WEIDMANN KNOWLEDGE SERVICES
CONDITION ASSESSMENT

A Condition Assessment can detect potential problems and determine the service condition of your power transformer or electrical asset.

A catastrophic transformer failure can cause costly damage to the transformer, other equipment, and can result in environmental issues and even harm to personnel. This reduces reliability of the operating system.

With the increased demand on electrical systems, assets are being used closer to capacity or over capacity and the importance of a condition assessment has become a key tool for effective operation and maintenance.

A transformer condition assessment will:

- Provide information of the serviceable condition of the transformer with practical recommendations for action.
- Detect early signs of deterioration in order to avoid a lengthy and expensive outage.
- Determine specific risks and the ability to develop a detailed action plan to either resolve the problem found or come up with contingency planning.
- Prepare a foundation for condition based or predictive maintenance program.
- Specify meaningful information to operational owner for making decisions on:
  - Maintenance plans suited to system conditions.
  - Taking appropriate actions in order to reduce unplanned outages.
  - Establishing a redeployment policy or unit utilization strategy for pre-emptive failure/ changeout/replace/upgrade evaluations.
  - Direction on spending for diagnostics, monitoring, and instrumentation.

Information evaluated in a condition assessment:

- Operating history
- Visual Inspection
- Fault and short circuit history
- Maintenance history
- Troubles and failures
- Industry knowledge – known problems/failure modes
- Manufacturer advisories (can be on sub-components)
- Testing
  - Oil
  - Electrical
  - Infra-red

Reasons for a Condition Assessment

- Units above critical age
- Units highly loaded
- Units serving critical loads
- Units with questionable oil or electrical test results
- Units with historical problems
- Evaluation of used units
- Evaluation of used/rental units

Why can this be important to either Maintenance, Planning, or Operations?

Maintenance	Planning	Operations
Application (use)	Growth Areas	Load Served
Voltage Class	System Location	Contingency
Size of Units	Capital budget	Customer Contracts
Type / Brand	Spares / Risk	System Impact
Age / Vintage	Load Limits	Risk
Historical Problems	- High	
No Problems	- Low	
Fault Levels		

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