

ATTACHMENT II: Aging Management Review Results for Structures and Structural Components

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**AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
AUXILIARY BUILDING**

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes						
Anchorage	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.						
Anchorage / Embedments (exposed surfaces)	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.						
										Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y
													III.B3.1-a		
			III.B4.1-a												
III.B5.1-a															
External	Loss of Material	Maintenance Rule Structures Program	III.B1.2.1-b	No	Y										
			ASME Section XI ISI Program – IWF			III.B1.2.1-a	No	Y							
External	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y										
			III.B3.1-a												
			III.B5.1-a												
Bellows (RHR and Spray system isolation valve chambers and guard pipes)	3,5	Steel (Stainless)	Internal	Loss of Material Fatigue / Cracking	Containment ISI Program – IWE/IWL 10 CFR 50 Appendix J Leak Rate Testing See TLAA Section 8.0	II.A3.1-a II.A3.1-b II.A3.1-c II.A3.1-d	Yes	Partial	Specialty penetrations. See TLAA Section 8.3 under Bellows.						
Blowout or Blow-off Panels	5	Steel	Internal / External	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y							
Cable Tray & Conduit	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.						

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Cable Tray & Conduit Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	
Compressible Joints & Seals	4,5	Elastomer	Internal / Below Grade	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	Inspected items include seismic joints and flood seals.
Crane Rails & Girders	3,10	Steel	Internal	Loss of Material	Material Handling System Inspection Program	VII.B.1.b	No	Y	
					Maintenance Rule Structures Program	VII.B.1.1	No	Y	
Duct Banks	1,2,3,10	Concrete	Internal / Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Electrical and Instrument Panels & Enclosures	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Embedments	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.

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Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Equipment Component Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B1.2.1-b	No	Y	
					ASME Section XI ISI Program – IWF	III.B1.2.1-a	No	Y	
Equipment Pads	3,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4 and 6.9. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Expansion Anchors	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B1.2.1-b III.B2.1-b	No	Y	
					ASME Section XI ISI Program – IWF	III.B1.2.1-a	No	Y	
Fire Barrier Penetration Seals	1	Elastomer	Internal	Cracking / Shrinkage	Fire Protection Inspections	VII.G.3-a	No	Y	

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Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Fire Barriers (Walls, Ceilings and Floors)	1	Concrete / Drywall	Internal	Cracking	Fire Protection Inspections Maintenance Rule Structures Program	VII.G.3.2	No	Y	
Fire Doors	1	Steel	Internal	Loss of Material	Fire Protection Program	VII.G.3.3	No	Y	See Section 6.9 on wear of fire door appurtenances.
Flood Curbs (Concrete)	4,6	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Flood, Pressure and Specialty Doors	2,4,5	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	N/A	N/A	N/A	Doors rated for fire protection are also inspected via the Fire Protection Program.
Foundations	3,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Hatches (Concrete)	1,2,4,5,8	Concrete	Internal / External	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.

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Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
HVAC Duct Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	
Instrument Line Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	
Instrument Racks & Frames	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b III.B3.1-b	No	Y	
Jet Barriers	9	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Lead Shielding Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	

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Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Liner Plate (RHR and Spray system isolation valve chambers and guard pipes)	2,3,5,7	Steel	Internal	Loss of Material	Containment ISI Program – IWE/IWL 10 CFR 50 Appendix J Leak Rate Testing Boric Acid Corrosion Surveillances	II.A1.2-a II.A3.1-a	No	Y	Specialty penetration, extension of containment boundary.
				MIC	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	See Section 6.2 for MIC on guard pipes.
Masonry Block, Brick Walls, or Knockdown Walls	1,2,3,7,10	Masonry Block	Internal	Cracking	Maintenance Rule Structures Program	III.A3.3-a	No	Partial	Maintenance Rule Structures Program instead of Masonry Wall Program. No Safety Related block walls at VCSNS.
Metal Spray Shields	6	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Missile Shields	8	Concrete	Internal / External	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.

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Pipe Supports	3,10	Steel	Internal	Loss of Material	Boric Acid Corrosion Surveillances	III.B1.2.1-b III.B2.1-b	No	Y	See Section 6.9 for details on Service-induced cracking and Loss of Mechanical Function aging effect.
					ASME Section XI ISI Program – IWF	III.B1.2.1-a	No	Y	
					Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Pipe Whip Restraint	3,9,10,11	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Reinforced Concrete – Beams, Columns, Floor Slabs, Walls	1,2,3,4,5,7,8,9,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
			Internal (below groundwater level)	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Leaching has been experienced at VCSNS for internal concrete below groundwater elevation.
			External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Minor Leaching has been experienced for external concrete.
Roof Slabs	1,2,3,5,7,8,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4.
			External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Minor Leaching has been experienced for external concrete.

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Seismic Joint Filler	3,10	Elastomer	Internal	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	
Stair, Platform, & Grating Support	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program Boric Acid Corrosion Surveillances	III.B5.1-a III.B5.1-b	No No	Y Y	
Structural Steel – beams, columns, plates, trusses	2,3,8,9,10,11	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.A3.2-a	No	Y	
Sumps	3,4,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Tube Track	2,3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program Boric Acid Corrosion Surveillances	III.B2.1-a III.B2.1-b	No No	Y Y	

**AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
CONTROL BUILDING**

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Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Anchorage	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Anchorage / Embedments (exposed surfaces)	3,10	Steel	Concrete Internal	None Loss of Material	None Required Maintenance Rule Structures Program	N/A III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	N/A No	N/A Y	See Section 6.4.
Cable Tray & Conduit	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Cable Tray & Conduit Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Checkered Plate	2,3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Compressible Joints & Seals	4,5	Elastomer	Internal / Below Grade	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	Inspected items include seismic joints and flood seals.
Control Boards	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Control Room Ceiling	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Crane Rails & Girders	10	Steel	Internal	Loss of Material	Material Handling System Inspection Program Maintenance Rule Structures Program	VII.B.1.b VII.B.1.1	No No	Y Y	
Duct Banks	1,2,3,10	Concrete	Internal / Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.

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Electrical and Instrument Panels & Enclosures	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Embedments	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Equipment Component Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Equipment Pads	3,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4 and 6.9. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Expansion Anchors	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Fire Barrier Penetration Seals	1	Elastomer	Internal	Cracking / Shrinkage	Fire Protection Inspections	VII.G.3-a	No	Y	No specific GALL item, used VII.G.3-a.
Fire Barriers (Walls, Ceilings and Floors)	1	Concrete / Drywall	Internal	Cracking	Fire Protection Inspections Maintenance Rule Structures Program	VII.G.3.2	No	Y	No specific GALL item, used VII.G.3.2

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Fire Doors	1	Steel	Internal	Loss of Material	Fire Protection Program	VII.G.3.3	No	Y	See Section 6.9 on wear of fire door appurtenances. No specific GALL item, used VII.G.3.3.
Flood Barriers	4	Elastomer	Internal / Below Grade	Cracking / Shrinkage	Maintenance Rule Structures Program	N/A	N/A	N/A	
Flood Curbs (Concrete)	4,6	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Flood, Pressure and Specialty Doors	2,4,5	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	N/A	N/A	N/A	Doors rated for fire protection are also inspected via the Fire Protection Program.
Foundations	3,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Hatches (Concrete)	1,2,4	Concrete	Internal / External	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
HVAC Duct Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Instrument Line Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	

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Instrument Racks & Frames	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a	No	Y	
Lead Shielding Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Masonry Block, Brick Walls, or Knockdown Walls	1,2,3,7,10	Masonry Block	Internal	Cracking	Maintenance Rule Structures Program	III.A1.3-a	No	Partial	Maintenance Rule Structures Program instead of Masonry Wall Program. No Safety Related block walls at VCSNS.
Metal Partition Walls	1	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Missile Shields	8	Concrete	Internal / External	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Pipe Supports	3,10	Steel	Internal	Loss of Material	ASME Section XI ISI Program – IWF Maintenance Rule Structures Program	III.B1.2.1-a III.B2.1-a	No No	Y Y	See Section 6.9 for details on Service-induced cracking and Loss of Mechanical Function aging effect.

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Reinforced Concrete – Beams, Columns, Floor Slabs, Walls	1,2,3,4,7,8,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
			Internal (below groundwater level)	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Leaching has been experienced at VCSNS for internal concrete below groundwater elevation.
Roof Slabs	2,3,10	Concrete	External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Minor Leaching has been experienced for external concrete.
			Internal	None	None Required	N/A	N/A	N/A	See Section 6.4.
Seismic Joint Filler	3,10	Elastomer	Internal	Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	
				Cracking	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	
Stair, Platform, & Grating Support	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Structural Steel – beams, columns, plates, trusses	2,3,8,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.A1.2-a	No	Y	

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Tube Track	2,3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
INTERMEDIATE BUILDING

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Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes	
Anchorage	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.	
Anchorage / Embedments (exposed surfaces)	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.	
			Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y		
						Boric Acid Corrosion Surveillances	III.B1.2.1-b	No	Y	
						ASME Section XI ISI Program – IWF	III.B1.2.1-a	No	Y	
External	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B5.1-a	No	Y					
Battery Racks	3	Steel	Internal	Loss of Material	Battery Rack Inspection Maintenance Rule Structures Program	III.B3.1-a	No	Y	Rack Insp. Plus MR	
Blowout or Blow-off Panels	3	Steel	Internal / External	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y		
Cable Tray & Conduit	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.	

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Cable Tray & Conduit Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	
Caissons	3,10	Concrete	Internal / Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Compressible Joints & Seals	4,5,7	Elastomer	Internal / Below Grade	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	Inspected items include seismic joints and flood seals.
Crane Rails & Girders	10	Steel	Internal	Loss of Material	Material Handling System Inspection Program	VII.B.1.b	No	Y	
					Maintenance Rule Structures Program	VII.B.1.1	No	Y	
Duct Banks	1,2,3,10	Concrete	Internal / Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Electrical and Instrument Panels & Enclosures	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Embedments	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Equipment Component Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B1.2.1-b	No	Y	
					ASME Section XI ISI Program – IWF	III.B1.2.1-a	No	Y	
Equipment Pads	3,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.9.
Expansion Anchors	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B1.2.1-b III.B2.1-b	No	Y	
					ASME Section XI ISI Program – IWF	III.B1.2.1-a	No	Y	
Fire Barrier Penetration Seals	1	Elastomer	Internal	Cracking / Shrinkage	Fire Protection Inspections	VII.G.3-a	No	Y	No specific GALL item, used VII.G.3-a.
Fire Barriers (Walls, Ceilings and Floors)	1	Concrete / Drywall	Internal	Cracking	Fire Protection Inspections Maintenance Rule Structures Program	VII.G.3.2	No	Y	No specific GALL item, used VII.G.3.2

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
INTERMEDIATE BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Fire Doors	1	Steel	Internal	Loss of Material	Fire Protection Program	VII.G.3.3	No	Y	See Section 6.9 on wear of fire door appurtenances. No specific GALL item, used VII.G.3.3.
Flood Curbs (Concrete)	4,6	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Flood, Pressure and Specialty Doors	2,4,5	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	N/A	N/A	N/A	Doors rated for fire protection are also inspected via the Fire Protection Program.
Foundations	3,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Hatches (Concrete)	1,2,4,5,8	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Hatches (Steel)	1,2,4,5	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
INTERMEDIATE BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
HVAC Duct Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	
Instrument Line Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	
Instrument Racks & Frames	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b III.B3.1-b	No	Y	
Jet Barriers	9	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Lead Shielding Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Metal Siding	2	Steel	Internal / External	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
INTERMEDIATE BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Metal Spray Shields	6	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Missile Shields	8	Concrete	Internal / External	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Piers	3,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Pipe Supports	3,10	Steel	Internal	Loss of Material	Boric Acid Corrosion Surveillances	III.B1.2.1-b III.B2.1-b	No	Y	See Section 6.9 for details on Service-induced cracking and Loss of Mechanical Function aging effect.
					ASME Section XI ISI Program – IWF	III.B1.2.1-a	No	Y	
					Maintenance Rule Structures Program	III.B2.1-a	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
INTERMEDIATE BUILDING

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Pipe Whip Restraint	3,9,10,11	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Reinforced Concrete – Beams, Columns, Floor Slabs, Walls	1,2,3,4,5,7,8, 10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
			Internal (below groundwater level)	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Leaching has been experienced at VCSNS for internal concrete below groundwater elevation.
			External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Minor Leaching has been experienced for external concrete.
Roof Slabs	1,2,3,5,7,8, 10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4.
			External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Minor Leaching has been experienced for external concrete.
Seismic Joint Filler	3,10	Elastomer	Internal	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
INTERMEDIATE BUILDING

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Stair, Platform, & Grating Support	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Structural Steel – beams, columns, plates, trusses	2,3,8,9,10,11	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.A3.2-a	No	Y	No specific GALL item, used III.A3.2-a.
Sumps	3,4,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Trenches	2,4	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Tube Track	2,3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	

**AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
DIESEL GENERATOR BUILDING**

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Anchorage	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Anchorage / Embedments (exposed surfaces)	3,10	Steel	Concrete Internal	None Loss of Material	None Required Maintenance Rule Structures Program	N/A III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	N/A No	N/A Y	See Section 6.4.
Cable Tray & Conduit	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Cable Tray & Conduit Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Caissons	3,10	Concrete	Internal / Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Compressible Joints & Seals	4	Elastomer	Internal / Below Grade	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	Inspected items include seismic joints and flood seals.
Crane Rails & Girders	10	Steel	Internal	Loss of Material	Material Handling System Inspection Program Maintenance Rule Structures Program	VII.B.1.b VII.B.1.1	No No	Y Y	
Duct Banks	1,2,3,10	Concrete	Internal / Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.

**AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
DIESEL GENERATOR BUILDING**

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Electrical and Instrument Panels & Enclosures	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Embedments	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Equipment Component Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Equipment Pads	3,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4 and 6.9. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Expansion Anchors	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Fire Barrier Penetration Seals	1	Elastomer	Internal	Cracking / Shrinkage	Fire Protection Inspections	VII.G.4.1	No	Y	
Fire Barriers (Walls, Ceilings and Floors)	1	Concrete	Internal	Cracking	Fire Protection Inspections Maintenance Rule Structures Program	VII.G.4.2	No	Y	

**AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
DIESEL GENERATOR BUILDING**

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Fire Doors	1	Steel	Internal	Loss of Material	Fire Protection Program	VII.G.4.3	No	Y	See Section 6.9 on wear of fire door appurtenances.
Flood Barriers	4	Elastomer	Internal / Below Grade	Cracking / Shrinkage	Maintenance Rule Structures Program	N/A	N/A	N/A	
Flood Curbs (Concrete)	4,6	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Flood, Pressure and Specialty Doors	2,4	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	N/A	N/A	N/A	Doors rated for fire protection are also inspected via the Fire Protection Program.
Foundations	3,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Grating	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Hatches (Steel)	1,2,8	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
HVAC Duct Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Instrument Line Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Instrument Racks & Frames	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a	No	Y	
Metal Partition Walls	1	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	

**AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
DIESEL GENERATOR BUILDING**

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Missile Shields	8	Concrete	External	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Pipe Supports	3,10	Steel	Internal	Loss of Material	ASME Section XI ISI Program – IWF Maintenance Rule Structures Program	III.B1.2.1-a III.B2.1-a	No No	Y Y	See Section 6.9 for details on Service-induced cracking and Loss of Mechanical Function aging effect.
Reinforced Concrete – Beams, Columns, Floor Slabs, Walls	1,2,3,4,8,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
			Internal (below groundwater level)	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Leaching has been experienced at VCSNS for internal concrete below groundwater elevation.
			External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Minor Leaching has been experienced for external concrete.
Roof Slabs	1,2,8,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4.
			External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Minor Leaching has been experienced for external concrete.

**AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
DIESEL GENERATOR BUILDING**

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Seismic Joint Filler	3,10	Elastomer / Styrofoam	Internal / External	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	
Stair, Platform, & Grating Support	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Structural Steel – beams, columns, plates, trusses	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.A3.2-a	No	Y	
Sumps	3,4,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.

**AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
FUEL HANDLING BUILDING**

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Anchorage	3,10	Steel / (Stainless)	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Anchorage / Embedments (exposed surfaces)	3,10	Steel / (Stainless)	Concrete Internal	None Loss of Material	None Required Maintenance Rule Structures Program Boric Acid Corrosion Surveillances	N/A III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a III.B1.1.1-b	N/A No No	N/A Y Y	See Section 6.4.
Cable Tray & Conduit	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Cable Tray & Conduit Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program Boric Acid Corrosion Surveillances	III.B2.1-a III.B2.1-b	No No	Y Y	
Caissons	3,10	Concrete	Internal / Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Checked Plate	2,3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program Boric Acid Corrosion Surveillances	III.B5.1-a III.B5.1b	No No	Y Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
FUEL HANDLING BUILDING

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Compressible Joints & Seals	4,5,7	Elastomer	Internal / Below Grade	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	Inspected items include seismic joints and flood seals.
Crane Rails & Girders	3	Steel	Internal	Loss of Material	Material Handling System Inspection Program	VII.B.1.b	No	Y	See Section 8.5 for crane TLAA.
					Maintenance Rule Structures Program	VII.B.1.1	No	Y	
Electrical and Instrument Panels & Enclosures	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Embedments	3,10	Steel / (Stainless)	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Equipment Component Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B1.2.1-b	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
FUEL HANDLING BUILDING

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Equipment Pads	3,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4 and 6.9. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Expansion Anchors	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B1.2.1-b III.B2.1-b	No	Y	
					ASME Section XI ISI Program – IWF	III.B1.2.1-a	No	Y	
Fire Barrier Penetration Seals	1	Elastomer	Internal	Cracking / Shrinkage	Fire Protection Inspections	VII.G.3-a	No	Y	No specific GALL item, used VII.G.3-a.
Fire Barriers (Walls, Ceilings and Floors)	1	Concrete / Drywall	Internal	Cracking	Fire Protection Inspections Maintenance Rule Structures Program	VII.G.3.2	No	Y	No specific GALL item, used VII.G.3.2
Fire Doors	1	Steel	Internal	Loss of Material	Fire Protection Program	VII.G.3.3	No	Y	See Section 6.9 on wear of fire door appurtenances. No specific GALL item, used VII.G.3.3.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
FUEL HANDLING BUILDING

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Flood Curbs (Concrete)	4,6	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Foundations	3,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Fuel Transfer Canal Liner Plate	5	Steel (Stainless)	Internal / Borated Water	Loss of Material / Cracking (SCC)	Chemistry Control Program Technical Specification 4.9.10	III.A5.2-b	No	Y	The Fuel Transfer Canal by the spent fuel pool is normally flooded during plant operation but can be drained for work on equipment.
Hatches (Concrete)	1,2,4,5,8	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Hatches (Steel)	1,2,4,5	Steel	Internal	Loss of Material	Maintenance Rule Structures Program Boric Acid Corrosion Surveillances	III.B5.1-a III.B5.1-b	No No	Y Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
FUEL HANDLING BUILDING

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Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
HVAC Duct Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	
Instrument Line Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	
Instrument Racks & Frames	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b III.B3.1-b	No	Y	
Lead Shielding Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Masonry Block, Brick Walls, or Knockdown Walls	1,2,3,7,10	Masonry Block	Internal	Cracking	Maintenance Rule Structures Program	III.A5.3-a	No	Partial	Maintenance Rule Structures Program instead of Masonry Wall Program. No Safety Related block walls at VCSNS.
Metal Siding	2	Steel	Internal / External	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Missile Shields	8	Concrete	Internal / External	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Neutron absorbing sheets – Boraflex	3	Boraflex Sheets	Borated Water	Boraflex Degradation	Boraflex Monitoring Program	VII.A2.1-a	No	Y	Boraflex to be replaced with Boral per Tech Spec Amendment request TSP 99-0090. See Section 8.7.
Piers	3,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Pipe Supports	3,10	Steel	Internal	Loss of Material	Boric Acid Corrosion Surveillances ASME Section XI ISI Program – IWF Maintenance Rule Structures Program	III.B1.2.1-b III.B2.1-b III.B1.2.1-a III.B2.1-a	No No No	Y Y Y	See Section 6.9 for details on Service-induced cracking and Loss of Mechanical Function aging effect.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
FUEL HANDLING BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Reinforced Concrete – Beams, Columns, Floor Slabs, Walls	1,2,3,4,5,7,8,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
			Internal (below groundwater level)	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Leaching has been experienced at VCSNS for internal concrete below groundwater elevation.
			External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Minor Leaching has been experienced for external concrete.
Roof	2,3,10	Steel	Internal / External	Loss of Material	Maintenance Rule Structures Program	III.A5.2-a	No	Y	
Seismic Joint Filler	3,10	Elastomer	Internal	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	
Spent Fuel Pool Liner	5	Steel (Stainless)	Internal / Borated Water	Loss of Material / Cracking (SCC)	Chemistry Control Program Technical Specification 3 /4.9.10	III.A5.2-b	No	Y	
Spent Fuel Storage Rack	3	Steel (Stainless)	Borated Water	Loss of Material / Cracking (SCC)	Chemistry Control Program Technical Specification 3 /4.9.10	VII.A2.1-c	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
FUEL HANDLING BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Stair, Platform, & Grating Support	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Structural Steel – beams, columns, plates, trusses	2,3,8,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.A5.2-a	No	Y	
Sumps	3,4,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Tube Track	2,3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	

**AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
REACTOR BUILDING**

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Anchorage	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Anchorage / Embedments (exposed surfaces)	3,10	Steel	Concrete Reactor Building	None Loss of Material Cracking – SCC (high Strength bolts)	None Required Maintenance Rule Structures Program Boric Acid Corrosion Surveillances ASME Section XI ISI Program – IWF	N/A III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a III.B1.1.1-b III.B1.2.1-b III.B1.1.1-a III.B1.2.1-a	N/A No No No	N/A Y Y Y	See Section 6.4. See Section 6.8 on Class 1 component supports.
Bellows (Penetration)	3	Steel (Stainless)	Reactor Building	Loss of Material and Fatigue / Cracking	See Sections 6.2, 6.9, and TLAA Section 8.3 under Bellows.	II.A3.1-a II.A3.1-b II.A3.1-c II.A3.1-d	Yes	N	Loss of Material and Fatigue / Cracking aging effects screened out See Sections 6.2, 6.9, and 8.3 under Bellows.
Cable Tray & Conduit	2,3,10	Steel	Reactor Building	None	None Required	N/A	N/A	N/A	See Section 6.2.
Cable Tray & Conduit Supports	3,10	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program Boric Acid Corrosion Surveillances	III.B2.1-a III.B2.1-b	No No	Y Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
REACTOR BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Checked Plate	10	Steel (Stainless)	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Compressible Joints & Seals	4	Elastomer	Reactor Building	Cracking Change in Material Properties	Containment ISI Program – IWE/IWL 10 CFR 50 Appendix J Leak Rate Testing Maintenance Rule Structures Program	II.A3.3-a	No	Y	Reactor Building moisture barrier. See also "Personnel airlock, escape airlock, and equipment hatch" Component Type for seals associated with these components.
Control Boards (Refuel Cavity Crane)	2	Steel	Reactor Building	None	None Required	N/A	N/A	N/A	See Section 6.2.
Crane Rails & Girders	3	Steel	Reactor Building	Loss of Material	Material Handling System Inspection Program	VII.B.1.b	No	Y	See Section 8.5 for crane TLAA.
					Maintenance Rule Structures Program	VII.B.1.1	No	Y	
Electrical and Instrument Panels & Enclosures	2,3,10	Steel	Reactor Building	None	None Required	N/A	N/A	N/A	See Section 6.2.
Embedments	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
REACTOR BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Equipment Component Supports	3,10	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	See also Table 6.8-1 for more details on specific Class 1 component supports.
					Boric Acid Corrosion Surveillances	III.B1.1.1-b III.B.1.2.1-b	No	Y	
					Cracking – SCC (high Strength bolts) ASME Section XI ISI Program – IWF	III.B1.1.1-a III.B1.2.1-a	No	Y	
Equipment Pads	3,10	Concrete	Reactor Building	None	None Required	N/A	N/A	N/A	See Section 6.4 and 6.9. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Expansion Anchors	3,10	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B1.1.1-b	No	Y	
					ASME Section XI ISI Program – IWF	III.B1.1.1-a	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
REACTOR BUILDING

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Fire Barrier Penetration Seals	1	Elastomer	Reactor Building	Cracking / Shrinkage	Fire Protection Inspections	VII.G.3-a	No	Y	For fire stops between floors. No specific GALL item, used VII.G.3-a.
Fire Barriers (Walls, Ceilings and Floors)	1	Concrete	Reactor Building	Cracking	Fire Protection Inspections Maintenance Rule Structures Program	VII.G.5.2	No	Y	
Fire Doors	1	Steel	Reactor Building / External	Loss of Material	Fire Protection Program	VII.G.5.3	No	Y	See Section 6.9 on wear of fire door appurtenances.
Flood Curbs (Concrete)	4,6	Concrete	Reactor Building	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Flood Curbs (Steel)	4,6	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.A4.2-a	No	Y	
Foundations	3,7,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Hatches (Steel)	1,2,4,5,7,8,9	Steel	Reactor Building / External	Loss of Material	Maintenance Rule Structures Program Boric Acid Corrosion Surveillances	III.B5.1-a III.B5.1-b	No No	Y Y	
HVAC Duct Supports	3,10	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program Boric Acid Corrosion Surveillances	III.B2.1-a III.B2.1-b	No No	Y Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
REACTOR BUILDING

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Instrument Line Supports	3,10	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	
Instrument Racks & Frames	3,10	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b III.B3.1-b	No	Y	
Jet Barriers	3,6,9,10	Concrete	Reactor Building	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Jet Barriers	3,6,9,10	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Lead Shielding Supports	3,10	Steel / Lead Brick	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
REACTOR BUILDING

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Liner Plate	3,5,7,10	Steel	Reactor Building	Loss of Material	Containment ISI Program – IWE/IWL 10 CFR 50 Appendix J Leak Rate Testing Containment Coating Monitoring and Maintenance Program	II.A1.2-a II.A3.1-a	No, if corrosion is not significant for inaccessible areas.	Y	See Section 8.1, Containment Liner Fatigue TLAA.
				Fatigue	Time-Limited Aging Analysis	II.A3.1-b	Yes, if CLB fatigue analysis exist.	Y	
Metal Partition Walls	2	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B5.1-b	No	Y	
Metal Siding	2	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Missile Shields	2,3,6,8,9,10	Concrete	Reactor Building / External	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
REACTOR BUILDING

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Penetrations (Mechanical and Electrical)	2,5	Steel	Reactor Building	Loss of Material Fatigue / Cracking	Containment ISI Program – IWE/IWL 10 CFR 50 Appendix J Leak Rate Testing See TLAA Section 8.0	II.A3.1	No	Y	Mechanical penetration includes fuel transfer tube.
Personnel airlock, escape airlock, and equipment hatch	1,5,7	Steel	Reactor Building	Loss of Material	Containment ISI Program – IWE/IWL 10 CFR 50 Appendix J Leak Rate Testing Technical Specifications 3/4.6.1	II.A3.2-a II.A3.2-b	No	Y	
Pipe Supports	3,10	Steel	Reactor Building	Loss of Material	Boric Acid Corrosion Surveillances ASME Section XI ISI Program – IWF Maintenance Rule Structures Program	III.B1.1.1-b III.B1.2.1-b III.B1.1.1-a III.B1.2.1-a III.B2.1-a	No No No	Y Y Y	See Section 6.9 for details on Service-induced cracking and Loss of Mechanical Function aging effect.
Pipe Whip Restraint	3,9,10,11	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program Boric Acid Corrosion Surveillances	III.B5.1-a III.B5.1-b	No No	Y Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
REACTOR BUILDING

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Post-Tensioning System	3	Steel	Concrete / Reactor Building / External	Loss of Material	Tendon Surveillance Program	II.A1.3-a	No	Partial	See Section 6.9.
				Loss of Prestress		II.A1.3-b	Y, see TLAA Section 8.2	Partial	See Section 8.2 for Tendon TLAA.
Refueling Canal Liner Plate	5	Steel (Stainless)	Reactor Building / Borated Water	None	None Required	N/A	N/A	N/A	See Section 6.2. Although no aging effects have been identified for stainless steel in air environment, the Maintenance Rule Structures Program inspects it. Borated water environment occurs during refueling and is infrequent.
Reinforced Concrete – Beams, Columns, Floor Slabs, Walls	1,2,3,4,5,6,7, 8,9,10,11	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
			Reactor Building (below groundwater level)	Change in Material Properties due to leaching	Containment ISI Program – IWE/IWL	Plant specific	N/A	N/A	Leaching has been experienced at VCSNS for internal concrete below groundwater elevation.
			External	Change in Material Properties due to leaching	Containment ISI Program – IWE/IWL	II.A.1.1-b	No	Y	Leaching has been experienced for external concrete in Tendon Access Gallery. See Section 7.9.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
REACTOR BUILDING

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AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Seismic Joint Filler	1,3,4	Elastomer	Internal	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	Seismic joint between RB and IB, FB, and EPAA.
Stair, Platform, & Grating Support	3,10	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program Boric Acid Corrosion Surveillances	III.B5.1-a III.B5.1-b	No No	Y Y	
Structural Steel – beams, columns, plates, trusses	2,3,8,9,10,11	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.A4.2-a	No	Y	
Sump Screens	3,4	Steel (Stainless)	Reactor Building	None	None Required	N/A	N/A	N/A	See Section 6.2. Although no aging effects have been identified for stainless steel in air environment, the Maintenance Rule Structures Program inspects it.
Sumps	3,4,5,7	Steel lined (Stainless)	Reactor Building	None	None Required	N/A	N/A	N/A	See Section 6.2. Although no aging effects have been identified for stainless steel in air environment, the Maintenance Rule Structures Program inspects it.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
REACTOR BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Tube Track	2,3,10	Steel	Reactor Building	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
					Boric Acid Corrosion Surveillances	III.B2.1-b	No	Y	

**AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
TURBINE BUILDING**

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Anchorage	10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Anchorage / Embedments (exposed surfaces)	10	Steel	Concrete Internal	None Loss of Material	None Required Maintenance Rule Structures Program	N/A III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	N/A No	N/A Y	See Section 6.4.
Cable Tray & Conduit	10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Cable Tray & Conduit Supports	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Compressible Joints & Seals	4	Elastomer	Internal / Below Grade	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	Inspected items include seismic joints, penetration and flood seals.
Crane Rails & Girders	10	Steel	Internal	Loss of Material	Material Handling System Inspection Program Maintenance Rule Structures Program	VII.B.1.b VII.B.1.1	No No	Y Y	
Duct Banks	1,10	Concrete	Internal / Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Electrical and Instrument Panels & Enclosures	10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Embedments	10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
TURBINE BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Equipment Component Supports	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Equipment Pads	10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4 and 6.9. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Expansion Anchors	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Fire Barrier Penetration Seals	1	Elastomer	Internal	Cracking / Shrinkage	Fire Protection Inspections	VII.G.2-a	No	Y	
Fire Barriers (Walls, Ceilings and Floors)	1	Concrete / Drywall	Internal	Cracking	Fire Protection Inspections Maintenance Rule Structures Program	VII.G.2.2	No	Y	
Fire Doors	1	Steel	Internal	Loss of Material	Fire Protection Program	VII.G.2.3	No	Y	See Section 6.9 on wear of fire door appurtenances.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
TURBINE BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Flood Curbs (Concrete)	4,6	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Flood, Pressure and Specialty Doors	5	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	N/A	N/A	N/A	Doors rated for fire protection are also inspected via the Fire Protection Program.
Foundations	10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Grating	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Hatches (Concrete)	10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Hatches (Steel)	10	Steel	Internal / External	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
HVAC Duct Supports	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Instrument Line Supports	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Instrument Racks & Frames	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
TURBINE BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Masonry Block, Brick Walls, or Knockdown Walls	1,10	Masonry Block	Internal / External	Cracking	Maintenance Rule Structures Program	III.A3.3-a	No	Partial	Maintenance Rule Structures Program instead of Masonry Wall Program. No Safety Related block walls at VCSNS.
Metal Siding	10	Steel	Internal / External	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Pipe Supports	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	See Section 6.9 for details on Service-induced cracking and Loss of Mechanical Function aging effect.
Reinforced Concrete – Beams, Columns, Floor Slabs, Walls	1,4,8,10	Concrete	Below Grade Internal (below groundwater level)	None Change in Material Properties due to leaching	None Required Maintenance Rule Structures Program	N/A Plant specific	N/A N/A	N/A N/A	See Section 6.4. Leaching has been experienced at VCSNS for internal concrete below groundwater elevation.
Roof	10	Steel	Internal / External	Loss of Material	Maintenance Rule Structures Program	III.A3.2-a	No	Y	
Seismic Joint Filler	10	Elastomer / Styrofoam	Internal / External	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	
Stair, Platform, & Grating Support	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
TURBINE BUILDING

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Structural Steel – beams, columns, plates, trusses	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.A3.2-a	No	Y	
Sumps	4,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Trenches	4	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.

**AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
SERVICE WATER PUMPHOUSE, INTAKE AND DISCHARGE STRUCTURES**

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Anchorage	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Anchorage / Embedments (exposed surfaces)	3,10	Steel	Concrete Internal	None Loss of Material	None Required Maintenance Rule Structures Program	N/A III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	N/A No	N/A Y	See Section 6.4.
Cable Tray & Conduit	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Cable Tray & Conduit Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Checkered Plate	2	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Compressible Joints & Seals	4	Elastomer	Internal / Below Grade	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	Inspected items include seismic joints, penetration and flood seals.
Crane Rails & Girders	10	Steel	Internal	Loss of Material	Material Handling System Inspection Program Maintenance Rule Structures Program	VII.B.1.b VII.B.1.1	No No	Y Y	
Duct Banks	1,2,3,10	Concrete	Internal / Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
SERVICE WATER PUMPHOUSE, INTAKE AND DISCHARGE STRUCTURES

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Electrical and Instrument Panels & Enclosures	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Embedments	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Equipment Component Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Equipment Pads	3,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4 and 6.9. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Expansion Anchors	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Fire Barrier Penetration Seals	1	Elastomer	Internal	Cracking / Shrinkage	Fire Protection Inspections	VII.G.1-a	No	Y	
Fire Barriers (Walls, Ceilings and Floors)	1	Concrete / Drywall	Internal	Cracking	Fire Protection Inspections Maintenance Rule Structures Program	VII.G.1.2	No	Y	
Fire Doors	1	Steel	Internal	Loss of Material	Fire Protection Program	VII.G.1.3	No	Y	See Section 6.9 on wear of fire door appurtenances.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
SERVICE WATER PUMPHOUSE, INTAKE AND DISCHARGE STRUCTURES

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Flood Curbs (Concrete)	4,6	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Flood, Pressure and Specialty Doors	2,4	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	N/A	N/A	N/A	Doors rated for fire protection are also inspected via the Fire Protection Program.
Foundations	3,10	Concrete	Below Grade	None Settlement	None Required Service Water Structures Survey Monitoring Program for SWPH/SWIS/Electrical Duct Banks/SW Intake Line "A"	N/A III.A6.4-a	N/A No	N/A N	Service Water Structures Survey Monitoring Program is a plant specific AMP for detecting identified aging effects.
Grating	2	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Hatches (Concrete)	1,2,8	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
HVAC Duct Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
SERVICE WATER PUMPHOUSE, INTAKE AND DISCHARGE STRUCTURES

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Instrument Line Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Instrument Racks & Frames	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a	No	Y	
Intake Bays or Canals	3,13	Concrete	Raw Water	Loss of Material, Cracking	Underwater Inspection Program (SWIS and SWPH)	III.A6.1-a III.A6.1-h	No	N	Underwater Inspection Program (SWIS and SWPH) is a plant specific AMP for detecting identified aging effects.
				Settlement	Service Water Structures Survey Monitoring Program for SWPH/SWIS/Electrical Duct Banks/SW Intake Line "A"	III.A6.4-a	No	N	Service Water Structures Survey Monitoring Program is a plant specific AMP for detecting identified aging effects. See Section 8.4 SWIS Settlement TLAA.
Intake Screens	3,13	Steel	Raw Water	Loss of Material	Underwater Inspection Program (SWIS and SWPH)	III.A6.2-a	No	N	Underwater Inspection Program (SWIS and SWPH) is a plant specific AMP for detecting identified aging effects.
Missile Shields	8	Concrete	External	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
SERVICE WATER PUMPHOUSE, INTAKE AND DISCHARGE STRUCTURES

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Pipe Supports	3,10	Steel	Internal	Loss of Material	ASME Section XI ISI Program – IWF	III.B1.2.1-a	No	Y	See Section 6.9 for details on Service-induced cracking and Loss of Mechanical Function aging effect.
					Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Reinforced Concrete – Beams, Columns, Floor Slabs, Walls	1,2,3,4,10,13	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4. Minor Leaching has been experienced for external concrete at building structures.
			Internal	None	None Required	N/A	N/A	N/A	
			External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	
			Raw Water	Loss of Material and Cracking due to Freeze-Thaw	Underwater Inspection of Service Water Intake Structure and Service Water Pump House	III.A.6.1-a	No	Y	
Roof Slabs	1,2,8,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Minor Leaching has been experienced for external concrete.
			External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	
Seismic Joint Filler	3,10	Elastomer / Styrofoam	Internal / External	Cracking Change in Material Properties	Maintenance Rule Structures Program	Plant Specific	N/A	N/A	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
SERVICE WATER PUMPHOUSE, INTAKE AND DISCHARGE STRUCTURES

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Stair, Platform, & Grating Support	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Structural Steel – beams, columns, plates, trusses	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.A6.2-a	No	Y	
Sumps	3,4,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
YARD STRUCTURES (CONDENSATE STORAGE TANK FOUNDATION)

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Anchorage	3	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Anchorage / Embedments (exposed surfaces)	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
			External	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a	No	Y	
Checked Plate	3,10	Steel	External	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
Expansion Anchors	3	Steel	External	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Foundations	3	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
			External	Loss of Material	Maintenance Rule Structures Program	III.A8.1-a	No	Y	
Instrument Line Supports	3	Steel	External	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Instrument Racks & Frames	3	Steel	External	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a	No	Y	
Pipe Supports	3	Steel	External	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	See Section 6.9 for details on Service-induced cracking and Loss of Mechanical Function aging effect.

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
YARD STRUCTURES (CONDENSATE STORAGE TANK FOUNDATION)

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Reinforced Concrete – Beams, Columns, Floor Slabs, Walls	3	Concrete	External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Minor Leaching has been experienced for external concrete at building structures.
Stair, Platform, & Grating Support	3,10	Steel	External	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	

SCREENING RESULTS FOR VIRGIL C. SUMMER NUCLEAR STATION
YARD STRUCTURES (FIRE SERVICE PUMPHOUSE)

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Anchorage	10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Anchorage / Embedments (exposed surfaces)	10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
			Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
			External	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Battery Racks	10	Steel	Internal	Loss of Material	Battery Rack Inspection Maintenance Rule Structures Program	III.B3.1-a	No	Y	Rack Insp. Plus MR
Cable Tray & Conduit	10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Cable Tray & Conduit Supports	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Electrical and Instrument Panels & Enclosures	10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Embedments	10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.

SCREENING RESULTS FOR VIRGIL C. SUMMER NUCLEAR STATION
YARD STRUCTURES (FIRE SERVICE PUMPHOUSE)

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Equipment Component Supports	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Equipment Pads	10	Concrete	Internal / External	None	None Required	N/A	N/A	N/A	See Section 6.4 and 6.9. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Expansion Anchors	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Fire Barrier Penetration Seals	1	Elastomer	Internal	Cracking / Shrinkage	Fire Protection Inspections	VII.G.3-a	No	Y	No specific GALL item, used VII.G.3-a.
Fire Barriers (Walls, Ceilings and Floors)	1	Concrete	Internal	Cracking	Fire Protection Inspections Maintenance Rule Structures Program	VII.G.3.2	No	Y	No specific GALL item for fire pump house, used VII.G.3.2.
Fire Doors	1	Steel	Internal	Loss of Material	Fire Protection Program	VII.G.3.3	No	Y	See Section 6.9 on wear of fire door appurtenances. No specific GALL item, used VII.G.3.3.

SCREENING RESULTS FOR VIRGIL C. SUMMER NUCLEAR STATION
YARD STRUCTURES (FIRE SERVICE PUMPHOUSE)

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Flood Curbs (Concrete)	4,6	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Foundations	10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Hatches (Steel)	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	
HVAC Duct Supports	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Instrument Line Supports	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Instrument Racks & Frames	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a	No	Y	
Masonry Block, Brick Walls, or Knockdown Walls	1,10	Masonry Block / Brick	Internal / External	Cracking	Maintenance Rule Structures Program	III.A3.3-a	No	Partial	Maintenance Rule Structures Program instead of Masonry Wall Program. No Safety Related block walls at VCSNS.
Pipe Supports	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	See Section 6.9 for details on Service-induced cracking and Loss of Mechanical Function aging effect.

SCREENING RESULTS FOR VIRGIL C. SUMMER NUCLEAR STATION
YARD STRUCTURES (FIRE SERVICE PUMPHOUSE)

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Reinforced Concrete – Beams, Columns, Floor Slabs, Walls	1,4,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
			Internal	None	None Required	N/A	N/A	N/A	Minor Leaching has been experienced for external concrete at building structures.
			External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	
Structural Steel – beams, columns, plates, trusses	10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.A3.2-a	No	Y	No specific GALL item, used III.A3.2-a.
Sumps	4,10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Trenches	10	Concrete	Internal	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.

Note No.	Description
FSPH-General	Intended function number 10, "provides structural support to Non-Safety Related components whose failure could prevent satisfactory accomplishment of any of the required Safety Related functions" was used when identifying structures and components supporting equipment which are relied upon to demonstrates compliance with regulated events. For example, equipment pads are in-scope since they provide structural support to the fire pumps. While the equipment within the Fire Service Pumphouse is Non Safety Related, the fire pumps are required to be operable in order to demonstrate compliance with the Fire Protection (FP) 10 CFR 50.48 regulated event.

SCREENING RESULTS FOR VIRGIL C. SUMMER NUCLEAR STATION
YARD STRUCTURES (ELECTRICAL MANHOLE, EMH-2)

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Anchorage	3	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Anchorage / Embedments (exposed surfaces)	3	Steel	Concrete Internal (below grade)	None Loss of Material	None Required Maintenance Rule Structures Program	N/A III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	N/A No	N/A Y	See Section 6.4.
Cable Tray & Conduit	2,3,10	Steel	Internal	None	None Required	N/A	N/A	N/A	See Section 6.2.
Cable Tray & Conduit Supports	3,10	Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Duct Banks	1,2,3,10	Concrete	Internal / Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Embedments	3,10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Fire Barriers (Walls, Ceilings and Floors)	1	Concrete	Internal	Cracking	Maintenance Rule Structures Program	VII.G.3.2	No	Partial	Missile barrier hatch and manhole internal concrete which function also as fire barriers are managed by Maintenance Rule Structures Program.
Foundations	3	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
Manhole Covers	3	Steel	External	Loss of Material	Maintenance Rule Structures Program	III.B5.1-a	No	Y	

SCREENING RESULTS FOR VIRGIL C. SUMMER NUCLEAR STATION
YARD STRUCTURES (ELECTRICAL MANHOLE, EMH-2)

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Manholes	1,2,3,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Missile Shields	2,3,8	Concrete	Internal / External	None	None Required	N/A	N/A	N/A	See Section 6.4. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.
Reinforced Concrete – Beams, Columns, Floor Slabs, Walls	1,2,3,4,10	Concrete	Below Grade	None	None Required	N/A	N/A	N/A	See Section 6.4.
			Internal	None	None Required	N/A	N/A	N/A	
			External	Change in Material Properties due to leaching	Maintenance Rule Structures Program	Plant specific	N/A	N/A	Minor Leaching has been experienced for external concrete at building structures.

SCREENING RESULTS FOR VIRGIL C. SUMMER NUCLEAR STATION
YARD STRUCTURES (ELECTRICAL SUBSTATION AND TRANSFORMER AREA)

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Anchorage	10	Galv. Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Anchorage / Embedments (exposed surfaces)	10	Galv. Steel	External	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	See Section 6.4.
Cable Tray & Conduit	10	Steel	External	None	None Required	N/A	N/A	N/A	See Section 6.2.
Cable Tray & Conduit Supports	10	Steel	External	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a	No	Y	
Electrical and Instrument Panels & Enclosures	10	Steel	External	None	None Required	N/A	N/A	N/A	See Section 6.2.
Embedments	10	Steel	Concrete	None	None Required	N/A	N/A	N/A	See Section 6.4.
Equipment Component Supports	10	Galv. Steel	External	Loss of Material	Maintenance Rule Structures Program	III.B2.1-a III.B3.1-a III.B4.1-a III.B5.1-a	No	Y	
Equipment Pads (Buslines, PCBs, transformers)	10	Concrete	External	None	None Required	N/A	N/A	N/A	See Section 6.4 and 6.9. Although no aging effects have been identified for this component type, the Maintenance Rule Structures Program inspects it.

SCREENING RESULTS FOR VIRGIL C. SUMMER NUCLEAR STATION
YARD STRUCTURES (ELECTRICAL SUBSTATION AND TRANSFORMER AREA)

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
Reinforced Concrete (transmission tower foundation, transformer fire wall)	10	Concrete	Below Grade External	None Change in Material Properties due to leaching	None Required Maintenance Rule Structures Program	N/A Plant specific	N/A N/A	N/A N/A	See Section 6.4.
Structural Steel – beams, columns, plates, trusses (Transmission Towers)	10	Galv. Steel	Internal	Loss of Material	Maintenance Rule Structures Program	III.A3.2-a	No	Y	

AGING MANAGEMENT REVIEW FOR VIRGIL C. SUMMER NUCLEAR STATION
EARTHEN EMBANKMENTS

Prepared by: Sing Chu
Reviewed by: Robert Whorton

AGING MANAGEMENT REVIEW SUMMARY TABLE

Component Type Within Structure Boundary	Component Intended Function(s) For VCSNS (See Key)	Materials	Environment	Aging Effect	Aging Management Programs	GALL Item Number	GALL Recommendation (Further Evaluation)	Match with GALL (Y, N, N/A, Partial)	Notes
North Berm	4	Earthen	External	Loss of Material / erosion Cracking / settlement	Maintenance Rule Structures Program	III.A6.4-a	No	Partial	The Maintenance Rule Structures Program inspection attributes and acceptance criteria are consistent with RG 1.127 requirements.
Service Water Pond Dams (North Dam, South Dam, East Dam, and West Embankment)	4,13,15	Earthen	External / Below Grade / Raw Water	Loss of Material / erosion Cracking / settlement	Service Water Pond Dam Inspection Program (North Dam, South Dam, East Dam, and West Embankment)	III.A6.4-a	No	Y	See Section 8.6 Water Impoundment Structures – Dams TLAA.

Key to Component Intended Functions

1. Provide rated fire barrier to confine or retard a fire from spreading to or from adjacent areas of the plant.
2. Provide shelter/protection to safety-related components.
3. Provide structural and/or functional support to safety-related equipment.
4. Provide flood protection barrier (internal and external flooding event).
5. Provide pressure boundary or essentially leak tight barrier to protect public health and safety in the event of any postulated design basis events.
6. Provide spray shield or curbs for directing flow.
7. Provide shielding against radiation.
8. Provide missile barrier (internally or externally generated).
9. Provide shielding against high energy line breaks.
10. Provide structural support to non-nuclear safety-related components whose failure could prevent satisfactory accomplishment of any of the required safety-related functions.
11. Provide pipe whip restraint.
12. Provide path for release of filtered and unfiltered gaseous discharge.
13. Provide source of cooling water for plant shutdown.
14. Provide heat sink during SBO or design basis accidents.
15. Impound water for ultimate heat sink during loss of Monticello Reservoir.