 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – CIVIL  
STRUCTURE AUXILIARY SYSTEMS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pump (Casing)	M-1	Grey Cast Iron	Raw Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Preventive Maintenance</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Preventive Maintenance</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J

**TABLE 3.3.2-24 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – CIVIL  
STRUCTURE AUXILIARY SYSTEMS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Gauge Glasses (Pressure Retaining Housing)	M-1	Copper Alloys	Indoor Air (External)	None	None			J, <a href="#">322</a>
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">Preventive Maintenance</a>			J
				Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J
		Glass	Indoor Air (External)	None	None			J, <a href="#">322</a>
			Raw Water (Internal)	None	None			J, <a href="#">320</a>

**TABLE 3.3.2-24 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – CIVIL  
STRUCTURE AUXILIARY SYSTEMS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
<b>Diesel Generator Building Auxiliary Systems</b>								
Piping (Piping and Fittings)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.I.1-b	3.3.1-05	E
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Preventive Maintenance			J
Valves (Body and Bonnet)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.I.1-b	3.3.1-05	E
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Preventive Maintenance			J
Pump (Casing)	M-1	Grey Cast Iron	Raw Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Preventive Maintenance			J

**TABLE 3.3.2-24 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – CIVIL  
STRUCTURE AUXILIARY SYSTEMS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pump (Casing) (continued)	M-1	Grey Cast Iron	Raw Water (External)	Loss of Material due to Selective Leaching	Selective Leaching of Materials			J
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Preventive Maintenance			J
				Loss of Material due to Selective Leaching	Selective Leaching of Materials			J
				Control Building Auxiliary Systems				
Piping (Piping and Fittings)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.I.1-b	3.3.1-05	E
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Preventive Maintenance			J



**TABLE 3.3.2-24 (continued) AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – CIVIL  
STRUCTURE AUXILIARY SYSTEMS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Preventive Maintenance	VII.I.1-b	3.3.1-05	E
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Preventive Maintenance			J
Pump (Casing)	M-1	Grey Cast Iron	Raw Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Preventive Maintenance			J
				Loss of Material due to Selective Leaching	Selective Leaching of Materials			J
			Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	Preventive Maintenance			J
				Loss of Material due to Selective Leaching	Selective Leaching of Materials			J

**TABLE 3.3.2-25 AUXILIARY SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – NON-CONTAMINATED WATER DRAINAGE SYSTEM (NCWDS)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping (Piping and Fittings)	M-1	Carbon Steel	Raw Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>			J
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VII.I.1-b	<a href="#">3.3.1-05</a>	E

Notes for Tables 3.3.2-1 through 3.3.2-26:

Generic Notes:

- A. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- B. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- C. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- D. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- E. Consistent with NUREG-1801 for material, environment, and aging effect, but a different AMP is credited.
- F. Material not in NUREG-1801 for this component.
- G. Environment not in NUREG-1801 for this component and material.
- H. Aging effect not in NUREG 1801 for this component, material, and environment combination.
- I. Aging effect in NUREG-1801 for this component, material, and environment combination is not applicable.
- J. Neither the component nor the material and environment combination is evaluated in NUREG-1801.

Plant-specific Notes:

- 301. The BSEP AMR methodology concluded that the subject material in an Indoor Air environment and the absence of moisture has no aging effects.
- 302. NUREG-1801 identified potential aging effects/mechanisms that were not predicted by BSEP AMR methodology. Crevice and pitting corrosion are not applicable due to the lack of sustained wetting and aggressive chemical species required to produce these aging mechanisms. MIC has not been observed in BSEP HVAC environments.
- 303. NUREG-1801 identified potential aging effects/mechanisms that were not predicted by BSEP AMR methodology. General, crevice, and pitting corrosion are not applicable due to the lack of sustained wetting and aggressive chemical species required to produce these aging mechanisms. MIC has not been observed in BSEP HVAC environments.
- 304. Components in this item contain dry compressed nitrogen supplied from bottles. The BSEP AMR methodology concluded that the subject material and environment combination has no aging effects.
- 305. The BSEP AMR methodology concluded that the subject non-metallic material in an Indoor Air environment has no aging effects/aging mechanisms.
- 306. The BSEP AMR methodology does not predict general, pitting, or crevice corrosion or biofouling in fuel oil without the possibility of water pooling. The BSEP fuel oil storage system has no history of water intrusion or particulate contamination. The Fuel Oil Chemistry Program is confirmed using one-time inspections of fuel storage tanks.
- 307. The component environment is Indoor Air in piping.

- 308. The commodity identifies compressed air/gas components used for pneumatic controls. The BSEP design includes air dryers to ensure that moisture does not cause corrosion for the components in this item (Ref. NUREG-1801, VII.D). The BSEP AMR methodology predicts no aging effects for the subject material in a dry air/gas environment.
- 309. The heat exchanger(s) in question are only in-scope for potential spatial interactions with safety-related components. As such, only the heat exchanger shell requires an aging management review. The heat exchanger tubes do not have an intended function requiring aging management.
- 310. The BSEP AMR methodology does not predict galvanic corrosion for coated underground piping.
- 311. Not used.
- 312. Components on this line are constructed of cast iron.
- 313. NUREG-1801 (VII.F) identified potential aging effects/mechanisms. The BSEP AMR methodology predicts no aging effects for the subject material and environment. Crevice and pitting corrosion are not applicable due to the lack of sustained wetting and aggressive chemical species required to produce these aging mechanisms.
- 314. Loss of material due to crevice and pitting corrosion is predicted by the BSEP AMR methodology but not by NUREG-1801.
- 315. NUREG-1801 identified potential aging effects/mechanisms. Crevice and pitting corrosion are not applicable due to the lack of sustained wetting and aggressive chemical species required to produce these aging mechanisms.
- 316. NUREG-1801 (VII.D) identified potential aging effects/mechanisms. The BSEP AMR methodology predicted that pitting corrosion is not applicable due to the lack of sustained wetting and aggressive chemical species required to produce this aging mechanism.
- 317. The BSEP AMR methodology concluded that aluminum in an Indoor Air environment has no aging effects.
- 318. The BSEP AMR methodology concluded that the subject material exposed to dry air or gas exhibits no aging effects.
- 319. The BSEP AMR methodology concluded that glass in an Indoor Air environment exhibits no aging effects.
- 320. The BSEP AMR methodology concluded that glass or PVC in a raw water environment exhibits no aging effects.
- 321. The fire protection program provides further confirmation that diesel fire pump fuel supply line is free of obstructions.
- 322. The BSEP AMR methodology concluded that the subject material in an Indoor Air environment exhibits no aging effects.
- 323. NUREG-1801 identified potential aging effects/mechanisms that were not predicted by the BSEP AMR methodology. Crevice and pitting corrosion are not applicable due to the lack of sustained wetting and aggressive chemical species required to produce these aging mechanisms.
- 324. Stainless steel is not evaluated by NUREG-1801 in this situation.
- 325. The BSEP AMR methodology concluded that stainless steel in an Indoor Air environment has no aging effects.
- 326. The BSEP AMR methodology does not predict loss of material due to general corrosion on the external surfaces of carbon steel structures and components exposed to operating temperatures greater than 212 °F.
- 327. The BSEP AMR methodology concluded that carbon steel exposed to dry air or gas exhibits no aging effects.
- 328. The two listed programs are substituted for AMP XI.M25. The water chemistry requirements are captured in the Water Chemistry Program and the NUREG-0313 and Generic Letter 88-01 inspection requirements are captured as augmented inspections in the ASME Section XI Inservice Inspection, IWB, IWC, and IWD Program.
- 329. The BSEP AMR methodology concluded that glass in a treated water environment has no aging effects.
- 330. Potential for fouling associated with failed coatings is managed by the Protective Coating Monitoring and Maintenance Program.
- 331. These components operate at temperatures substantially above ambient, such that moisture-related external corrosion is not expected.
- 332. The BSEP AMR methodology concluded that copper alloys in an indoor environment have no aging effects in the absence of sustained wetting.
- 333. Components in this group operate below the threshold temperature at which the SCC is predicted.

- 334. The BSEP AMR methodology concluded that the subject material in a lubricating oil environment has no aging effects.
- 335. Thermal insulation is credited in room cooler evaluations. Applicable insulation classes are glass fiber or calcium silicate, depending on temperature. No aging effects are predicted for these materials in an indoor environment.
- 336. Periodically inspected by the Preventive Maintenance Program.
- 337. Plant evaluation states that erosion/FAC not predicted on turbine supply piping based on high quality of steam.
- 338. Pertains to tubing and valves connected to pressure indicator instrumentation used on the Drywell personnel lock.
- 339. This line item represents the submerged components.
- 340. These components are in scope for spatial interaction/seismic support only. Flow restriction (M-3) function does not require aging management.
- 341. This line item pertains to instrument wells protected from the external environment and not susceptible to external corrosion.
- 342. The raw water internal environment for these components is relatively clean and, therefore, not expected to result in corrosion build-up sufficient to cause biofouling.
- 343. Since these components are not in contact with materials higher in the galvanic series, the BSEP AMR methodology does not predict galvanic corrosion for them.
- 344. This entry includes only the Diesel-Driven Fire Pump casing; the fuel supply line is addressed in the Fuel Oil System.
- 345. The BSEP AMR methodology does not predict crevice or pitting corrosion for galvanized carbon steel in an outdoor environment, but does predict loss of material due to aggressive chemical attack from the salt laden (sea-borne) air.
- 346. The BSEP AMR methodology predicts loss of material due to aggressive chemical attack on the external surfaces of unprotected carbon steel structures and components exposed to an outdoor environment.
- 347. Periodic testing of the diesel-driven fire pump ensures that the fuel supply line and associated components can perform their intended function.
- 348. BSEP requested and received approval to implement Risk-Informed ISI. In support of the submittal, evaluations of degradation mechanisms were performed; and cracking due to thermal and mechanical loadings was evaluated and dispositioned as not applicable. The risk associated with cracking due to SCC is bounded by those components selected for inservice inspection as part of the Risk-Informed ISI Program. Therefore, the current inspection methods as detailed in the ASME Section XI Inservice Inspection, Subsections IWB, IWC and IWD Program, supplemented by the Water Chemistry Program will manage cracking of small bore piping.
- 349. Applies to portion of drains system in proximity to safety related components.

**TABLE 3.4.2-1 STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – MAIN STEAM (MS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Steam Lines to Main Turbine (Group B))	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to General Corrosion	<a href="#">Water Chemistry</a>			H
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>	VIII.B2.1-a	<a href="#">3.4.1-07</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.B2.1-c	<a href="#">3.4.1-01</a>	
	M-7	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to General Corrosion	<a href="#">Water Chemistry</a>			H
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>	VIII.B2.1-a	<a href="#">3.4.1-07</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.B2.1-c	<a href="#">3.4.1-01</a>	

**TABLE 3.4.2-1 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – MAIN STEAM (MS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Steam Drains)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>	VIII.B2.1-a	<a href="#">3.4.1-07</a>	D
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	VIII.B2.1-b	<a href="#">3.4.1-06</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.B2.1-c	<a href="#">3.4.1-01</a>	
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>			F

**TABLE 3.4.2-1 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – MAIN STEAM (MS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Steam Drains) (continued)	M-7	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>	VIII.B2.1-a	<a href="#">3.4.1-07</a>	D
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	VIII.B2.1-b	<a href="#">3.4.1-06</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.B2.1-c	<a href="#">3.4.1-01</a>	
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>			F



**TABLE 3.4.2-1 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – MAIN STEAM (MS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Check, Control, Hand, Motor Operated, Safety Valves) (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to General Corrosion	<a href="#">Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.B2.1-c	<a href="#">3.4.1-01</a>	
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	VIII.B2.2-a	<a href="#">3.4.1-06</a>	B
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>	VIII.B2.2-b	<a href="#">3.4.1-07</a>	B
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>			F

**TABLE 3.4.2-1 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – MAIN STEAM (MS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Check, Control, Hand, Motor Operated, Safety Valves) (Body and Bonnet) (continued)	M-7	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to General Corrosion	<a href="#">Water Chemistry</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.B2.1-c	<a href="#">3.4.1-01</a>	
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	VIII.B2.2-a	<a href="#">3.4.1-06</a>	B
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>	VIII.B2.2-b	<a href="#">3.4.1-07</a>	B
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>			F

**TABLE 3.4.2-1 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – MAIN STEAM (MS) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">401</a>
	M-7	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">401</a>
Non-Carbon Steel Components (External Surfaces)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">402</a>
	M-7	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">402</a>

**TABLE 3.4.2-2 STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – AUXILIARY BOILER**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Steam Drains)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>	VIII.B2.1-a	<a href="#">3.4.1-07</a>	E
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.B2.1-c	<a href="#">3.4.1-01</a>	
Valves (Check, Control, Hand, Motor Operated, Safety Valves) (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>			H
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.B2.1-c	<a href="#">3.4.1-01</a>	
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">One-Time Inspection</a>	VIII.B2.2-b	<a href="#">3.4.1-07</a>	E
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VIII.H.1-b	<a href="#">3.4.1-05</a>	E

**TABLE 3.4.2-3 STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FEEDWATER (FW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Main Feedwater Line (Pipe and Fittings (Group B or D))	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	VIII.D2.1-a	<a href="#">3.4.1-06</a>	B
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VIII.D2.1-b	<a href="#">3.4.1-02</a>	B
				Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.D2.1-c	<a href="#">3.4.1-01</a>	
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
Valves (Control, Check, and Hand Valves) (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)	VIII.D2.1-c	<a href="#">3.4.1-01</a>	
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VIII.D2.2-b	<a href="#">3.4.1-02</a>	B

**TABLE 3.4.2-3 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – FEEDWATER (FW) SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Control, Check, and Hand Valves) (Body and Bonnet) (continued)	M-1	Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">401</a>
Non-Carbon Steel Components (External Surfaces)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">402</a>

**TABLE 3.4.2-4 STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – HEATER DRAINS (HD) AND MISCELLANEOUS VENTS AND DRAINS (MVD)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Lines to Feedwater Heaters)	M-4	Carbon Steel	Indoor Air (Internal)	Loss of Material due to General Corrosion	<a href="#">One-Time Inspection</a>			G
Piping and Fittings (Steam Drains)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	VIII.C.1-a	<a href="#">3.4.1-06</a>	B
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VIII.C.1-b	<a href="#">3.4.1-02</a>	B
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F

**TABLE 3.4.2-4 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – HEATER DRAINS (HD) AND MISCELLANEOUS VENTS AND DRAINS (MVD)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Steam Drains) (continued)	M-7	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	VIII.C.1-a	<a href="#">3.4.1-06</a>	B
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VIII.C.1-b	<a href="#">3.4.1-02</a>	B
		Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			F
Valves (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	VIII.C.2-a	<a href="#">3.4.1-06</a>	B
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VIII.C.2-b	<a href="#">3.4.1-02</a>	B



**TABLE 3.4.2-4 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – HEATER DRAINS (HD) AND MISCELLANEOUS VENTS AND DRAINS (MVD)**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet) (continued)	M-7	Carbon Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Loss of Material due to FAC	<a href="#">Flow-Accelerated Corrosion</a>	VIII.C.2-a	<a href="#">3.4.1-06</a>	B
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VIII.C.2-b	<a href="#">3.4.1-02</a>	B
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">401</a>
	M-4	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VIII.H.1-b	<a href="#">3.4.1-05</a>	E
	M-7	Carbon Steel	Indoor Air (External)	None	None			J, <a href="#">401</a>
Non-Carbon Steel Components (External Surfaces)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">402</a>
	M-7	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">402</a>

**TABLE 3.4.2-5 STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION - CONDENSATE SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
<b>Condensate System</b>								
Condensate Lines (Piping and Fittings)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VIII.E.1-B	<a href="#">3.4.1-02</a>	B
		Stainless Steel	Indoor Air (Internal)	None	None			G, <a href="#">402</a>
			Treated Water (Internal)	Loss of Material due to Erosion	<a href="#">One-Time Inspection</a>			H
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VIII.E.4-a	<a href="#">3.4.1-02</a>	D
Valves (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Galvanic Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>			H
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VIII.E.2-b	<a href="#">3.4.1-02</a>	B

**TABLE 3.4.2-5 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION - CONDENSATE SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Valves (Body and Bonnet)	M-1	Grey Cast Iron	Treated Water (Internal)	Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			F
				Loss of Material due to Galvanic Corrosion Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			F
		Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>	VIII.E.4-a	<a href="#">3.4.1-02</a>	D
Condensate Storage (Tank)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>	VIII.E.5-a	<a href="#">3.4.1-02</a>	B
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VIII.H.1-b	<a href="#">3.4.1-05</a>	E
			Outdoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Aboveground Carbon Steel Tanks</a>	VIII.E.5-c	<a href="#">3.4.1-11</a>	A
				Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>			G

**TABLE 3.4.2-5 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION - CONDENSATE SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>			J, <a href="#">403</a>
		Grey Cast Iron	Outdoor Air (External)	Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			J
				Loss of Material due to Galvanic Corrosion	<a href="#">Systems Monitoring</a>			J
				Loss of Material due to General Corrosion				
		Stainless Steel	Buried (External)	Loss of Material due to Crevice Corrosion	<a href="#">Buried Piping and Tanks Inspection</a>			G
				Loss of Material due to MIC				
				Loss of Material due to Pitting Corrosion				
			Indoor Air (External)	None	None			J, <a href="#">402</a>
			Outdoor Air (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Systems Monitoring</a>			J
<b>Condensate Demineralizer System</b>								
Condensate Cleanup System (Piping and Fittings)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>	VIII.E.6-a	<a href="#">3.4.1-02</a>	B

**TABLE 3.4.2-5 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION - CONDENSATE SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VIII.H.1-B	<a href="#">3.4.1-05</a>	E
<b>Condensate Makeup System</b>								
Condensate Lines (Piping and Fittings)	M-1	Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>	VIII.E.4-a	<a href="#">3.4.1-02</a>	D
Valves (Body and Bonnet)	M-1	Grey Cast Iron	Treated Water (Internal)	Loss of Material due to Selective Leaching	<a href="#">Selective Leaching of Materials</a>			F
				Loss of Material due to Galvanic Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			F
				Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>			F
		Stainless Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry and One-Time Inspection</a>	VIII.E.4-a	<a href="#">3.4.1-02</a>	D

**TABLE 3.4.2-5 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION - CONDENSATE SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Non-Carbon Steel Components (External Surfaces)	M-1	Grey Cast Iron	Outdoor Air (External)	Loss of Material due to Selective Leaching	Selective Leaching of Materials			J
				Loss of Material due to Galvanic Corrosion Loss of Material due to General Corrosion	Systems Monitoring			J
		Stainless Steel	Indoor Air (External)	None	None			J, 402
			Outdoor Air (External)	Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Systems Monitoring			J
Main Condenser								
Condensate Coolers/ Condensers (Tubes)	M-1	Titanium	Raw Water (Internal)	None	None			F, 404
			Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion	Not Applicable			F, 404
	M-7	Titanium	Raw Water (Internal)	None	None			F, 404
			Treated Water (Includes Steam) (External)	Loss of Material due to Crevice Corrosion	Not Applicable			F, 404

**TABLE 3.4.2-5 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION - CONDENSATE SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Condensate Coolers/ Condensers (Tubesheet)	M-1	Copper Alloys	Raw Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion Loss of Material due to Selective Leaching	Not Applicable			F, 404
			Treated Water (Internal)	Loss of Material due to Selective Leaching	Not Applicable			F, 404
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Not Applicable			F, 404
	M-7	Copper Alloys	Raw Water (External)	Loss of Material due to Crevice Corrosion Loss of Material due to MIC Loss of Material due to Pitting Corrosion Loss of Material due to Selective Leaching	Not Applicable			F, 404
			Treated Water (Internal)	Loss of Material due to Selective Leaching	Not Applicable			F, 404
				Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	Not Applicable			F, 404

**TABLE 3.4.2-5 (continued) STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION - CONDENSATE SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Condensate Coolers/ Condensers (Shell)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Not Applicable	VIII.E.4-A	<a href="#">3.4.1-02</a>	E, <a href="#">404</a>
	M-7	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	Not Applicable	VIII.E.4-a	<a href="#">3.4.1-02</a>	E, <a href="#">404</a>
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Not Applicable	VIII.H.1-b	<a href="#">3.4.1-05</a>	E, <a href="#">404</a>
	M-7	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	Not Applicable	VIII.H.1-b	<a href="#">3.4.1-05</a>	E, <a href="#">404</a>



**TABLE 3.4.2-6 STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – TURBINE BUILDING (TB) SAMPLING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Piping and Fittings (Steam Drains)	M-1	Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>			F
	M-7	Stainless Steel	Treated Water (Includes Steam) (Internal)	Cracking due to Thermal Fatigue	TLAA, evaluated in accordance with 10 CFR 54.21(c)			
				Cracking due to SCC Loss of Material due to Crevice Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a>			F
Non-Carbon Steel Components (External Surfaces)	M-1	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">402</a>
	M-7	Stainless Steel	Indoor Air (External)	None	None			J, <a href="#">402</a>

**TABLE 3.4.2-7 STEAM AND POWER CONVERSION SYSTEMS – SUMMARY OF AGING MANAGEMENT EVALUATION – MAIN CONDENSER GAS REMOVAL SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Condensate Lines (Piping and Fittings)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VIII.E.1-b	<a href="#">3.4.1-02</a>	B
Valves (Body and Bonnet)	M-1	Carbon Steel	Treated Water (Internal)	Loss of Material due to Crevice Corrosion Loss of Material due to General Corrosion Loss of Material due to Pitting Corrosion	<a href="#">Water Chemistry</a> and <a href="#">One-Time Inspection</a>	VIII.E.2-b	<a href="#">3.4.1-02</a>	B
Carbon Steel Components (External Surfaces)	M-1	Carbon Steel	Indoor Air (External)	Loss of Material due to General Corrosion	<a href="#">Systems Monitoring</a>	VIII.H.1-b	<a href="#">3.4.1-05</a>	E

Notes for Tables 3.4.2-1 through 3.4.2-7:

Generic Notes:

- A. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- B. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- C. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- D. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- E. Consistent with NUREG-1801 for material, environment, and aging effect, but a different AMP is credited.
- F. Material not in NUREG-1801 for this component.
- G. Environment not in NUREG-1801 for this component and material.
- H. Aging effect not in NUREG 1801 for this component, material, and environment combination.
- I. Aging effect in NUREG-1801 for this component, material, and environment combination is not applicable.
- J. Neither the component nor the material and environment combination is evaluated in NUREG-1801.

Plant-specific Notes:

- 401. The BSEP AMR methodology concluded that external surfaces of carbon steel components at a process temperature above 212°F, in an Indoor Air environment have no aging effects.
- 402. The BSEP AMR methodology concluded that the subject material in an Indoor Air environment, and the absence of moisture, has no aging effects.
- 403. Line represents components constructed of cast iron.
- 404. Aging management of the Main Condensers is not based on analysis of materials, environments and aging effects. Materials, environments and aging effects were evaluated, but Main Condenser integrity required to perform post-accident intended functions (holdup and plateout of MSIV leakage) is continuously confirmed by normal plant operation. No traditional aging management program is required. The Main Condensers must perform a significant pressure boundary function (maintain vacuum) to allow continued plant operation. The post-accident intended function of the Main Condensers is to provide a holdup volume and plateout surface for MSIV leakage. This intended function does not require the Main Condensers to be leak-tight, with the post-accident conditions in the Main Condensers essentially atmospheric. Under post-accident conditions, there will be no challenge to the pressure boundary integrity of the Main Condensers. Since normal plant operation assures adequate Main Condenser pressure boundary integrity, the post-accident intended function to provide pressure boundary and holdup volume and plateout surface is assured.

**TABLE 3.5.2-1 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – PRIMARY CONTAINMENT**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Anchor / Embedment Embedded	C-2 C-7 C-10	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
Bellows (Refueling)	C-8	Stainless Steel	Protected from Weather	None	None			J, <a href="#">529</a>
Cable Tray and Conduit	C-2 C-7 C-10	Galvanized Carbon Steel	Containment Air and Torus Air	None	None			J, <a href="#">521</a>
		Stainless Steel	Containment Air and Torus Air	None	None			J, <a href="#">529</a>
Concrete Above Grade	C-1 C-2 C-3 C-6 C-7 C-8 C-10	Reinforced Concrete	Protected from Weather	None	<a href="#">ASME Section XI, Subsection IWL Program</a>	II.B2.2.1-a	<a href="#">3.5.1-07</a>	A, <a href="#">501</a> , <a href="#">512</a> , <a href="#">514</a>
				None	<a href="#">ASME Section XI, Subsection IWL Program</a>	II.B2.2.1-b	<a href="#">3.5.1-07</a>	A, <a href="#">501</a> , <a href="#">502</a> , <a href="#">514</a> , <a href="#">537</a>
				None	<a href="#">ASME Section XI, Subsection IWL Program</a>	II.B2.2.1-c	<a href="#">3.5.1-16</a>	A, <a href="#">501</a> , <a href="#">514</a> , <a href="#">523</a>
				None	<a href="#">ASME Section XI, Subsection IWL Program</a>	II.B2.2.1-d	<a href="#">3.5.1-07</a>	A, <a href="#">501</a> , <a href="#">514</a> , <a href="#">527</a> , <a href="#">537</a>
				None	<a href="#">Structures Monitoring Program</a>	II.B2.2.1-e	<a href="#">3.5.1-08</a>	A, <a href="#">501</a> , <a href="#">506</a> , <a href="#">514</a>

**TABLE 3.5.2-1 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – PRIMARY CONTAINMENT**

				<b>Aging Effect Requiring Management</b>	<b>Aging Management Program</b>	<b>NUREG-1801 Volume 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
Concrete Above Grade (continued)	C-1	Reinforced Concrete	Protected from Weather (continued)	None	None	II.B2.2.1-f	<a href="#">3.5.1-09</a>	I, <a href="#">507</a>
	C-2			None	None	II.B2.2.1-g	<a href="#">3.5.1-10</a>	I, <a href="#">514</a> , <a href="#">536</a>
	C-3		Containment Air	None	<a href="#">ASME Section XI, Subsection IWL Program</a>	II.B2.2.1-a	<a href="#">3.5.1-07</a>	A, <a href="#">501</a> , <a href="#">512</a> , <a href="#">514</a>
	C-6			None	<a href="#">ASME Section XI, Subsection IWL Program</a>	II.B2.2.1-b	<a href="#">3.5.1-07</a>	A, <a href="#">501</a> , <a href="#">502</a> , <a href="#">514</a> , <a href="#">537</a>
	C-7			None	<a href="#">ASME Section XI, Subsection IWL Program</a>	II.B2.2.1-c	<a href="#">3.5.1-16</a>	A, <a href="#">501</a> , <a href="#">514</a> , <a href="#">523</a>
	C-8			None	<a href="#">ASME Section XI, Subsection IWL Program</a>	II.B2.2.1-d	<a href="#">3.5.1-07</a>	A, <a href="#">501</a> , <a href="#">514</a> , <a href="#">527</a> , <a href="#">537</a>
	C-10			None	None	II.B2.2.1-g	<a href="#">3.5.1-10</a>	I, <a href="#">514</a> , <a href="#">536</a>
				None	<a href="#">Structures Monitoring Program</a>	II.B2.2.1-e	<a href="#">3.5.1-08</a>	A, <a href="#">501</a> , <a href="#">506</a> , <a href="#">514</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A4.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A4.1-b	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	None	III.A4.1-c	<a href="#">3.5.1-27</a>	I, <a href="#">513</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A4.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>

**TABLE 3.5.2-1 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – PRIMARY CONTAINMENT**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Above Grade (continued)	C-1 C-2 C-3 C-6 C-7 C-8 C-10	Reinforced Concrete	Containment Air	Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B1.1.4-a III.B1.2.3-a III.B1.3.3-a III.B2.2-a III.B5.2-a	<a href="#">3.5.1-29</a>	A
Sacrificial Shield Wall	C-2 C-3 C-7 C-10	Carbon Steel	Containment Air	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A4.2-a	<a href="#">3.5.1-20</a>	C
Concrete Curbs	C-13	Reinforced Concrete	Containment Air	None	<a href="#">Structures Monitoring Program</a>	III.A4.1-a	<a href="#">3.5.1-20</a>	A, 501, 510
				None	<a href="#">Structures Monitoring Program</a>	III.A4.1-b	<a href="#">3.5.1-20</a>	A, 501, 505
				None	None	III.A4.1-c	<a href="#">3.5.1-27</a>	I, 513
				None	<a href="#">Structures Monitoring Program</a>	III.A4.1-d	<a href="#">3.5.1-20</a>	A, 501, 510
Door	C-3	Carbon Steel	Containment Air	Loss of Material (Includes Wear)	<a href="#">Structures Monitoring Program</a>			J
Downcomers	C-1	Carbon Steel	Torus Air	Loss of Material	<a href="#">ASME Section XI, Subsection IWE Program</a>	II.B1.1.1-a	<a href="#">3.5.1-12</a>	A, 514, 538
				Fatigue	TLAA	II.B1.1.1-c	<a href="#">3.5.1-13</a>	A, 514, 543
			Treated Water	Loss of Material	<a href="#">ASME Section XI, Subsection IWE Program</a>	II.B1.1.1-a	<a href="#">3.5.1-12</a>	A, 514, 538

**TABLE 3.5.2-1 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – PRIMARY CONTAINMENT**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Drywell Head	C-1 C-3	Carbon Steel	Containment Air	Loss of Material	<a href="#">ASME Section XI Subsection IWE Program and 10 CFR Part 50, Appendix J Program</a>	II.B1.1.1-a	<a href="#">3.5.1-12</a>	A
Drywell Liner	C-1 C-2 C-7 C-10	Carbon Steel	Containment Air	Loss of Material	<a href="#">ASME Section XI Subsection IWE Program and 10 CFR Part 50, Appendix J Program</a>	II.B1.1.1-a	<a href="#">3.5.1-12</a>	A
Electrical Enclosures	C-2 C-3 C-7 C-10	Carbon Steel	Containment Air and Torus Air	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
		Galvanized Carbon Steel	Containment Air and Torus Air	None	None			F, <a href="#">521</a>
		Stainless Steel	Containment Air and Torus Air	None	None			F, <a href="#">529</a>
Electrical Support	C-2 C-7 C-10	Carbon Steel	Containment Air and Torus Air	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
		Galvanized Carbon Steel	Containment Air and Torus Air	None	None			F, <a href="#">521</a>
Equipment Support	C-2 C-7 C-10	Carbon Steel	Containment Air	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B4.1-a	<a href="#">3.5.1-29</a>	A

**TABLE 3.5.2-1 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – PRIMARY CONTAINMENT**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Floor Drains	C-8	Carbon Steel	Embedded/ Encased	None	None			J, 518
HVAC Support	C-7	Carbon Steel	Containment Air	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
		Galvanized Carbon Steel	Containment Air	None	None			J, 521
Instrument Support	C-2 C-7 C-10	Carbon Steel	Containment Air and Torus Air	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	A
		Galvanized Carbon Steel	Containment Air	None	None			J, 521
Insulation	C-3	Hydrous Calcium Silicate	Containment Air	None	None			F, 540
Liner (Sump)	C-2	Carbon Steel	Containment Air	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
			Raw Water	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
		Stainless Steel	Containment Air	None	None			J, 529
			Raw Water	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Moisture Barrier	C-3	Elastomer	Containment Air	Cracking and Change in Material Properties	<a href="#">ASME Section XI, Subsection IWE Program</a>	II.B4.3-a	<a href="#">3.5.1-06</a>	A, 542



**TABLE 3.5.2-1 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – PRIMARY CONTAINMENT**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Penetrations	C-1 C-2 C-7 C-10	Carbon Steel	Containment Air and Torus Air	Loss of Material	<a href="#">ASME Section XI Subsection IWE Program and 10 CFR Part 50, Appendix J Program</a>	II.B4.1-a	<a href="#">3.5.1-03</a>	A, <a href="#">538</a>
			Protected from Weather	Loss of Material	<a href="#">ASME Section XI Subsection IWE Program and 10 CFR Part 50, Appendix J Program</a>	II.B4.1-a	<a href="#">3.5.1-03</a>	A, <a href="#">538</a>
			Containment Air and Torus Air	None	None	II.B4.1-c	<a href="#">3.5.1-02</a>	I, <a href="#">541</a>
			Protected from Weather	None	None	II.B4.1-d	<a href="#">3.5.1-02</a>	I, <a href="#">541</a>
		Elastomers (Structural Sealant)	Containment Air and Torus Air	Cracking and Change in Material Properties	<a href="#">10 CFR Part 50, Appendix J Program</a>			F, <a href="#">535</a>
			Protected from Weather	Cracking and Change in Material Properties	<a href="#">10 CFR Part 50, Appendix J Program</a>			F, <a href="#">535</a>

**TABLE 3.5.2-1 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – PRIMARY CONTAINMENT**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Personnel Airlock; Equipment Hatch; CRD Hatch	C-1 C-3	Carbon Steel	Containment Air and Torus Air	Loss of Material	<a href="#">ASME Section XI Subsection IWE Program</a> and <a href="#">10 CFR Part 50, Appendix J Program</a>	II.B4.2-a	<a href="#">3.5.1-04</a>	A, <a href="#">538</a>
				Loss of Leak Tightness in Closed Condition	<a href="#">10 CFR Part 50, Appendix J Program</a> and Plant Technical Specifications	II.B4.2-b	<a href="#">3.5.1-05</a>	A, <a href="#">548</a>
			Protected from Weather	Loss of Material	<a href="#">ASME Section XI Subsection IWE Program</a> and <a href="#">10 CFR Part 50, Appendix J Program</a>	II.B4.2-a	<a href="#">3.5.1-04</a>	A, <a href="#">538</a>
				Loss of Leak Tightness in Closed Condition	<a href="#">10 CFR Part 50, Appendix J Program</a> and Plant Technical Specifications	II.B4.2-b	<a href="#">3.5.1-05</a>	A, <a href="#">548</a>
Pipe Support (Class 1)	C-2 C-10	Carbon Steel	Containment Air and Torus Air	Loss of Material	<a href="#">ASME Section XI, Subsection IWF Program</a>	III.B1.1.1-a	<a href="#">3.5.1-32</a>	A
				Loss of Mechanical Function	<a href="#">ASME Section XI, Subsection IWF Program</a>	III.B1.1.3-a	<a href="#">3.5.1-32</a>	A

**TABLE 3.5.2-1 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – PRIMARY CONTAINMENT**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pipe Support (Class 2 and 3)	C-2 C-10	Carbon Steel	Containment Air and Torus Air	Loss of Material	<a href="#">ASME Section XI, Subsection IWF Program</a>	III.B1.2.1-a	<a href="#">3.5.1-32</a>	A
				Loss of Mechanical function	<a href="#">ASME Section XI, Subsection IWF Program</a>	III.B1.2.2-a	<a href="#">3.5.1-32</a>	A
Pipe Support (Class MC)	C-2 C-10	Carbon Steel	Torus Air	Loss of Material	<a href="#">ASME Section XI, Subsection IWF Program</a>	III.B1.3.2-a	<a href="#">3.5.1-32</a>	A
			Treated Water	Loss of Material	<a href="#">ASME Section XI, Subsection IWF Program</a>	III.B1.3.2-a	<a href="#">3.5.1-32</a>	A
Pipe Support (General and non-ASME))	C-7	Carbon Steel	Containment Air and Torus Air	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
RPV Support	C-2	Carbon Steel	Containment Air	Loss of Material	<a href="#">ASME Section XI, Subsection IWF Program</a>	III.B1.1.1-a	<a href="#">3.5.1-32</a>	A
Seals and Gaskets	C-1	Elastomer	Containment Air and Torus Air	Cracking and Change in Material Properties	<a href="#">ASME Section XI Subsection IWE Program and 10 CFR Part 50, Appendix J Program</a>	II.B4.3-a	<a href="#">3.5.1-06</a>	A
Slide Bearing Plate	C-7	Lubrite	Containment Air	None	None			J, <a href="#">524</a>

**TABLE 3.5.2-1 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – PRIMARY CONTAINMENT**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Structural Steel	C-2 C-7 C-10	Carbon Steel	Containment Air and Torus Air	Loss of material	<a href="#">Structures Monitoring Program</a>	III.A4.2-a	<a href="#">3.5.1-20</a>	A
			Treated Water	Loss of material	<a href="#">Structures Monitoring Program</a>	III.B5.1-a	<a href="#">3.5.1-29</a>	A
Torus Liner	C-1 C-2 C-5 C-7 C-10 C-12	Carbon Steel	Torus Air	Loss of material	<a href="#">ASME Section XI Subsection IWE Program and 10 CFR Part 50, Appendix J Program</a>	II.B1.1.1-a	<a href="#">3.5.1-12</a>	A, <a href="#">538</a>
			Treated Water	Loss of material	<a href="#">ASME Section XI Subsection IWE Program and 10 CFR Part 50, Appendix J Program</a>	II.B1.1.1-a	<a href="#">3.5.1-12</a>	A, <a href="#">538</a>
Vent Header	C-1 C-2	Carbon Steel	Torus Air	Loss of material	<a href="#">ASME Section XI, Subsection IWE Program</a>			H
				Fatigue	TLAA	II.B1.1.1-c	<a href="#">3.5.1-13</a>	A, <a href="#">543</a>
Vent Line Bellows	C-1	Stainless Steel	Torus Air	None	<a href="#">10 CFR Part 50, Appendix J Program</a>	II.B1.1.1-b II.B1.1.1-d	<a href="#">3.5.1-17</a>	I, <a href="#">529</a> , <a href="#">539</a>
Whip Restraints (includes Jet Impingement Shields)	C-11	Carbon Steel	Containment Air and Torus Air	Loss of material	<a href="#">Structures Monitoring Program</a>	III.B5.1-a	<a href="#">3.5.1-29</a>	A

**TABLE 3.5.2-2 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – INTAKE AND DISCHARGE CANALS**

<b>Component Commodity</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Program</b>	<b>NUREG-1801 Volume 2 Item</b>	<b>Table 1 Item</b>	<b>Notes</b>
Canal (Intake Canal only)	C-5 C-7	Earth	Exposed to Weather/ Raw Water	Loss of Form	<a href="#">Structures Monitoring Program</a>	III.A6.4-a	<a href="#">3.5.1-22</a>	E, <a href="#">511</a>
Sheet Piles	C-7	Carbon Steel	Exposed to Weather/ Below Grade/ Submerged	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A6.2-a	<a href="#">3.5.1-22</a>	E, <a href="#">511</a>

**TABLE 3.5.2-3 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – REFUELING SYSTEM**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Fuel Prep Machines	C-7	Aluminum	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J, <a href="#">503</a>
			Treated Water	Loss of Material	<a href="#">Water Chemistry Program</a>			J
Auxiliary Work Platform	C-7	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J, <a href="#">503</a>
Refueling Platforms	C-7	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Inspection of Overhead Heavy Load and Light Load Handling Systems</a>	VII.B.1-b	<a href="#">3.3.1-16</a>	A
				Loss of Material / Wear	<a href="#">Inspection of Overhead Heavy Load and Light Load Handling Systems</a>	VII.B.2-a	<a href="#">3.3.1-16</a>	A
				Cumulative fatigue damage	TLAA	VII.B.1-a	<a href="#">3.3.1-03</a>	A

**TABLE 3.5.2-4 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – SWITCHYARD AND TRANSFORMER YARD STRUCTURES**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Anchorage / Embedment	C-10	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
		Galvanized Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">519</a>
Cable Tray / Conduit	C-10	Galvanized Carbon Steel	Exposed to Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
			Protected from Weather	None	None			J, <a href="#">521</a>
Concrete Above Grade	C-10	Concrete	Exposed to Weather	Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B2.2-a	<a href="#">3.5.1-29</a>	A
Concrete Below Grade	C-10	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>			J, <a href="#">501</a>
Electrical Enclosure	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
			Exposed to Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
			Exposed to Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			F
Electrical Support	C-10	Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
			Exposed to Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			F

**TABLE 3.5.2-4 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – SWITCHYARD AND TRANSFORMER YARD STRUCTURES**

		Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Equipment Support	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Piles	C-10	Carbon Steel	Driven in undisturbed soil	None	None			J, <a href="#">522</a>
Siding	C-10	Carbon Steel	Exposed to Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Structural Steel	C-10	Galvanized Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
		Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J



**TABLE 3.5.2-5 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING  
MANAGEMENT EVALUATION – BRIDGE CRANES**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Reactor Building Bridge Crane	C-2	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Inspection of Overhead Heavy Load and Light Load Handling Systems</a>	VII.B.1-b	<a href="#">3.3.1-16</a>	A
				Loss of Material / Wear	<a href="#">Inspection of Overhead Heavy Load and Light Load Handling Systems</a>	VII.B.2-a	<a href="#">3.3.1-16</a>	A
				Cumulative Fatigue Damage	TLAA	VII.B.1-a	<a href="#">3.3.1-03</a>	A

**TABLE 3.5.2-6 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING  
MANAGEMENT EVALUATION – GANTRY CRANES**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Intake Structure Gantry Crane	C-7	Carbon Steel	Exposed to Weather	Loss of Material	<a href="#">Inspection of Overhead Heavy Load and Light Load Handling Systems</a>	VII.B.1-b	<a href="#">3.3.1-16</a>	A
				Loss of Material / Wear	<a href="#">Inspection of Overhead Heavy Load and Light Load Handling Systems</a>	VII.B.2-a	<a href="#">3.3.1-16</a>	A
				Cumulative Fatigue Damage	TLAA	VII.B.1-a	<a href="#">3.3.1-03</a>	A

**TABLE 3.5.2-7 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – SERVICE WATER INTAKE STRUCTURE**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Anchorage / Embedment	C-2 C-7 C-10	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
Cable Tray / Conduit	C-2 C-7 C-10	Galvanized Carbon Steel	Exposed to Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J. <a href="#">544</a>
			Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J. <a href="#">544</a>
		Stainless Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J. <a href="#">544</a>
Concrete Above Grade	C-2 C-3 C-6 C-7 C-8 C-10	Concrete	Exposed to Weather	None	<a href="#">Structures Monitoring Program</a>	III.A6.1-a	<a href="#">3.5.1-22</a>	A, <a href="#">501</a> , <a href="#">504</a> , <a href="#">511</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A6.1-c	<a href="#">3.5.1-22</a>	A, <a href="#">501</a> , <a href="#">505</a> , <a href="#">511</a>
				Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A6.1-d	<a href="#">3.5.1-22</a>	E, <a href="#">511</a>
				Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A6.1-e	<a href="#">3.5.1-22</a>	E, <a href="#">511</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A6.1-f	<a href="#">3.5.1-22</a>	A, <a href="#">501</a> , <a href="#">506</a> , <a href="#">511</a>

**TABLE 3.5.2-7 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – SERVICE WATER INTAKE STRUCTURE**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Above Grade (continued)	C-2 C-3 C-4 C-6 C-7 C-8 C-10	Concrete	Protected from Weather	None	Structures Monitoring Program	III.A6.1-c	3.5.1-22	A, 501, 505, 511
				Cracking and Spalling	Fire Protection Program and Structures Monitoring Program	VII.G.1-b	3.3.1-30	A
				Loss of Material	Structures Monitoring Program	III.A6.1-d	3.5.1-22	E, 511
				Loss of Material	Fire Protection Program and Structures Monitoring Program	VII.G.1-c	3.3.1-30	A
				Loss of Material	Structures Monitoring Program	III.A6.1-e	3.5.1-22	E, 511
				Reduction in concrete anchor capacity due to local concrete degradation	Structures Monitoring Program	III.B1.2.3-a III.B2.2-a III.B3.2-a III.B4.3-a	3.5.1-29	A
Concrete Below Grade	C-2 C-3 C-7 C-8 C-10	Concrete	Below Grade/ Submerged	None	Structures Monitoring Program	III.A6.1-a	3.5.1-22	A, 501, 504, 511
				None	Structures Monitoring Program	III.A6.1-c	3.5.1-22	A, 501, 505
				Loss of Material	Structures Monitoring Program	III.A6.1-d	3.5.1-22	E, 511

**TABLE 3.5.2-7 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – SERVICE WATER INTAKE STRUCTURE**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Below Grade (continued)	C-2	Concrete	Below Grade/ Submerged	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A6.1-e	<a href="#">3.5.1-22</a>	E, <a href="#">511</a>
	C-3			None	<a href="#">Structures Monitoring Program</a>	III.A6.1-f	<a href="#">3.5.1-22</a>	A, <a href="#">501</a> , <a href="#">506</a> , <a href="#">511</a>
	C-7 C-8 C-10			None	None	III.A6.1-g	<a href="#">3.5.1-26</a>	I, <a href="#">507</a>
Concrete Submerged	C-2	Concrete	Raw Water	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A6.1-b	<a href="#">3.5.1-22</a>	E, <a href="#">511</a>
	C-5 C-7 C-8 C-10			Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A6.1-h	<a href="#">3.5.1-22</a>	E, <a href="#">511</a>
Doors	C-4 C-7 C-8	Carbon Steel	Exposed to Weather	Loss of Material/ Wear	<a href="#">Fire Protection Program</a> and <a href="#">Structures Monitoring Program</a>	VII.G.1-d	<a href="#">3.3.1-20</a>	A
Electrical Enclosure	C-2	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
	C-7 C-10	Galvanized Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			F, <a href="#">544</a>
Electrical Support	C-2	Galvanized Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			F, <a href="#">544</a>
	C-7 C-10	Stainless Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			F, <a href="#">544</a>

**TABLE 3.5.2-7 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – SERVICE WATER INTAKE STRUCTURE**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Equipment Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B4.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
		Galvanized Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			F, <a href="#">544</a>
Fire Hose Station	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Floor Drains	C-8	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
HVAC Support	C-2	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
Instrument Racks	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
		Stainless Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			F, <a href="#">544</a>
Instrument Support	C-2 C-7 C-10	Galvanized Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			F, <a href="#">544</a>
		Stainless Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			F, <a href="#">544</a>
Masonry Walls	C-8	Concrete Block	Exposed to Weather	Cracking for Masonry Block Walls	<a href="#">Masonry Wall Program</a>	III.A6.3-a	<a href="#">3.5.1-24</a>	A
Penetration	C-2 C-4 C-7 C-10	Sealant	Protected from Weather	Cracking, Delamination & Separation	<a href="#">Fire Protection Program</a>	VII.G.1-a	<a href="#">3.3.1-20</a>	A

**TABLE 3.5.2-7 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – SERVICE WATER INTAKE STRUCTURE**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pipe Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">ASME Section XI, Subsection IWF</a>	III.B1.2.1-a	<a href="#">3.5.1-32</a>	A
				Loss of Mechanical Function	<a href="#">ASME Section XI, Subsection IWF</a>	III.B1.2.2-a	<a href="#">3.5.1-32</a>	A
				Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
				None	None	III.B1.2.1-c	<a href="#">3.5.1-30</a>	I, <a href="#">509</a>
Roof-Membrane/ Built-up	C-3	Elastomer	Exposed to Weather	Change in Material Properties	<a href="#">Structures Monitoring Program</a>			J
Seals and Gaskets	C-3	Elastomer	Exposed to Weather	Change in Material Properties	<a href="#">Structures Monitoring Program</a>			J
Spray Shield	C-13	Aluminum	Protected from Weather	None	None			J, <a href="#">526</a>
Sprayed on Coatings	C-4	Fire Proofing Material	Protected from Weather	Loss of Material	<a href="#">Fire Protection Program</a>			J
Structural Steel	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A6.2-a	<a href="#">3.5.1-22</a>	E, <a href="#">511</a>

**TABLE 3.5.2-8 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Anchorage / Embedment	C-2 C-7 C-10	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
Bellows (RCIC Bellows - MSIV Pit)	C-3	Carbon Steel	Protected from Weather	None	None			J, <a href="#">546</a>
		Stainless Steel	Protected from Weather	None	None			J, <a href="#">529</a>
Blow-Out Panel	C-1 C-2 C-3	Galvanized Carbon Steel	Exposed to Weather	None	None			J, <a href="#">520</a>
		Aluminum	Exposed to Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
		Stainless Steel	Exposed to Weather	None	None			J, <a href="#">528</a>
Cable Tray / Conduit	C-2 C-7 C-10	Galvanized Carbon Steel	Protected from Weather	None	None			J, <a href="#">521</a>
Concrete Above Grade	C-1 C-2 C-3 C-6 C-7 C-8 C-10	Concrete	Exposed to Weather	None	<a href="#">Structures Monitoring Program</a>	III.A2.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>



**TABLE 3.5.2-8 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Above Grade (continued)	C-1 C-2 C-3 C-4 C-6 C-7 C-8 C-10	Concrete	Protected from Weather	None	<a href="#">Structures Monitoring Program</a>	III.A2.1-b	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">512</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B1.2.3-a III.B2.2-a III.B3.2-a III.B4.3-a III.B5.2-a	<a href="#">3.5.1-29</a>	A
				None	None	III.A2.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a>
				None	<a href="#">Fire Protection Program</a> and <a href="#">Structures Monitoring Program</a>	VII.G.3-b VII.G.3-c	<a href="#">3.3.1-30</a>	A, <a href="#">501</a> , <a href="#">534</a>
Concrete Below Grade	C-2 C-3 C-7 C-8 C-10	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A2.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-b	<a href="#">3.5.1-20</a>	A, <a href="#">512</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-e	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>

**TABLE 3.5.2-8 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Below Grade (continued)	C-2 C-3 C-7 C-8 C-10	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A2.1-g	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>
				None	None	III.A2.1-i	<a href="#">3.5.1-26</a>	I, <a href="#">507</a>
				None	None	III.A2.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a>
Concrete Curbs	C-13	Concrete	Protected from Weather	None	<a href="#">Structures Monitoring Program</a>			J, <a href="#">501</a>
Damper Mounting	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Doors	C-1 C-4 C-8	Carbon Steel	Expose to and Protected from Weather	Loss of Material (Includes Wear)	<a href="#">Fire Protection Program</a> and <a href="#">Structures Monitoring Program</a>	VII.G.3-d	<a href="#">3.3.1-20</a>	A, <a href="#">534</a>
Electrical Enclosure	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
		Stainless Steel	Protected from Weather	None	None			F, <a href="#">529</a>

**TABLE 3.5.2-8 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Electrical Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Equipment Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B4.1-a	<a href="#">3.5.1-29</a>	A
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Fire Barrier Assembly	C-4	Fire Proofing Materials	Protected from Weather	Loss of Material	<a href="#">Fire Protection Program</a>			J
Fire Hose Station	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Floor Drains	C-8	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
HVAC Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
		Galvanized Carbon Steel	Protected from Weather	None	None			J, <a href="#">521</a>
Instrument Racks	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>

**TABLE 3.5.2-8 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Instrument Support	C-2	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
	C-7 C-10	Stainless Steel	Protected from Weather	None	None			F, <a href="#">529</a>
Liner	C-2	Stainless Steel	Protected from Weather	None	None			F, <a href="#">529</a>
Liner (includes spent fuel pool gates)	C-2	Stainless Steel	Treated Water	Loss of Material	<a href="#">Water Chemistry Program</a> (and monitoring of spent fuel pool level )	III.A5.2-b	<a href="#">3.5.1-23</a>	A, I, <a href="#">545</a> , <a href="#">547</a>
Masonry Walls	C-2 C-4 C-7 C-10	Concrete Block	Protected from Weather	Cracking for Masonry Block Walls	<a href="#">Masonry Wall Program</a> and <a href="#">Fire Protection Program</a>	III.A2.3-a	<a href="#">3.5.1-24</a>	A
Penetrations	C-1 C-2 C-4 C-7 C-10	Sealant	Protected from Weather	Cracking, Delamination & Separation	<a href="#">Fire Protection Program</a>	VII.G.3-a	<a href="#">3.3.1-20</a>	A, <a href="#">534</a>
Pipe Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">ASME Section XI, Subsection IWF</a>	III.B1.2.1-a	<a href="#">3.5.1-32</a>	A
				Loss of Mechanical Function	<a href="#">ASME Section XI, Subsection IWF</a>	III.B1.2.2-a	<a href="#">3.5.1-32</a>	A
				None	None	III.B1.2.1-c	<a href="#">3.5.1-30</a>	I, <a href="#">509</a>
				Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A

**TABLE 3.5.2-8 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pipe Support	C-2 C-7	Lubrite	Protected from Weather	None	None	III.B1.2.2-a	<a href="#">3.5.1-32</a>	I, <a href="#">533</a>
Roof-Membrane/ Built-up	C-3	Elastomer	Exposed to Weather	Change in Material Properties & Cracking	<a href="#">Structures Monitoring Program</a>			J
Seals and Gaskets	C-1 C-3	Elastomer	Exposed to Weather	Change in Material Properties & Cracking	<a href="#">Structures Monitoring Program</a>			J
Seals and Gaskets (spent fuel pool gate seals)	C-1 C-3	Elastomer	Treated Water	None	None			J, <a href="#">531</a>
Siding	C-1 C-3	Galvanized Carbon Steel	Exposed to Weather	None	None			J, <a href="#">520</a>
Slide Bearing Plate	C-2	Lubrite	Protected from Weather	None	None			J, <a href="#">524</a>
Slide Bearing Plate	C-2	Lubrite (under the spent fuel storage rack in the fuel pool)	Treated Water	None	None			J, <a href="#">524</a> , <a href="#">530</a>

**TABLE 3.5.2-8 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – REACTOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Spent Fuel Storage Rack	C-2	Stainless Steel	Treated Water	Loss of Material	<a href="#">Water Chemistry Program</a>			H, <a href="#">545</a>
		Boral (sand--wiched between two SS tubes)	Treated Water	None	None	VII.A2.1-b	<a href="#">3.3.1-10</a>	I, <a href="#">532</a>
Spray Shield	C-13	Aluminum	Protected from Weather	None	None			J, <a href="#">526</a>
Sprayed on Coatings	C-4	Fire Proofing Material	Protected from Weather	Loss of Material	<a href="#">Fire Protection Program</a>			J
Structural Steel	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A2.2-a	<a href="#">3.5.1-20</a>	A, <a href="#">538</a>
Tendons	C-2	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Fuel Pool Girder Tendon Monitoring Program</a>			J
				Loss of Pre-Stress	TLAA			J
Whip Restraints	C-11	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B5.1-a	<a href="#">3.5.1-29</a>	A

**TABLE 3.5.2-9 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – AUGMENTED OFF-GAS BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Anchorage / Embedment	C-2 C-7 C-10	Carbon Steel	Embedded/ Encased	None	None			J, 518
Cable Tray / Conduit	C-2 C-7 C-10	Galvanized Carbon Steel	Protected from Weather	None	None			J, 520
Concrete Above Grade	C-2 C-3 C-6 C-7 C-8 C-10	Concrete	Exposed to Weather	None	Structures Monitoring Program	III.A3.1-a	3.5.1-20	A, 501, 504, 516
				None	Structures Monitoring Program	III.A3.1-c	3.5.1-20	A, 501, 505, 516
				None	Structures Monitoring Program	III.A3.1-d	3.5.1-20	A, 501, 510, 516
				None	Structures Monitoring Program	III.A3.1-f	3.5.1-20	A, 501, 504, 516
				None	Structures Monitoring Program	III.A3.1-h	3.5.1-25	A, 501, 506, 516
				Reduction in concrete anchor capacity due to local concrete degradation	Structures Monitoring Program	III.B2.2-a III.B3.2-a III.B4.3-a III.B5.2-a	3.5.1-29	A

**TABLE 3.5.2-9 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – AUGMENTED OFF-GAS BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Above Grade (continued)	C-2 C-3 C-4 C-6 C-7 C-8 C-10	Concrete	Protected from Weather	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a> , <a href="#">516</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a> , <a href="#">516</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a> , <a href="#">516</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B2.2-a III.B3.2-a III.B4.3-a III.B5.2-a	<a href="#">3.5.1-29</a>	A
				None	None	III.A3.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a> , <a href="#">516</a>
				None	<a href="#">Fire Protection Program</a>			J
Concrete Below Grade	C-2 C-3 C-7 C-8 C-10	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a> , <a href="#">516</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-b	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">512</a> , <a href="#">516</a>



**TABLE 3.5.2-9 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – AUGMENTED OFF-GAS BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Below Grade (continued)	C-2 C-3 C-7 C-8 C-10	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a> , <a href="#">516</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-e	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">516</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-g	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">516</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a> , <a href="#">516</a>
				None	None	III.A3.1-i	<a href="#">3.5.1-26</a>	I, <a href="#">507</a> , <a href="#">516</a>
				None	None	III.A3.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a> , <a href="#">516</a>

**TABLE 3.5.2-9 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – AUGMENTED OFF-GAS BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Doors	C-4 C-8	Carbon Steel	Exposed to Weather	Loss of Material (Includes Wear)	<a href="#">Fire Protection Program</a> and <a href="#">Structures Monitoring Program</a>			J
Electrical Enclosure	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Electrical Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Equipment Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B4.1-a	<a href="#">3.5.1-29</a>	A
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>

**TABLE 3.5.2-9 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – AUGMENTED OFF-GAS BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Fire Hose Station	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Instrument Racks	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
Instrument Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
Masonry Walls	C-2 C-7 C-10	Concrete Block	Protected from Weather	Cracking for Masonry Block Walls	<a href="#">Masonry Wall Program</a>	III.A3.3-a	<a href="#">3.5.1-24</a>	A, <a href="#">516</a>
Penetrations	C-2 C-4 C-7 C-10	Sealant	Protected from Weather	Cracking, Delamination & Separation	<a href="#">Fire Protection Program</a>			J, <a href="#">515</a>
Pipe Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
Slide Bearing Plate	C-2	Lubrite	Protected from Weather	None	None			J, <a href="#">524</a>
Structural Steel	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A3.2-a	<a href="#">3.5.1-20</a>	A, <a href="#">516</a> , <a href="#">538</a>

**TABLE 3.5.2-10 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Anchorage / Embedment	C-2 C-7 C-10	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
Blow-Out Panel	C-2	Galvanized Carbon Steel	Protected from Weather	None	None			J, <a href="#">521</a>
Cable Tray / Conduit	C-2 C-7 C-10	Galvanized Carbon Steel	Protected from Weather	None	None			J, <a href="#">521</a>
Concrete Above Grade	C-2 C-3 C-6 C-7 C-8 C-10	Concrete	Exposed to Weather	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B1.2.3-a III.B2.2-a III.B3.2-a III.B4.3-a III.B5.2-a	<a href="#">3.5.1-29</a>	A

**TABLE 3.5.2-10 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Above Grade	C-2 C-3 C-4 C-6 C-7 C-8 C-10	Concrete	Protected from Weather	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Fire Protection Program</a> and <a href="#">Structures Monitoring Program</a>	VII.G.4-b VII.G.4-c	<a href="#">3.3.1-30</a>	A, <a href="#">501</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B1.2.3-a III.B2.2-a III.B3.2-a III.B4.3-a III.B5.2-a	<a href="#">3.5.1-29</a>	A
				None	None	III.A3.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a>
Concrete Below Grade	C-2 C-3 C-7 C-8 C-10	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-b	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">512</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-e	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-g	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>

**TABLE 3.5.2-10 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Below Grade (continued)	C-2	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>
	C-3			None	None	III.A3.1-i	<a href="#">3.5.1-26</a>	I, <a href="#">507</a>
	C-7 C-8 C-10			None	None	III.A3.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a>
Concrete Curbs	C-13	Concrete	Protected from Weather	None	<a href="#">Structures Monitoring Program</a>			J, <a href="#">501</a>
Damper Mounting	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Doors	C-4 C-8	Carbon Steel	Protected from Weather	Loss of Material / Wear	<a href="#">Fire Protection Program</a> and <a href="#">Structures Monitoring Program</a>	VII.G.4-d	<a href="#">3.3.1-20</a>	A
Electrical Enclosure	C-2 C-3 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Electrical Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>

**TABLE 3.5.2-10 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Equipment Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B4.1-a	<a href="#">3.5.1-29</a>	A
Fire Barrier Assembly	C-4	Fire Proofing Materials	Protected from Weather	Loss of Material	<a href="#">Fire Protection Program</a>			J
Fire Hose Station	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Floor drains	C-8	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
HVAC Supports	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
Instrument Racks	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
Instrument Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
Masonry Walls	C-2 C-4 C-7 C-10	Concrete Block	Protected from Weather	Cracking for Masonry Block Walls	<a href="#">Masonry Wall Program</a> and <a href="#">Fire Protection Program</a>	III.A3.3-a	<a href="#">3.5.1-24</a>	A
Penetrations	C-2 C-4 C-7 C-10	Sealant	Protected from Weather	Cracking, Delamination & Separation	<a href="#">Fire Protection Program</a>	VII.G.4-a	<a href="#">3.3.1-20</a>	A

**TABLE 3.5.2-10 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – DIESEL GENERATOR BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Pipe Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">ASME Section XI, Subsection IWF</a>	III.B1.2.1-a	<a href="#">3.5.1-32</a>	A
				Loss of Mechanical Function	<a href="#">ASME Section XI, Subsection IWF</a>	III.B1.2.2-a	<a href="#">3.5.1-32</a>	A
				None	None	III.B1.2.1-c	<a href="#">3.5.1-30</a>	I, <a href="#">509</a>
				Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
Roof-Built-Up	C-3	Elastomer	Exposed to Weather	Change in Material Properties & Cracking	<a href="#">Structures Monitoring Program</a>			J
Siding	C-3	Aluminum	Exposed to Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Spray Shield	C-13	Aluminum	Protected from Weather	None	None			J, <a href="#">526</a>
Sprayed on Coatings	C-4	Fire Proofing Materials	Protected from Weather	Loss of Material	<a href="#">Fire Protection Program</a>			J
Structural Steel	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A3.2-a	<a href="#">3.5.1-20</a>	A, <a href="#">538</a>



**TABLE 3.5.2-11 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Anchorage / Embedment	C-2 C-7 C-10	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
Battery Rack	C-2	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	A, <a href="#">508</a>
Cable Tray / Conduit	C-2 C-7 C-10	Galvanized Carbon Steel	Protected from Weather	None	None			J, <a href="#">521</a>
Concrete Above Grade	C-2 C-3 C-6 C-7 C-8 C-10	Concrete	Exposed to Weather	None	<a href="#">Structures Monitoring Program</a>	III.A2.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B2.2-a III.B3.2-a III.B4.3-a III.B5.2-a	<a href="#">3.5.1-29</a>	A

**TABLE 3.5.2-11 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Above Grade (continued)	C-2 C-3 C-4 C-6 C-7 C-8 C-10	Concrete	Protected from Weather	None	<a href="#">Structures Monitoring Program</a>	III.A2.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B2.2-a III.B3.2-a III.B4.3-a III.B5.2-a	<a href="#">3.5.1-29</a>	A
				None	None	III.A2.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a>
				None	<a href="#">Fire Protection Program</a> and <a href="#">Structures Monitoring Program</a>	VII.G.3-b VII.G.3-c	<a href="#">3.3.1-30</a>	A, <a href="#">534</a>
Concrete Below Grade	C-2 C-3 C-7 C-8 C-10	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A2.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-b	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">512</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-e	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A2.1-g	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>

**TABLE 3.5.2-11 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Below Grade (continued)	C-2	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A2.1-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>
	C-3			None	None	III.A2.1-i	<a href="#">3.5.1-26</a>	I, <a href="#">507</a>
	C-7 C-8 C-10			None	None	III.A2.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a>
Control Room Ceiling	C-7	Incombustible Mineral Fiber	Protected from Weather	None	None			J, <a href="#">525</a>
Damper Mounting	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Doors	C-1 C-4	Carbon Steel	Protected from Weather	Loss of Material / Wear	<a href="#">Fire Protection Program</a> and <a href="#">Structures Monitoring Program</a>	VII.G.3-d	<a href="#">3.3.1-20</a>	A, <a href="#">534</a>
Electrical Enclosure	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Electrical Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Equipment Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B4.1-a	<a href="#">3.5.1-29</a>	A

**TABLE 3.5.2-11 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Fire Barrier Assembly	C-4	Fire Proofing Materials	Protected from Weather	Loss of Material	<a href="#">Fire Protection Program</a>			J
Fire Hose Station	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
HVAC Supports	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
Instrument Racks	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
Instrument Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
Masonry Walls	C-2 C-4 C-7 C-10	Concrete Block	Protected from Weather	Cracking for Masonry Block Walls	<a href="#">Masonry Wall Program</a> and <a href="#">Fire Protection Program</a>	III.A2.3-a	<a href="#">3.5.1-24</a>	A
Penetrations	C-2 C-4 C-7 C-10	Sealant	Protected from Weather	Cracking, Delamination & Separation	<a href="#">Fire Protection Program</a>	VII.G.3-a	<a href="#">3.3.1-20</a>	A, <a href="#">534</a>
Pipe Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A

**TABLE 3.5.2-11 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – CONTROL BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Raised Floor	C-2	Galvanized Carbon Steel	Protected from Weather	None	None			J, <a href="#">521</a>
Roof-Membrane / Built-Up	C-3	Elastomer	Exposed to Weather	Change in Material Properties & Cracking	<a href="#">Structures Monitoring Program</a>			J
Seals and Gaskets	C-1	Elastomer	Protected from Weather	Change in Material Properties & Cracking	<a href="#">Structures Monitoring Program</a>			J
Sprayed on Coatings	C-4	Fire Proofing Materials	Protected from Weather	Loss of Material	<a href="#">Fire Protection Program</a>			J
Structural Steel	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A2.2-a	<a href="#">3.5.1-20</a>	A, <a href="#">538</a>

**TABLE 3.5.2-12 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – TURBINE BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Anchorage / Embedment	C-2 C-7 C-10	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
Cable Tray / Conduit	C-2 C-7 C-10	Galvanized Carbon Steel	Protected from Weather	None	None			J, <a href="#">521</a>
Concrete Above Grade	C-2 C-3 C-7 C-8 C-10	Concrete	Exposed to Weather	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B2.2-a, III.B3.2-a, III.B4.3-a, III.B5.2-a	<a href="#">3.5.1-29</a>	A

**TABLE 3.5.2-12 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – TURBINE BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Above Grade (continued)	C-2 C-3 C-4 C-7 C-8 C-10	Concrete	Protected from Weather	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Fire Protection Program</a> and <a href="#">Structures Monitoring Program</a>	VII.G.2-b	<a href="#">3.3.1-30</a>	A, <a href="#">501</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Fire Protection Program</a> and <a href="#">Structures Monitoring Program</a>	VII.G.2-c	<a href="#">3.3.1-30</a>	A, <a href="#">501</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B2.2-a, III.B3.2-a, III.B4.3-a, III.B5.2-a	<a href="#">3.5.1-29</a>	A
				None	None	III.A3.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a>
	C-2 C-3 C-7 C-8 C-10	Concrete	Raw Water (Spray & Leakage within the Circulating Water Condenser Pits)	Loss of Material	<a href="#">Structures Monitoring Program</a>			G

**TABLE 3.5.2-12 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – TURBINE BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Below Grade	C-2 C-3 C-7 C-8 C-10	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-b	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">512</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-e	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-g	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>
				None	None	III.A3.1-i	<a href="#">3.5.1-26</a>	I, <a href="#">507</a>
				None	None	III.A3.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a>
Concrete Curbs	C-8	Concrete	Protected from Weather	None	<a href="#">Structures Monitoring Program</a>			J, <a href="#">501</a>
Doors	C-4 C-8	Carbon Steel	Protected from Weather	Loss of Material / Wear	<a href="#">Fire Protection Program</a> and <a href="#">Structures Monitoring Program</a>	VII.G.2-d	<a href="#">3.3.1-20</a>	A



**TABLE 3.5.2-12 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – TURBINE BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Electrical Enclosure	C-2	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
	C-7 C-10	Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Electrical Support	C-2	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
	C-7 C-10	Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Equipment Support	C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B4.1-a	<a href="#">3.5.1-29</a>	A
Fire Barrier Assembly	C-4	Fire Proofing Materials	Protected from Weather	Loss of Material	<a href="#">Fire Protection Program</a>			J
Fire Hose Station	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Instrument Racks	C-2	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
Instrument Support	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
Masonry Walls	C-2 C-4 C-7 C-10	Concrete Block	Protected from Weather	Cracking for Masonry Block Walls	<a href="#">Masonry Wall Program</a> and <a href="#">Fire Protection Program</a>	III.A3.3-a	<a href="#">3.5.1-24</a>	A

**TABLE 3.5.2-12 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – TURBINE BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Penetrations	C-2 C-4 C-7 C-10	Sealant	Protected from Weather	Cracking, Delamination & Separation	<a href="#">Fire Protection Program</a>	VII.G.2-a	<a href="#">3.3.1-20</a>	A
Pipe Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
Roof-Membrane / Built-Up	C-10	Elastomer	Exposed to Weather	Change in Material Properties & Cracking	<a href="#">Structures Monitoring Program</a>			J
Siding	C-10	Galvanized Carbon Steel	Exposed to Weather	None	None			J, <a href="#">520</a>
Structural Steel	C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.A3.2-a	<a href="#">3.5.1-20</a>	A, <a href="#">538</a>

**TABLE 3.5.2-13 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – RADWASTE BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Anchorage / Embedment	C-2 C-7 C-10	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
Cable Tray / Conduit	C-2 C-7 C-10	Galvanized Carbon Steel	Protected from Weather	None	None			J, <a href="#">521</a>
Concrete Above Grade	C-2 C-3 C-6 C-7 C-8 C-10	Concrete	Exposed to Weather	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A.3-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B2.2-a III.B3.2-a	<a href="#">3.5.1-29</a>	A

**TABLE 3.5.2-13 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – RADWASTE BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Above Grade (continued)	C-2 C-3 C-6 C-7 C-8 C-10	Concrete	Protected from Weather	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B2.2-a III.B3.2-a	<a href="#">3.5.1-29</a>	A
				None	None	III.A3.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a>
Concrete Below Grade	C-2 C-3 C-7 C-8 C-10	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A3.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-b	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">512</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-e	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-g	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A3.1-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>
				None	None	III.A3.1-i	<a href="#">3.5.1-26</a>	I, <a href="#">507</a>
				None	None	III.A3.1-j	<a href="#">3.5.1-27</a>	I, <a href="#">513</a>
Doors	C-8	Carbon Steel	Protected from Weather	Loss of Material (Includes Wear)	<a href="#">Structures Monitoring Program</a>			J

**TABLE 3.5.2-13 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – RADWASTE BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Electrical Enclosure	C-2	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
	C-7 C-10	Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Electrical Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
Fire Hose Station	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Instrument Support	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
Pipe Support	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
Roof-Membrane / Built-Up	C-10	Elastomer	Exposed to Weather	Change in Material Properties & Cracking	<a href="#">Structures Monitoring Program</a>			J

**TABLE 3.5.2-14 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – WATER TREATMENT BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Anchorage / Embedment	C-10	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
Battery Rack	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
Cable Tray / Conduit	C-10	Galvanized Carbon Steel	Protected from Weather	None	None			J, <a href="#">521</a>
Concrete Above Grade	C-10	Concrete	Exposed to Weather	None	<a href="#">Structures Monitoring Program</a>			J, <a href="#">501</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B2.2-a III.B3.2-a III.B4.3-a	<a href="#">3.5.1-29</a>	A
			Protected from Weather	None	<a href="#">Structures Monitoring Program</a>			J, <a href="#">501</a>
				Reduction in concrete anchor capacity due to local concrete degradation	<a href="#">Structures Monitoring Program</a>	III.B2.2-a III.B3.2-a III.B4.3-a	<a href="#">3.5.1-29</a>	A
Concrete Below Grade	C-10	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>			J, <a href="#">501</a>
Electrical Enclosure	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>

**TABLE 3.5.2-14 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – WATER TREATMENT BUILDING**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Electrical Support	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
		Galvanized Carbon Steel	Protected from Weather	None	None			F, <a href="#">521</a>
Equipment Support	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B4.1-a	<a href="#">3.5.1-29</a>	A
Fire Barrier Assembly	C-4	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Fire Protection Program</a>			J
Instrument Support	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B3.1-a	<a href="#">3.5.1-29</a>	C, <a href="#">508</a>
Pipe Support	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>	III.B2.1-a	<a href="#">3.5.1-29</a>	A
Siding	C-10	Galvanized Carbon Steel	Exposed to Weather	None	None			J, <a href="#">520</a>
Structural Steel	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J

**TABLE 3.5.2-15 CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – MISCELLANEOUS STRUCTURES AND OUT-BUILDINGS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Anchorage / Embedment	C-2 C-7 C-10	Carbon Steel	Embedded/ Encased	None	None			J, <a href="#">518</a>
Anchor / Embedment, Exposed	C-2 C-7 C-10	Carbon Steel	Exposed to Weather	Loss of Material	Structures Monitoring Program			J
Cable Tray / Conduit	C-2 C-7 C-10	Galvanized Carbon Steel	Protected from Weather	None	None			J, <a href="#">521</a>
Concrete BWR Vent Stack	C-2 C-9	Concrete	Exposed to Weather	None	<a href="#">Structures Monitoring Program</a>	III.A9.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
			and  Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A9.1-b	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">512</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A9.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A9.1-d	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">510</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A9.1-e	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A9.1-f	<a href="#">3.5.1-20</a>	A, <a href="#">501</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A9.1-g	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A9.1-h	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>
				None	None	III.A9.1-i	<a href="#">3.5.1-26</a>	I, <a href="#">507</a>



**TABLE 3.5.2-15 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – MISCELLANEOUS STRUCTURES AND OUT-BUILDINGS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Concrete Below Grade (includes Manholes)	C-2 C-3 C-7 C-10	Concrete	Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>			J, <a href="#">501</a>
Concrete Above Grade	C-10	Concrete	Exposed to Weather	None	<a href="#">Structures Monitoring Program</a>			J, <a href="#">501</a>
Tank Foundation	C-7 C-10	Concrete	Exposed to Weather	None	<a href="#">Structures Monitoring Program</a>	III.A8.1-a	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">504</a>
			and	None	<a href="#">Structures Monitoring Program</a>	III.A8.1-b	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">512</a>
			Below Grade/ Submerged	None	<a href="#">Structures Monitoring Program</a>	III.A8.1-c	<a href="#">3.5.1-20</a>	A, <a href="#">501</a> , <a href="#">505</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A8.1-d	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">510</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A8.1-e	<a href="#">3.5.1-21</a>	A, <a href="#">501</a> , <a href="#">510</a> , <a href="#">517</a>
				None	<a href="#">Structures Monitoring Program</a>	III.A8.1-f	<a href="#">3.5.1-25</a>	A, <a href="#">501</a> , <a href="#">506</a>
				None	None	III.A8.1-g	<a href="#">3.5.1-26</a>	I, <a href="#">507</a>
Electrical Enclosure	C-2 C-7 C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			F
		Galvanized Carbon Steel	Exposed to Weather	None	None			F, <a href="#">520</a>

**TABLE 3.5.2-15 (continued) CONTAINMENTS, STRUCTURES, AND COMPONENT SUPPORT - SUMMARY OF AGING MANAGEMENT EVALUATION – MISCELLANEOUS STRUCTURES AND OUT-BUILDINGS**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-1801 Volume 2 Item	Table 1 Item	Notes
Electrical Support	C-2 C-7 C-10	Galvanized Carbon Steel	Exposed to Weather	None	None			F, <a href="#">520</a>
Instrument Support	C-2 C-7 C-10	Galvanized Carbon Steel	Exposed to Weather	None	None			J, <a href="#">508</a>
Piles	C-1	Carbon Steel	Driven in Undisturbed Soil	None	None			J, <a href="#">522</a>
Siding	C-10	Galvanized Carbon Steel	Exposed to Weather	None	None			J, <a href="#">520</a>
Structural Steel	C-10	Carbon Steel	Protected from Weather	Loss of Material	<a href="#">Structures Monitoring Program</a>			J
		Galvanized Carbon Steel	Protected from Weather	None	None			J, <a href="#">521</a>
			Exposed to Weather	None	None			J, <a href="#">521</a>

Notes for Tables 3.5.2-1 through 3.5.2-15:

Generic Notes:

- A. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- B. Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- C. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
- D. Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
- E. Consistent with NUREG-1801 for material, environment, and aging effect, but a different AMP is credited.

- F. Material not in NUREG-1801 for this component.
- G. Environment not in NUREG-1801 for this component and material.
- H. Aging effect not in NUREG 1801 for this component, material, and environment combination.
- I. Aging effect in NUREG-1801 for this component, material, and environment combination is not applicable.
- J. Neither the component nor the material and environment combination is evaluated in NUREG-1801.

Plant-specific Notes:

- 501. Although no aging effects have been identified, the specified NUREG-1801 program will be assigned for management of this commodity, in accordance with the NRC's current position (ISG-03).
- 502. The BSEP AMR methodology concluded that aggressive chemical attack is not applicable in the Primary Containment. Inspections performed in accordance with IWL will validate the continued absence of aggressive chemical attack.
- 503. Neither the component nor the AMP is evaluated in NUREG-1801; however, the material, environment, and aging effect are addressed and adequately managed by the Structures Monitoring Program. As such, this component is not consistent with NUREG-1801.
- 504. In accordance with NUREG-1801 recommendations, no aging management is required because the concrete mix design is per ACI 318, with a low water/cement ratio and entrained air between 3 and 6%.
- 505. In accordance with NUREG-1801 recommendations, no aging management is required because concrete aggregates were selected per ASTM C33, which uses ASTM C227 & ASTM C295.
- 506. BSEP does not rely on a de-watering system for control of settlement; the subject structure is older than 25 years and has experienced negligible settlement; as such, this aging effect is not applicable.
- 507. BSEP does not have a porous concrete subfoundation and does not implement a de-watering system; therefore this aging effect is not applicable and no aging management is required.
- 508. The anchorage system, addressed by the NUREG-1801 component, is considered a sub-component of the listed civil commodity group.
- 509. In accordance with NUREG-1801 recommendations, no aging management is required, because no CLB fatigue analysis exists.
- 510. In accordance with NUREG-1801 recommendation, no aging management is required because the concrete is not exposed to an aggressive environment and has been designed in accordance with ACI 318, with a low water/cement ratio and entrained air between 3 and 6%.
- 511. Although NUREG-1801 recommends Regulatory Guide 1.127, "Inspection of Water-Control Structures Associated with Nuclear Power Plants", BSEP utilizes the Structures Monitoring Program.
- 512. In accordance with NUREG-1801 recommendations, no aging management is required, because the structure is not subject to flowing water and the concrete design ensures a dense, well-cured, low permeability concrete with controlled cracking.
- 513. In accordance with NUREG-1801 recommendations, no aging management is required because the structure is not subject to general area temperatures > 150 °F or local area temperatures > 200 °F.

514. The correlation of the BSEP PCS with NUREG-1801 is unique within the industry because the BSEP Primary Containment is the only BWR Mark I reinforced concrete containment in the United States. Chapter II of NUREG-1801 provides guidance for a BWR mark I steel containment and for a BWR Mark II concrete containment; however, no guidance is provided for a BWR Mark I reinforced concrete containment. The BSEP containment structure is essentially the same as the NUREG-1801 BWR Mark I steel containment except the BSEP containment is a steel-lined, reinforced concrete structure rather than a free standing steel containment. This difference means the BSEP containment structure looks like a BWR Mark I steel containment, with a Drywell and Torus, but is fabricated from reinforced concrete, like a BWR Mark II concrete containment. The NUREG-1801 description of concrete structures and/or components for Mark II concrete containments is sufficiently generic that the concrete portions of the BSEP containment are considered to be consistent with the concrete portions of the NUREG-1801 Mark II concrete containment. The steel elements for the BSEP containment are consistent with the steel elements described for the NUREG-1801 BWR Mark I Steel Containment. The BSEP containment common components are consistent with the BWR Containment Common Components described in NUREG-1801 Chapter II, Section B4.
515. NUREG-1801 does not provide a category for Augmented Off-Gas Building fire barrier penetration seals.
516. Although the Augmented Off-Gas building is not listed in the Group 3, Class I structures, of NUREG-1801, it is a Class I structure and corresponds to the type of structures listed in Group 3; as such, the Group 3 categorization has been assigned to this building.
517. Groundwater monitoring is performed periodically to validate the below-grade environment is not aggressive.
518. The BSEP AMR methodology concluded that carbon/low alloy steel, completely encased in concrete, has no aging effect.
519. The BSEP AMR methodology concluded that galvanized carbon/low alloy steel, completely encased in concrete, has no aging effect.
520. The BSEP AMR methodology concluded that galvanized carbon/low alloy steel, exposed to weather and not subject to an aggressive environment, has no aging effect.
521. The BSEP AMR methodology concluded that galvanized carbon/low alloy steel, protected from weather, has no aging effect.
522. Based on NUREG-1557, steel piles driven in undisturbed soils have been unaffected by corrosion; and those driven in disturbed soil experience minor to moderate corrosion to a small area of metal. Therefore, no aging effects have been concluded for steel piles.
523. BSEP concrete aggregates were selected per ASTM C33, which uses ASTM C227 & ASTM C295. Inspections performed in accordance with IWL will validate the continued absence of reactions with aggregates.
524. The BSEP AMR methodology concluded that Lubrite slide bearing plates have no aging effects, based on the low cycle service requirements and a review of industry and plant specific operational experience.
525. Aging effects for incombustible mineral fiber boards are not developed in the BSEP AMR methodology. However, the boards are located in a temperature and humidity controlled area; as such, components within that environment are not exposed to the mechanisms and effects required to promote component degradation. Additionally, a review of plant operating experience for the control room area has identified no aging effects associated with mineral fiber boards.
526. The BSEP AMR methodology concluded that aluminum in a Protected from Weather environment has no aging effect.
527. BSEP Primary Containment concrete is not exposed to an aggressive environment and has been designed in accordance with ACI 318, with a low water/cement ratio and entrained air between 3 and 6%. Inspections performed in accordance with IWL will validate the continued absence of visible corrosion of embedded steel.
528. The BSEP AMR methodology concluded that stainless steel exposed to weather and not subject to an aggressive environment, has no aging effect.
529. The BSEP AMR methodology concluded that stainless steel in Indoor Air/Protected from Weather environments and not subject to aggressive chemical attack has no aging effect.

- 530. Based on the original NRC safety evaluation of the High Density Fuel Storage System, dated December 15, 1983, "no significant corrosion should occur in the spent fuel storage racks at Brunswick Units 1 and 2 for a period well in excess of the 40 years design life of the unit."
- 531. In accordance with Table 2.1-3 of NUREG-1800, the fuel pool gate seals are tested and replaced on condition per procedure every time the fuel pool gates are removed. Therefore no aging management is required.
- 532. The BSEP boral plates are sandwiched between the inner and outer wall of the rack tube and are not subject to dislocation, deterioration, or removal; plant specific operating experience and testing results of BSEP boral sample stations have validated the absence of aging effects. As such, no aging management program is required for this commodity.
- 533. Aging management review of Lubrite slide bearing plates associated with pipe supports is performed within the pipe support commodity group, rather than under the slide bearing plate commodity group. NUREG-1801 identifies loss of mechanical function as an applicable aging effect; however, based on low cycle service requirements and a review of industry and plant specific operational experience, no evidence exists that would indicate this aging effect is relevant.
- 534. Although the Reactor and Control buildings are not specifically identified in Chapter VII, Section G, Auxiliary Systems, they are sufficiently similar to be considered consistent with the Chapter VII, Section G structure, Auxiliary Building.
- 535. The AMR methodology concluded that Elastomers could be susceptible to the aging effect of cracking and change of material properties. However, the structural sealants utilized for Electrical Penetrations have been evaluated by the EQ Program as being acceptable for the period of extended operation. Tests performed in accordance with 10 CFR Part 50, Appendix J Program will validate the pressure boundary intended function for Electrical Penetration structural sealants.
- 536. The bulk average temperature for the BSEP Primary Containment is less than 150 °F; however, trending data for the upper elevations of the Primary Containment have identified a maximum average temperature of 194 °F. Based on an evaluation of Drywell temperatures, the contact temperature at the inside face of the concrete (Drywell side) would be around 175 °F and the contact temperature at the outside face of the concrete (Reactor Building side) would be 107 °F. Because the elevated temperatures are localized to the upper elevation of the Drywell and the actual concrete temperatures are on a gradient through the Drywell wall, the upper elevation of the Drywell is considered a local area, rather than general. As such, the containment concrete elements are not exposed to temperatures which would exceed the thresholds for degradation. These thresholds are consistent with the guidance provided in NUREG-1801 which defines elevated temperatures as greater than 150 °F general and 200 °F local.
- 537. The BSEP primary containment is completely contained within the Reactor Building, as such, the primary containment is not subject to aging effects associated with a below grade exterior environment.
- 538. The BSEP coatings program is not relied upon for managing loss of material due to corrosion.
- 539. The AMR methodology concluded that Vent Line Bellows in containment air environment are not susceptible to the aging effect of cracking. The only significant cyclic loads applicable for the Vent Line Bellows were those associated with accident conditions. The number of cyclic loads was determined to be very low and not assumed to increase during the period of extended operation. Nevertheless, the AMP 10 CFR Part 50, Appendix J, would detect cracking should it occur.
- 540. The AMR methodology concluded that the insulation for hot penetrations, in the containment air environment, has no aging effect.
- 541. The AMR methodology concluded that hot and cold penetrations in containment air environment are not susceptible to the aging effect of cracking. Nevertheless, the AMPs of ASME Section XI, Subsection IWE and 10 CFR Part 50, Appendix J would detect cracking should it occur.
- 542. The intended function for the PCS Moisture Barrier is to prevent intrusion of moisture between the inaccessible concrete mat and the Drywell Liner.

- 543. This TLAA is further evaluated in Section 4.6.
- 544. Due to the aggressive environment associated with the Service Water Intake Structure, the subject commodities are considered susceptible to loss of material.
- 545. The BSEP AMR methodology does not predict SCC, based on the absence of temperatures in excess of 140° F.
- 546. The BSEP AMR methodology concluded that carbon steel, protected from weather and exposed to an elevated temperature environment, such as lines that normally operate at high temperature, are in a non-wetted environment and not susceptible to general and pitting corrosion.
- 547. Section 3.7.7 of Technical Specifications requires the spent fuel pool water level to be monitored.
- 548. Technical Specification Surveillance 3.6.1.2.1 requires primary containment air lock leakage rate testing to be performed in accordance with the Primary Containment Leakage Rate Testing Program.

**TABLE 3.6.2-1 ELECTRICAL AND I&C SYSTEMS – SUMMARY OF AGING  
MANAGEMENT EVALUATION – ELECTRICAL/I&C  
COMPONENTS/COMMODITIES**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NU V
Non-EQ Insulated Cables and Connections	E-1	Various Organic Polymers	Adverse localized environment caused by heat, radiation, or moisture in the presence of oxygen	Embrittlement, cracking, melting, discoloration, swelling, or loss of dielectric strength leading to reduced IR; electrical failure caused by thermal/thermooxidative degradation of organics; radiation-induced oxidation; moisture intrusion	<a href="#">Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program</a>	V
Medium-Voltage Power Cables	E-1	Various Organic Polymers	Adverse localized environment caused by exposure to moisture and voltage	Formation of water trees, localized damage leading to electrical failure (breakdown of insulation)	<a href="#">Inaccessible Medium-Voltage Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program</a>	V

**TABLE 3.6.2-1 (continued) ELECTRICAL AND I&C SYSTEMS – SUMMARY  
OF AGING MANAGEMENT EVALUATION – ELECTRICAL/I&C  
COMPONENTS/COMMODITIES**

Component Commodity	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NU V
Non-EQ Cables Used in Radiation Monitoring Instrumentation Circuits	E-1	Various Organic Polymers	Adverse localized environment caused by heat, radiation, or moisture in the presence of oxygen	Embrittlement, cracking, melting, discoloration, swelling, or loss of dielectric strength leading to reduced IR; electrical failure caused by thermal/ thermooxidative degradation of organics; radiation-induced oxidation; moisture intrusion	<a href="#">Electrical Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits Program</a>	V
Non-EQ Cables Used in Neutron Flux Instrumenta- tion Circuits	E-1	Various Organic Polymers	Adverse localized environment caused by heat, radiation, or moisture in the presence of oxygen	Embrittlement, cracking, melting, discoloration, swelling, or loss of dielectric strength leading to reduced IR; electrical failure caused by thermal/ thermooxidative degradation of organics; radiation-induced oxidation; moisture intrusion	<a href="#">Electrical Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits Program</a>	V
Phase Bus	E-1	Various Metals, Porcelain, PVC, Silicon Caulk	Adverse localized environment caused by heat, or moisture	Oxidation, Loosening of bolted connections due to thermal cycling, Corrosion due to moisture	<a href="#">Phase Bus Aging Management Program</a>	



**TABLE 3.6.2-1 (continued) ELECTRICAL AND I&C SYSTEMS – SUMMARY  
OF AGING MANAGEMENT EVALUATION – ELECTRICAL/I&C  
COMPONENTS/COMMODITIES**

<b>Component Commodity</b>	<b>Intended Function</b>	<b>Material</b>	<b>Environment</b>	<b>Aging Effect Requiring Management</b>	<b>Aging Management Program</b>	<b>NU V</b>
Non-EQ Electrical and I&C Penetration Assemblies	E-1	XLPE, XLPO, SR, Ceramic, DC 185 encapsulant	Adverse localized environment caused by heat or radiation in the presence of oxygen	None	None	
Non-EQ Electrical and I&C Penetration Assembly Pigtails	E-1	XLPO, XLPE	Adverse localized environment caused by heat or radiation in the presence of oxygen	Embrittlement, cracking, melting, discoloration, swelling, or loss of dielectric strength leading to reduced IR; electrical failure caused by thermal/ thermooxidative degradation of organics; radiation-induced oxidation; moisture intrusion	<a href="#">Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Program</a>	V
High-Voltage Insulators	E-2	Porcelain, Metal, Cement	Outdoor	None	None	
Switchyard Bus	E-1	Aluminum, Galvanized Steel	Outdoor	None	None	
Transmission Conductors	E-1	Aluminum, Steel	Outdoor	None	None	

Notes for Table 3.6.2-1:

Generic Notes:

- A Consistent with NUREG-1801 item for component, material, environment, and aging effect.
  - . AMP is consistent with NUREG-1801 AMP.
- B Consistent with NUREG-1801 item for component, material, environment, and aging effect.
  - . AMP takes some exceptions to NUREG-1801 AMP.
- C Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.
  - .
- D Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.
  - .
- E Consistent with NUREG-1801 for material, environment, and aging effect, but a different AMP is credited.
  - .
- F Material not in NUREG-1801 for this component.
  - .
- G Environment not in NUREG-1801 for this component and material.
  - .
- H Aging effect not in NUREG 1801 for this component, material, and environment combination.
  - .
- I. Aging effect in NUREG-1801 for this component, material, and environment combination is not applicable.
- J. Neither the component nor the material and environment combination is evaluated in NUREG-1801.

Plant-specific Notes:

- 60 There are no BSEP fuse holders that meet the screening criteria defined in ISG-5.
  - 1. Therefore, no aging management program for fuse holders is warranted under ISG-5. However, since fuse holders represent another type of electrical connection similar to terminal blocks, fuse holders are included in the aging management program for Electrical Cables and Connections Not Subject to 10 CFR 50.49 EQ Requirements.
- 60 The scope of this program applies to non-EQ cables used in the process radiation
  - 2. monitoring instrumentation circuits, area radiation monitoring instrumentation circuits, and neutron monitoring instrumentation circuits that are sensitive to a reduction in insulation resistance.
- 60 The test methods utilized for detecting the aging effects of the non-EQ cables associated
  - 3. with the neutron monitoring instrumentation circuits is based on industry comments to ISG-15.
- 60 Evaluation has shown that the insulation materials for the non-EQ Westinghouse Class E
  - 4. and Class D2 electrical penetration assemblies are aptly suited for their service conditions and acceptable for the period of extended operation.
- 60 The aging management program for Electrical Cables and Connections Not Subject To 10
  - 5. CFR 50.49 EQ Requirements is applicable to the penetration assembly pigtails.

- 60 Surface contamination is not an applicable aging mechanism. The buildup of surface  
6. contamination is typically a slow, gradual process. BSEP is located in a rural area where airborne particle concentrations are comparatively low. Consequently, the rate of contamination buildup on the insulators is not significant. Any such contamination accumulation is washed away naturally, by rainwater. The glazed surface on high-voltage insulators at BSEP aids in the removal of this contamination. In March 1993, the Unit 2 switchyard experienced a flashover of some high-voltage insulators. The incident was attributed to a severe winter storm with gale force winds that persisted in the area for a number of days. The incident was considered a highly unusual atmospheric event and was not attributed to actual aging of the insulators but rather to the storm itself. The storm was unusual because it contained high winds but little or no precipitation to wash away the salt spray on the insulators. An event like this had not occurred prior or subsequent to March 1993. As the March 1993 incident was event-driven, it is concluded that surface contamination is not an applicable stressor for the high-voltage insulators within the scope of this review when exposed to their normal service conditions. Therefore, no aging management activities are required for the extended period of operation. This event resulted in the issuance of NRC IN 93-95, Storm-Related Loss of Offsite Power Events Due to Salt Buildup on Switchyard Insulators.

Cracking is not an applicable aging mechanism. Cracking or breaking of porcelain insulators is typically caused by physical damage which is event-driven rather than an age-related mechanism. Mechanical wear is an aging effect for strain and suspension insulators if they are subject to significant movement. BSEP transmission conductors do not normally swing and when they do, because of strong winds, they dampen quickly once the wind has subsided. Loss of material due to wear has not been identified during routine inspections at BSEP. It is concluded that no aging management activities are required for this commodity group.

- 60 Connection surface oxidation is not an applicable aging effect. All switchyard bus  
7. connections have welded and/or compression connections. For the service conditions encountered at BSEP, no aging effects have been identified that could cause a loss of intended function. Vibration is not an applicable aging mechanism since switchyard bus has no connections to moving or vibrating equipment. Switchyard buses are connected to flexible conductors that do not normally vibrate and are supported by insulators mounted to static, structural components such as concrete footings and structural steel. This configuration provides reasonable assurance that switchyard bus will perform its intended function for the extended period of operation.
- 60 Loss of conductor strength due to corrosion of ACSR transmission conductors is a very  
8. slow process. This process is even slower for rural areas with generally less suspended particles and SO<sub>2</sub> concentrations in the air than urban areas. BSEP is located in a rural area where airborne particle concentrations are comparatively low. Consequently, this is not considered a significant contributor to the aging of BSEP transmission conductors. Transmission conductor vibration would be caused by wind loading. Wind loading is considered in the initial design and field installation of transmission conductors and high-voltage insulators throughout the CP&L, doing business as Progress Energy Carolinas, Inc., transmission and distribution network. Compression connections to transmission conductors are equipped with Belleville washers which provide vibration absorption and prevent loosening. Loss of material (wear) and fatigue that could be caused by transmission conductor vibration or sway are not considered applicable aging effects that warrant aging management. It is concluded that no aging management activities are required for this commodity group.