

Electrical Equipment Maintenance Frequencies - Based on CSA Z463-18 Guideline on Maintenance of Electrical Systems

Table M.1												
Switchgear, metal-enclosed bus, outdoor bus, and overhead lines												
Legend: x = a test or inspection should be performed y = factory testing should be performed - = factory testing not required n/s = not specified; testing frequency is at the discretion of user n/a = not applicable a/n = as needed												
	Type of equipment — Tests to be performed								Maintenance priority level, months			
	Switchgear and Switchboard assemblies	Arc-resistant switchgear	SF6-insulated Switchgear	Medium-voltage motor control centres	Outdoor bus	Metal-enclosed busways	Low-voltage motor control centres	Outdoor bus structures	Minimal Frequency	Good electrical practice	Optimized program for critical or severe-duty applications	Factory testing
Maintenance activities												
Verify that the environment is clean, dry, and non-corrosive	X	X	X	X	X	X	X	X				
Inspect the physical condition of the equipment	X	X	X	X	X	X	X	X	36	24	12	-
Check annunciation and component status	X	X	X	X			X		1	1	1	-
Ensure that all control and indicating devices are operational and clearly labelled	X	X	X	X	X	X	X	X	12	12	12	-
Clean power component cells	X	X		X			X			12	12	-
Function test interlocks and control devices	X	X	X	X	X		X	X	36	24	12	-
Function test all switching devices	X	X	X	X	X		X	X	36	24	12	-
Inspect and clean control cabinets	X	X	X	X			X	X	36	36	12	-
Check insulating gas pressure			X						2	2	2	-
Check insulating gas leakage detection			X						36	36	36	-
Check online monitors and gauges for gas-insulated switchgear (GIS)			X						2	2	2	-
Inspect and function test cameras in GIS compartments			X						36	36	36	-
Verify shutter and barrier operation	X	X		X			X		36	24	12	-
Inspect equipment bonding	X	X	X	X	X	X	X	X	60	36	24	-
Inspect vents and filters	X			X			X		12	12	12	-
Ensure that all bolts are in place and properly torqued	X	X	X	X	X	X	X	X	36	24	12	-
Inspect instrument transformers	X	X		X			X	X	36	24	12	-
Verify the operation of space heaters	X	X		X			X		24	12	12	-
components			X						72	72	72	Y
Clean and lubricate racking mechanisms, shutter mechanisms, and drawers	X	X		X		X	X	X	12	12	12	-
Monitor equipment loading and ensure that it is within equipment ratings	X	X	X	X	X	X	X	X	12	12	12	-
Requiring specialized training, equipment, and safety precautions												
Clean and inspect insulators	X	X		X	X		X	X	36	24	24	-
Insulation resistance test	X	X	X	X					-	-	36	-
Dielectric withstand test	X	X	X	X		X	X	X	36	24	12	-
Perform a ground resistance or bonding check	X	X	X	X	X	X	X	X	60	36	24	-
Verify connection bus torque	X	X	X	X	X	X	X	X	36	24	24	-
Function test plenum air handling systems		X							24	12	12	-
Contact resistance test of main bus assemblies	X	X	X	X	X	X	X	X	36	24	12	-
Contact resistance test of ground bus	X	X	X	X	X	X	X	X	34	24	12	-
Perform thermographic survey	X			X	X	X	X	X	24	12	12	-
Verify instrument transformers	X	X	X	X			X	X	36	24	12	-
Power factor test					X			X	36	24	12	-
Sample and analyze gas			X					X	36	24	12	-
Perform short-circuit analysis and ensure that gear is adequately rated	X	X	X	X	X	X	X	X	60	60	60	-
Ensure that arc flash labelling is in place and up to date	X	X	X	X	X	X	X	X	60	60	60	-
Test relays, meters, instrument transformers, breakers, surge arresters, etc., in accordance with the appropriate section of this Guideline	X	X	X	X	X	X	X	X	*	*	*	-
(1) Prior to testing ensure that all requirements for safe access to the equipment are met [e.g., permits, safety hazard and risk analysis] (2) The information shown above is based on: CSA Z463-18 Guideline on Maintenance of Electrical Systems and is not necessarily identical to the source.												