MAWA EVENTS

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

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LOW VOLTAGE SWITCHGEAR OPERATION & MAINTENANCE

"Ensuring Electrical Safety, Performance & Reliability through Proper LV Switchgear Management"

Schedule

Date	Venue	Fees
29 – 31 Jul 2026	Dubai, UAE	USD 2495 per delegate

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

Introduction

Low voltage (LV) switchgear is a critical component in electrical distribution systems, responsible for safely controlling and isolating electrical circuits. Improper operation or lack of maintenance can lead to system failures, safety hazards, and costly downtime.

This 3-day technical course provides electrical engineers, technicians, and maintenance personnel with the knowledge and skills to operate, inspect, test, and maintain LV switchgear systems in line with international standards and manufacturer guidelines. It emphasizes safe practices, fault diagnosis, and preventive strategies for improved equipment reliability.

Objectives

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

- Understand the function, types, and components of low voltage switchgear
- Apply safe operating procedures in accordance with electrical safety standards
- Perform routine inspections, diagnostics, and maintenance on LV switchgear
- Identify and troubleshoot faults in circuit breakers, contactors, and relays
- Implement best practices for testing, servicing, and lifecycle management

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Why Attend

- Enhance your understanding of LV switchgear design and performance
- Prevent equipment failure and minimize electrical downtime
- Ensure compliance with safety codes and inspection procedures
- Improve reliability and efficiency of electrical distribution systems
- Gain hands-on knowledge applicable to real-world maintenance scenarios

Target Audience

This program is designed for:

- Electrical engineers and maintenance supervisors
- Plant electricians and field technicians
- Facility and utility engineers
- Safety officers working with electrical systems
- Technical personnel involved in switchgear operation or servicing

Individual Benefits

Key competencies that will be developed include:

- Proficiency in LV switchgear components and configurations
- Ability to interpret switchgear drawings and wiring diagrams
- Familiarity with inspection checklists and maintenance intervals
- Confidence in fault diagnosis and corrective actions
- Awareness of international standards (IEC, IEEE, NFPA)

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced electrical failures and unplanned shutdowns
- Enhanced operational safety for electrical personnel and assets
- Improved compliance with safety and maintenance regulations
- Increased switchgear lifespan and performance
- Standardized procedures for inspection, testing, and recordkeeping

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Electrical distribution and switchgear fundamentals
- Case Studies – Failure analysis and root cause reviews
- Workshops – Inspection and maintenance planning
- Peer Exchange – Sharing plant-specific challenges and fixes
- Tools – Maintenance checklists, IR testing guides, safety protocols

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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: Introduction to Low Voltage Switchgear

- Module 1: Fundamentals of LV Power Distribution (07:30 – 09:30) • Voltage levels, distribution layout, protection coordination • Role of switchgear in system integrity
- Module 2: Switchgear Types and Components (09:45 – 11:15) • ACBs, MCCBs, MCBs, contactors, busbars • Control relays, protection devices, and terminals
- Module 3: Safety and Operating Procedures (11:30 – 01:00) • Lock-out/tag-out (LOTO), arc flash, PPE, clearances • Safe energization and de-energization practices
- Module 4: Workshop – Switchgear Identification Exercise (02:00 – 03:30) • Identify components in real-world or schematic diagrams

Day 2: Maintenance Practices and Troubleshooting

- Module 5: Preventive Maintenance Procedures (07:30 – 09:30) • Routine inspection, cleaning, tightening, and lubrication • IR thermography, visual inspection, torque settings
- Module 6: Testing and Diagnostic Methods (09:45 – 11:15) • Insulation resistance, contact resistance, continuity tests • Timing and trip testing for breakers
- Module 7: Troubleshooting and Common Faults (11:30 – 01:00) • Overheating, tripping, loose connections, flash marks • Fault isolation techniques
- Module 8: Workshop – Develop a Maintenance Plan (02:00 – 03:30) • Create a checklist and schedule based on system type

Day 3: Lifecycle Management and Standards

- Module 9: Life Expectancy and Replacement Criteria (07:30 – 09:30) • End-of-life indicators for breakers and assemblies • Refurbishment vs replacement decisions
- Module 10: Documentation and Reporting (09:45 – 11:15) • Maintenance logs, inspection records, regulatory reports • Audit readiness and tracking systems
- Module 11: Standards and Compliance Overview (11:30 – 01:00) • IEC 61439, IEEE, NFPA 70E • Manufacturer guidelines vs local codes
- Module 12: Final Workshop – Full System Maintenance Simulation (02:00 – 03:30) • Walk through a mock LV switchgear inspection and servicing plan

Certification

Participants will receive a Certificate of Completion in Low Voltage Switchgear Operation & Maintenance, verifying their ability to operate, inspect, and maintain LV switchgear in compliance with industry standards and safety protocols.

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**

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