MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

ELECTRICAL TRANSFORMERS FAULTS, INSPECTION, TESTING, MAINTENANCE AND TROUBLESHOOTING

"Ensuring Reliability, Safety, and Extended Life of Power Transformers"

Schedule

Date	Venue	Fees (Face-to-Face)
15 – 17 Sep 2026	Doha, Qatar	USD 2495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Electrical transformers are critical assets in power generation, transmission, and distribution systems. Their failure can lead to extended outages, costly repairs, and serious safety risks. Understanding transformer faults, inspection techniques, and effective maintenance strategies is essential for ensuring continuous and reliable power supply.

This intensive 3-day training provides participants with comprehensive knowledge of transformer construction, common faults, inspection methods, testing techniques, and troubleshooting practices. The course emphasizes practical approaches aligned with international standards to help professionals enhance transformer reliability, performance, and service life.

Objectives

By the end of this course, participants will be able to:

- Understand transformer construction, operation, and insulation systems
- Identify common transformer faults and failure mechanisms
- Perform inspection and condition assessment of transformers
- Interpret electrical, thermal, and oil test results
- Apply preventive and predictive maintenance strategies
- Troubleshoot transformer operational and performance issues
- Enhance transformer safety and reliability

MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

Why Attend

- Gain in-depth understanding of transformer faults and diagnostics
- Learn practical inspection and testing techniques
- Reduce transformer failures and unplanned outages
- Improve maintenance planning and decision-making
- Enhance safety and compliance with international standards
- Extend transformer service life and optimize performance

Target Audience

This program is designed for:

- Electrical and power system engineers
- Maintenance and reliability engineers
- Electrical technicians and supervisors
- Substation and utility personnel
- Industrial facilities and operations engineers
- Asset management and technical support professionals

Individual Benefits

Key competencies that will be developed include:

- Advanced knowledge of transformer operation and fault behavior
- Ability to interpret test data and diagnostic results
- Improved troubleshooting and root cause analysis skills
- Enhanced maintenance planning and execution capabilities
- Greater awareness of transformer safety requirements
- Professional development in transformer engineering and maintenance

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved reliability and availability of transformer assets
- Reduced downtime, repair costs, and operational risks
- Enhanced safety and regulatory compliance
- Better asset condition monitoring and lifecycle management
- Optimized maintenance strategies and resource utilization
- Increased confidence in transformer operation and performance

Instructional Methodology

The course follows a blended learning approach combining theory with practical application:

- Technical Briefings – Transformer design, faults, testing, and maintenance practices
- Case Studies – Real-world transformer failures and lessons learned
- Workshops – Test result interpretation, fault diagnosis, and maintenance planning
- Peer Exchange – Group discussions on operational challenges and solutions
- Tools – Inspection checklists, testing procedures, and maintenance templates

MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

Course Outline

Detailed 3-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules Coffee Breaks: 09:30 & 11:15 Lunch Buffet: 01:00 – 02:00

Day 1: Transformer Fundamentals and Faults

Module 1: Transformer Construction and Operation (07:30 – 09:30)

- Types of transformers and applications
- Core, windings, insulation, and cooling systems
- Operating principles and performance parameters

Module 2: Transformer Faults and Failure Mechanisms

- Electrical, thermal, and mechanical faults
- Internal vs. external faults
- Early warning signs and failure indicators

Module 3: Inspection and Condition Assessment

- Visual and mechanical inspections
- On-load and off-load inspections
- Safety considerations during inspections

Day 2: Transformer Testing and Diagnostics

Module 1: Electrical Testing of Transformers

- Insulation resistance and polarization index
- Turns ratio and winding resistance tests
- Power factor / dissipation factor testing

Module 2: Oil Testing and Dissolved Gas Analysis (DGA)

- Transformer oil properties and degradation
- DGA techniques and fault interpretation
- Moisture analysis and oil treatment

Module 3: Advanced Diagnostic Techniques

- Thermal imaging and hot spot detection
- Partial discharge measurement
- Online monitoring systems

Day 3: Maintenance, Troubleshooting, and Reliability Improvement

Module 1: Transformer Maintenance Strategies

- Preventive, predictive, and corrective maintenance
- Maintenance scheduling and documentation
- Spare parts and lifecycle management

Module 2: Troubleshooting Transformer Problems

- Abnormal noises, temperatures, and oil issues
- Load-related and operational problems
- Root cause analysis and corrective actions

Module 3: Reliability and Life Extension Practices

- Condition-based maintenance and asset management
- Refurbishment, retrofitting, and modernization
-

Best practices for long-term transformer reliability

Certification

Participants will receive a Certificate of Completion in Electrical Transformers: Faults, Inspection, Testing, Maintenance and Troubleshooting, validating their technical knowledge and practical competence in transformer diagnostics, maintenance, and reliability enhancement.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**