

Substation Transformer Condition Assessment

Power System Check-Up for Peace of Mind



WES Service condition assessments can help identify the present condition of your transformer and its components, estimate remaining life, make life extension suggestions and help with economic decisions for future repair or replacement actions.*

EQUIPMENT CONDITION ASSESSMENT

INTERNAL COMPONENT CONDITION ASSESSMENT

Winding, Core and Core Clamp

Oil Distribution Box

- Inspect for Directed/Forced Oil Flow

Bus, Leads and Connections

Flux Shunts and Flux Shields

Metallic Components

- Inspect for Grounding Integrity

DETC

Internal Surge Protection Devices



EXTERNAL COMPONENT CONDITION ASSESSMENT

Cooling Equipment (Oil Pumps, Fans, Coolers, Radiators)

Load Tap Changer

- Inspect Internal Components and Gaskets
- Recommend Component Upgrades such as Oil Filtration System and Auto-Recharging Dehydrating Breather or LTC Replacement (if applicable)

Bushings

- Test, Inspect and Recommend Upgrades or Replacements

Control and Protective Devices

- Determine Replacement Criteria
- Inspect Wiring for Deterioration
- Inspect and Calibrate Gauges and Protective Devices, including Temperature Gauges, Pressure/Vacuum Gauges, Sudden Pressure Relay (SPR), Pressure Relief Device, etc.
- Test ZnO Surge Arresters (replace if not ZnO, Station Class)

Gaskets

Tank Inspection

- Identify Repainting Needs Based on Paint Condition/Integrity, Appearance of Rust and/or Corrosion
- Locate Leaks
- Assess Hardware, Clamps and Fittings

OIL CONDITION ASSESSMENT

- Gauge Physical and Chemical Properties, Moisture Content and Perform Gas-in-Oil Analysis to Determine Best Course of Action—Oil Reconditioning or Oil Reclamation
- Inspect Oil Preservation Systems (if applicable)
- Recommend System Upgrades such as Nitrogen Generator

EQUIPMENT TESTING



ENGINEERING SERVICES

CUSTOMER HISTORICAL RECORD REVIEW

- Prior Test Results, Maintenance Records and Repairs Performed
- Service History—Overloads, Short Circuits, Etc.

DESIGN ASSESSMENT

- Electrical - Thermal - Mechanical

PAPER INSULATION ASSESSMENT

- Degree of Polymerization - Furan Analysis
- Moisture and Oxygen Content - Remaining Life Estimates

FEASIBILITY STUDIES

- Thermal Upgrades - LTC Retrofit
- Component Retrofits or Additions

THERMOGRAPHIC ANALYSIS

- Hot Spot Identification - Hot Spot Cause Analysis
- Solution Recommendations

FAILURE ANALYSIS

TRAINING

REPAIRS, REPLACEMENTS & UPGRADES

In addition to the assessment, Waukesha Electric Systems possesses the equipment, experience and capabilities to complete repairs and/or upgrades you may elect to perform as a result of the findings. These can be performed at the same time as the assessment (for those items readily available), or you can schedule service for a later date.

Contact Us for Additional Information or to
Schedule Your Assessment:

call 800-835-2732

visit www.WESservice.com



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* Condition Assessment Reports and related work do not guarantee or warrant any life extension of the transformer or related components and systems.

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