

High Voltage Equipment Visual Inspections

Facility: _____
 Observed By: _____
 Date: _____

The following inspection questions are intended to support routine visual walkdowns of high-voltage equipment commonly found in plant switchyards. These checks are not intended to replace established maintenance procedures but to help operators and maintenance personnel recognize early indicators of abnormal equipment conditions between scheduled maintenance intervals.

Enter ✓ for Yes, X for No, or N/A

Equipment	Inspection Question	Unit 1	Unit 2	Unit 3	Unit 4
Generator Step-Up Transformer (GSU)	Are any alarms present?				
	Are cooling fans in Auto and operating?				
	Are oil circulating pumps in Auto and operating?				
	Is the sudden pressure relay flagged?				
	Are oil leaks observed?				
	Record winding temperature (current)				
	Record winding temperature (maximum)				
	Record oil temperature (current)				
	Record oil temperature (maximum)				
	Is bushing oil level normal?				
	Are signs of tracking, oil seepage, or contamination present on bushings?				
	Record conservator oil level				
	Is the desiccant in the breather expired?				
	Is there oil in the desiccant breather cup to prevent air ingress?				
Auxiliary / Station Service Transformer	Are any alarms present?				
	Are cooling fans in Auto and operating?				
	Are oil circulating pumps in Auto and operating?				
	Is the sudden pressure relay flagged?				
	Are oil leaks observed?				
	Record winding temperature (current)				
	Record winding temperature (maximum)				
	Record oil temperature (current)				
Record oil temperature (maximum)					
Surge Arrestors	Are surge arrester housings free of cracks, damage, or contamination?				
	Are surge arrester ground connections intact and secure?				
	Are surge arrester disconnect indicators or counters showing abnormal operation (if equipped)?				
	Are signs of overheating or electrical arcing present?				
Braided Connection	Are visual signs of overheating or discoloration present?				
	Are loose bolts or missing hardware observed?				
	Are braided cable bends adequate to prevent excessive tension?				
	Are broken strands, fraying, or mechanical damage observed on the braided conductor?				
	Are contact surfaces clean and free of excessive oxidation or plating loss?				
Is the braided conductor free of abnormal movement, vibration, or contact with nearby structures?					
Current Transformer	Are oil leaks observed?				
	Are visual signs of overheating or discoloration present?				
	Are insulators free of cracks, chips, or signs of mechanical damage?				
	Are CT primary connections free of discoloration, overheating, or abnormal conductor sag?				
	Is the CT grounding conductor intact and securely connected?				
	Are CT secondary junction boxes closed and securely fastened to prevent moisture intrusion?				
	Are CT mounting hardware and foundations free of cracks, corrosion, or loose anchoring?				

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Equipment	Inspection Question	Unit 1 Yes	Unit 2 Yes	Unit 3 Yes	Unit 4 Yes
Electrical Disconnects	Are visual signs of arcing present?				
	Are audible noise, ozone odor, or visual signs of corona activity present?				
	Are disconnect blades fully engaged and seated evenly across all phases?				
	Is any abnormal movement, looseness, or shifting observed on structures or equipment connections				
	Are visual signs of overheating or discoloration present?				
	Is corrosion observed on electrical connections?				
Circuit Breaker	Are any alarms present?				
	Are all breaker poles in the expected position (open or closed)?				
	Is the gas compressor running excessively?				
	Are oil leaks observed?				
	Are there any unusual noise or vibrations noticed during operation?				
	Are visual signs of overheating or discoloration present?				
	Record nitrogen pressure (if applicable)				
	Record SF6 Pressure (if applicable)				
Conductor and Buswork	Record hydraulic oil pressure (if applicable)				
	Are conductors free of broken strands, excessive sag, or mechanical damage?				
	Are spacers and dampers present and properly installed (if applicable)?				
Potential/Voltage Transformer	Are conductor attachments secure with no sign of overheating or discoloration?				
	Are oil leaks observed (if oil-filled)?				
	Are visual signs of overheating or discoloration present?				
	Are insulators free of cracks, chips, or contamination buildup?				
	Are VT/PT grounding conductors intact and securely connected?				
	Are secondary junction boxes closed and securely fastened to prevent moisture intrusion?				
Insulators	Are primary conductor connections free of discoloration or signs of overheating?				
	Are insulators free of cracks, chips, or signs of mechanical damage?				
	Are hardware fittings free of corrosion or deformation?				
	Are corona rings present and properly aligned (if installed)?				
Station Structures	Are conductor attachments secure with no signs of abnormal stress?				
	Are structural members free of corrosion, bending, or visible damage?				
	Are bolts and structural connections intact and secure?				
Environmental Conditions	Are lightning rods or ground wires intact and securely mounted?				
	Are nests, animal activity, or contamination observed that could impact electrical clearances?				
	Are vegetation, debris, or foreign materials present near energized equipment?				

Comments / Follow-up Required:

Observations that fall outside of normal equipment condition should be recorded below. These notes can help initiate further inspection, maintenance planning, or engineering review. Documented observations during routine walkdowns often provide early awareness of developing equipment issues.
