

Table 3.6.2-1 Electrical Components - Electrical Commodity Groups - Summary of Aging Management Evaluation											
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG - 1801 Volume 2 Line Item	Table 1 Item	Notes	Rev 1 NUREG - 1801 Volume 2 Line Item	Rev 1 Table 1 Item	Rev 1 Notes
Electrical cables and connections not subject to 10 CFR 50.49 EQ Requirements	Provide electrical connections to specified sections of an electrical circuit to deliver voltage, current, or signals	Insulation materials - various organic polymers	Adverse localized environment caused by heat, radiation, or moisture in the presence of oxygen	Embrittlement, cracking, melting, discoloration, swelling, or loss of dielectric strength leading to reduced IR; electrical failure caused by thermal/thermoxidative degradation of organics; radiation-induced oxidation; moisture intrusion	Non-EQ Electrical Commodities Condition Monitoring Program	VI.A.1-a	3.6.1-02	A			
		Connector Pins -Various Metals	Borated Water Leakage	Corrosion of connector contact surfaces caused by intrusion of borated water	Boric Acid Corrosion Program	VI.A.2-a	3.6.1-05	A			

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Electrical cables and connections used in instrumentation circuits not subject to 10 CFR 50.49 EQ Requirements that are sensitive to reduction in conductor IR (ISG-15) (Nuclear Instrumentation and Radiation Monitoring Systems)	Provide electrical connections to specified sections of an electrical circuit to deliver voltage, current, or signals	Insulation materials - various organic polymers	Adverse localized environment caused by heat, radiation, or moisture in the presence of oxygen	Embrittlement, cracking, melting, discoloration, swelling, or loss of dielectric strength leading to reduced IR; electrical failure caused by thermal/thermooxidative degradation of organics; radiation-induced oxidation; moisture intrusion	Non-EQ Electrical Commodities Condition Monitoring Program	VI.A.1-b	3.6.1-03	A, 602			

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Electrical Portion of the Non-EQ Electrical and I&C Penetration Assemblies (Cables & Connections)	Provide electrical connections to specified sections of an electrical circuit to deliver voltage, current, or signals	Insulation materials - various organic polymers	Adverse localized environment caused by heat, radiation, or moisture in the presence of oxygen	Embrittlement, cracking, melting, discoloration, swelling, or loss of dielectric strength leading to reduced IR; electrical failure caused by thermal/thermooxidative degradation of organics; radiation-induced oxidation; moisture intrusion	Non-EQ Electrical Commodities Condition Monitoring Program	VI.A.1-a	3.6.1-02	A, 604			
Fuse Holders (ISG-5)	Provide electrical connections to specified sections of an electrical circuit to deliver voltage, current, or signals.	Phenolic, Copper, Aluminum	Adverse localized environment caused by heat, radiation, or moisture in the presence of oxygen.	Embrittlement, cracking, melting, discoloration, moisture intrusion, corrosion	None required	None	None	J, 601	VI.A-8	6-6 (LP-01)	A, 601

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Non-Segregated Phase Bus and Connections (ISG-17)	Provide electrical connections to specified sections of an electrical circuit to deliver voltage, current, or signals	Various Metals, Porcelain	Adverse localized environment caused by heat, radiation, or moisture in the presence of oxygen.	Oxidation, Loosening of bolted connections due to thermal cycling, Corrosion due to moisture	Non-EQ Electrical Commodities Condition Monitoring Program	None	None	J	VI.A-11 VI.A-12 VI.A-14	6-7 (LP-04) 6-10 (LP-10) 6-8 (LP-05)	A E A
High-Voltage Transmission Conductors (ISG-2)	Provide electrical connections to specified sections of an electrical circuit to deliver voltage, current, or signals	Aluminum, Steel	Atmosphere/ Weather	Loss of conductor strength, Vibration	None Required	None	None	J, 603	VI.A-16	6-12 (LP-08)	A, 603

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High-Voltage Switchyard Bus and Connections (ISG-2)	Provide electrical connections to specified sections of an electrical circuit to deliver voltage, current, or signals	Aluminum Stainless Steel (Bolting) Copper	Atmosphere/ Weather	Connection Surface Oxidation, Vibration	None Required	None	None	J, 606	VI.A-15	6-12 (LP-09)	A, 606
Inaccessible medium-voltage (2kV to 15kV) cables and connections not subject to 10 CFR 50.49 EQ Requirements (ISG-18)	Provide electrical connections to specified sections of an electrical circuit to deliver voltage, current, or signals	Insulation materials - various organic polymers	Adverse localized environment caused by exposure to moisture and voltage stress	Formulation of water trees, localized damage leading to electrical failure (breakdown of insulation) caused by moisture intrusion and voltage stress.	Non-EQ Electrical Commodities Condition Monitoring Program	VI.A.1-c	3.6.1-04	A			
High-Voltage Insulators (ISG-2)	Insulate and support an electrical conductor	Porcelain, Cement, Metal	Atmosphere/ Weather	Surface Contamination, Cracking	None Required	None	None	J, 605	VI.A-9 VI.A-10	6-11 (LP-07) 6-11 (LP-11)	A, 605 A, 605

