



DISSOLVED GAS ANALYSIS TRAINING

DETAILS

DGA is sensitive to a wide range of possible transformer problems, even in their early stages of development. Moreover, current DGA interpretation techniques provide insight as to the nature of the problem and the urgency for further investigations or corrective actions. These powerful capabilities for early fault detection and prioritization enable asset managers to make timely and informed decisions to minimize the financial downsides associated with transformer faults.

THIS PROGRAM IS FOR:

- Electrical Engineers
- Electrical Technicians
- Mechanical Engineers
- Engineering Students
- Maintenance Managers
- Supervisors
- Laboratory Technicians
- Plant Managers

OBJECTIVES

- To provide engineering and maintenance personnel with a technical review of gas generation processes within power transformers and substation equipment.
- To update technical staff on the mechanisms behind dissolved gas formation in transformers and auxiliary substation assets.

OUTCOMES:

To be able to understand how gases are generated and able to mitigate to becoming dangerously high, understand DGA testing methodologies, and its diagnostics.

The course is broken down into modules:

Module 1: Fundamentals of Dissolved Gas Analysis (DGA)

- Value Propositions and Strategic Benefits of DGA
- Evaluating Oil Quality Through Specialized Testing

Module 2: Methodologies and Diagnostics

- Standard DGA Testing Procedures
- Utilizing Advanced Analytical Tools for Diagnostics

Module 3: Real-Time Monitoring

- Implementing and Managing Online DGA Measurements

Module 4: Data Interpretation and Application

- Applying Duval's Triangle for Fault Identification
- Practical Insights: Real-World DGA Case Studies

Module 5: Metals in Oil

- Identifying mechanical degradation through dissolved metal particles.
- Mapping specific metals (copper, silver, iron) to failing internal components.

Module 6: In-service Oil Quality & Diagnostics

- Evaluating acidity, interfacial tension, and sludge formation in aged oil.
- Determining the timing for oil reclamation versus full replacement.

Module 7: New Oil Criteria & Evaluation

- Verifying compliance with ASTM and IEC specifications for virgin oil.
- Assessing the risks of mixing different brands or types of insulating fluids.

Module 8: LTC and OCB Oil Diagnostics

- Analyzing carbonization and specific gas signatures in switching equipment.
- Distinguishing between normal operation wear and accelerated contact erosion.

Module 9: Sampling of Insulating Oils

- Best practices for preventing atmospheric moisture and air ingress during collection.
- Proper use of glass syringes, stainless steel cylinders, and specialized sampling valves.

Contact us on reliability@assetmatrixenergy.com to discuss your needs and arrange your session.

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