



Transformer And Electrical Substation Maintenance Checklist 2026

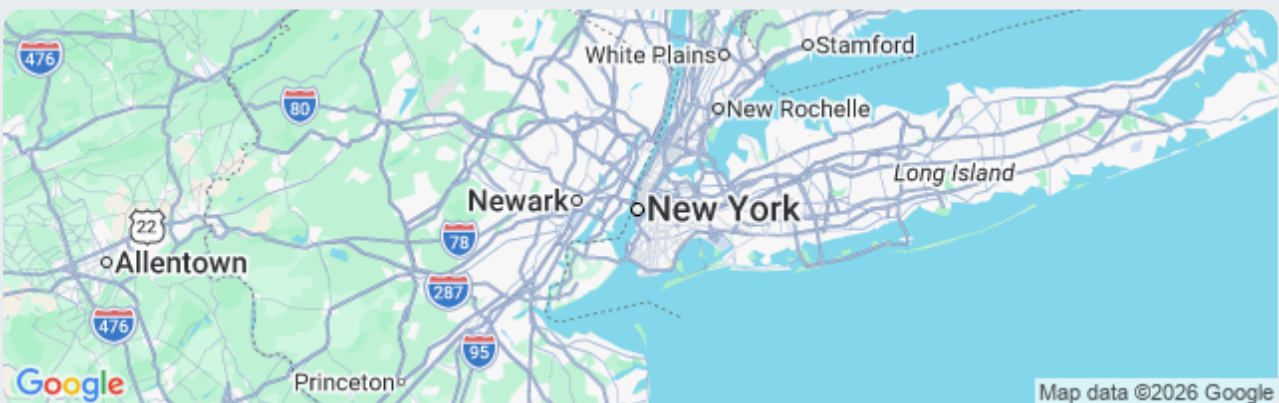
Visual Inspection and Physical Integrity

Perform a comprehensive walk-around to identify visible signs of damage, leaks, or environmental hazards affecting the transformer and substation structure.

Inspection Date

Substation ID/Location

 [Set My Current Location](#)



Transformer Exterior Condition

- ☐ Good
- ☐ Fair
- ☐ Poor
- ☐ Critical

Visible Damage Identified

- ☐ Corrosion
- ☐ Physical Cracks
- ☐ Debris/Vegetation
- ☐ Structural Deformation
- ☐ None

Detailed Observations of Physical Integrity

Write something...

Photo Documentation of Transformer Exterior

 Upload File

Inspector Signature

Oil and Insulation Monitoring

Assess the condition of transformer oil levels, dielectric strength, moisture content, and overall insulation health to prevent internal short circuits.

Inspection Date

Enter date...

Transformer Oil Temperature (°C)

Enter a number...

Moisture Content (PPM)

Enter a number...

Oil Color/Clarity Status

- ☐ Clear/Bright
- ☐ Dark/Discolored
- ☐ Cloudy/Turbid

DGA (Dissolved Gas Analysis) Observations

Write something...

Upload Oil Lab Report

 Upload File

Cooling System and Radiator Inspection

Check the functionality of cooling fans, oil pumps, and radiator fins for obstructions, leaks, or debris that could impede heat dissipation.

Radiator Fin Condition

- ☐ Clean
- ☐ Debris/Dust Accumulation
- ☐ Damaged/Bent
- ☐ Corroded

Cooling Fan Operational Status

Write something...

Measured Oil Temperature (°C)

Enter a number...

Detected Leaks

- ☐ Radiator Fins
- ☐ Oil Valve
- ☐ Pump Seal
- ☐ None Detected

Inspection Notes and Observations

Write something...

Upload Radiator Photos

 **Upload File**

Bushings and Insulators Assessment

Inspect bushings, insulators, and porcelain components for cracks, tracking, contamination, or signs of flashover.

Inspection Date

Enter date...

Bushing Visual Condition

- ☐ Good
- ☐ Fair (Minor Contamination)
- ☐ Poor (Cracks/Damage Detected)
- ☐ Critical (Requires Immediate Repair)

Detected Anomalies

- ☐ Surface Cracks
- ☐ Oil Leaks at Base
- ☐ Dust/Debris Accumulation
- ☐ Discoloration/Carbon Tracking
- ☐ None

Detailed Observations

Write something...

Upload Inspection Photos

 Upload File

Inspector Signature

Tap Changer and Control Mechanism Testing

Verify the seamless operation of Load Tap Changers (LTC) and ensure all control relays and automation mechanisms are responding correctly.

Tap Changer Operational Status

- ☐ Fully Functional
- ☐ Operational with Issues
- ☐ Malfunctioning
- ☐ Non-Functional

Tap Position Reading

Enter a number...

Operational Observations

Write something...

Maintenance Log/Report Upload

 Upload File

Technician Verification

Bushings and Terminal Connections

Examine all electrical connections, busbars, and terminals for signs of overheating, corrosion, or loose bolts.

Inspection Date

Enter date...

Bushing Condition Status

- ☐ Good
- ☐ Fair - Requires Monitoring
- ☐ Poor - Immediate Action Required
- ☐ Critical - Shutdown Required

Observed Issues

- ☐ Surface Cracks
- ☐ Oil Leaks
- ☐ Corrosion/Oxidation
- ☐ Dust/Contamination Build-up
- ☐ Loose Connections

Detailed Observations and Findings

Write something...

Upload Inspection Photos

 Upload File

Inspector Signature

Protective Relays and Circuit Breaker Testing

Test the trip/close functionality of circuit breakers and ensure protective relay settings are calibrated to current safety standards.

Inspection Date

Enter date...

Circuit Breaker Status

- ☐ Operational
- ☐ Malfunction Detected
- ☐ Requires Immediate Repair

Relay Trip Time (Milliseconds)

Enter a number...

Tests Performed

- ☐ Contact Resistance Test
- ☐ Insulation Resistance Test
- ☐ Timing Test
- ☐ Secondary Injection Test

Maintenance Findings and Observations

Write something...

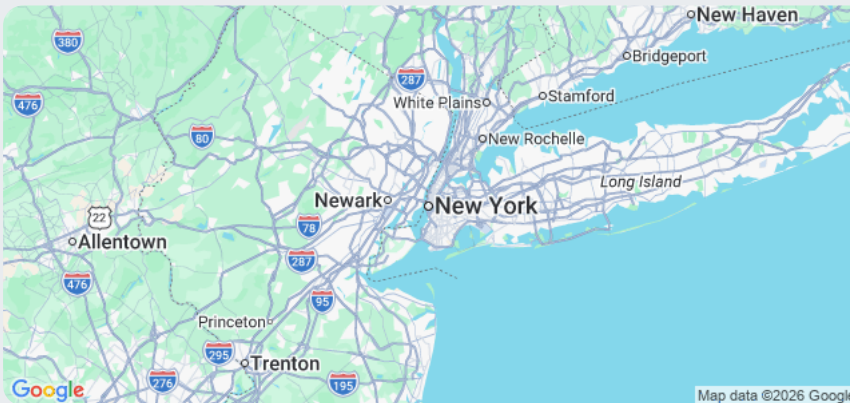
Upload Test Report/Logs

 Upload File

Inspect the substation grounding grid and bonding connections to ensure low-resistance paths for fault current dissipation.

Enter date...

 Set My Current Location



☐ Intact

☐ Corroded

☐ Damaged/Broken

Measured Ground Resistance (Ohms)

Enter a number...

Inspected Components

- ☐ Ground Rods
- ☐ Equipment Grounding Conductors
- ☐ Bonding Jumpers
- ☐ Grounding Busbars

Observations and Anomalies

Write something...

Technician Signature

Containary and Environmental Safety

Check oil containment pits, drainage systems, and fire suppression equipment to ensure compliance with environmental regulations.

Containment Pit Integrity Status

- ☐ Intact and Clear
- ☐ Cracked/Damaged
- ☐ Debris Present
- ☐ Leaking/Flooded

Observed Oil Leaks

Write something...

Environmental Hazards Identified

- ☐ Debris/Vegetation Overgrowth
- ☐ Soil Contamination
- ☐ Drainage Blockage
- ☐ Chemical Spillage

Containment Area Photos

 Upload File

Corrective Actions Required

Write something...

Inspector Verification

Monitoring Systems and Instrumentation

Review data from temperature sensors, pressure gauges, and Dissolved Gas Analysis (DGA) monitors for any anomalous readings.

Inspection Date

Current Oil Temperature (°C)

Transformer Pressure Reading (PSI)

DGA (Dissolved Gas Analysis) Status

- ☐ Normal
- ☐ Warning - Action Required
- ☐ Critical - Immediate Maintenance Needed

Anomalies Detected in Monitoring Sensors

Write something...

Upload Recent DGA Lab Report

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Technician Verification

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✓ Finish

 Generate Sample Report